This is to certify that the
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AN INITIAL ANALYSIS OF THE GOTTSCHALL ROCKSHELTER
LITHIC ASSEMBALGE.

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AN INITIAL ANALYSIS OF THE GOTTSCHALL ROCKSHELTER LITHIC ASSEMBALGE.

By

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ABSTRACT

AN INITIAL ANALYSIS OF THE GOTTSCHALL ROCKSHELTER
LITHIC ASSEMBALGE.

By

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The Gottschall Rockshelter, in southwestern Wisconsin, is a hypothesized ritual locale of as yet unknown specific function. The presence of 40 pictographs, with one panel or collection of figures reported to depict the characters described within the Winnebago (Ho-Chunk) oral tradition of Red Horn, coupled with the discovery of a carved and painted sandstone head, in association with both hypothesized feasting debris and sediments interpreted to be of anthropogenic origin. The primary goals of this study are twofold; first, to provide a comprehensive formal description of the lithic assemblage, and secondly to independently test of the hypothesis that there is differentiated sacred and secular space.

The formal description and analysis of the lithic assemblage includes 3,762 stone artifacts. The lithic assemblage is dominated by locally available raw materials with the majority of the present exotic raw materials and foreign diagnostic point types associated with Late Woodland deposits. The spatial analysis indicates it is only during this time period that significantly differentiated space is observable through the lithic assemblage. It is evident from these results future research at the Gottschall Rockshelter should focus attention on the Late Woodland time period in order to further elucidate the nature of the ritual activities that took place at the site.

DEDICATION

This thesis is dedicated to all of those who have those who have supported me throughout my journey of curiosity, especially my family and loved ones.

ACKNOWLEDGEMENTS

I am not sure where to begin because this thesis has been eight years in the making and the people who have helped this process along are beyond my ability to accurately remember. I will do my best to acknowledge those who played a critical role in the process but unfortunately some may be accidently overlooked. Please forgive me for my short-sightedness, but know if it were not for your help this project would never have been completed.

I am forever indebted to my thesis guidance committee consisting of Lynne Goldstein, Bill Lovis (chair), Jodie O'Gorman, Larry Robbins and Robert Slazer for supporting this research. Lynne Goldstein was instrumental in helping to mold and form this project from its beginning. Jodie O'Gorman's advice and questions at the end of the process helped to give shape to this final version. Larry Robbins was an invaluable resource, especially at the onset of this project as he caused me to pause and consider the complexities of rockshelter deposits. Bill Lovis was single-handedly the main reason why you are reading this thesis. I will never be able justly rely the amount of time, energy and effort he has unselfishly donated to this cause. It is difficult for me to address the contributions of Robert Salzer and not also thank Grace Rajnovich; both of whom are mentors, colleagues and friends. If it were not for their willingness to support, provide assistance and data leading up to this degree and beyond this thesis would never have been possible. To all of you I am deeply grateful and thankful!

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I also need to thank Amber Rivers-Burkett my partner of six years who drove me to completion of the initial draft. If it was not for her persistence the initial draft would yet remain incomplete. She provided support when the process had me downtrodden and sacrificed much to allow this document to come to fruition. I can never thank her enough for following my hair brained dreams and schemes.

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Finally and most importantly, thanks needs to be given to the Gottschall Family especially Ron and Becky for allowing and supporting this research project. I am also personally grateful to the Ho-Chunk Nation, in particular Cloris Lowe, for their support and continued assurance this data needs to be published and made available. I remain honored to have been allowed to continue to work with this very sensitive data and tell this story. It is my hope this collaborative relationship can be strengthened in the future because much work remains to be done.

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CHAPTER 1
INTRODUCTION

The Gottschall Rockshelter in southwestern Wisconsin is referred to as a ritual locale of an unspecified function (Salzer and Rajnovich 2001). The data used to support this interpretation includes the presence of 40 pictographs, with one panel or collection of figures reported to depict the characters described within the Winnebago[1] oral tradition of Red Horn, as first recorded by Radin (1948) (Salzer 1987a, 1987b, 1997; Hall 1993; Salzer and Rajnovich 2001). The presence of these pictographs, coupled with the discovery of a carved and painted sandstone head, unique in North America, in association with both hypothesized feasting debris and sediments interpreted to be anthropogenic, support the conclusion that the site is of ritual significance (Gardner 1993; Salzer and Rajnovich 2001)[2].

The primary goals of this study are twofold; to describe the lithic assemblage recovered from the Gottschall Rockshelter and to independently assess the potential partitioning of sacred and secular space. The sample of the lithic assemblage used in this research is the product of adjusted excavation strategies and the employment of a stringent recording system (Salzer 1987a; Salzer and Rajnovich 2001). These precise data collection strategies combined with the results of in-depth sedimentological research

[1] The Wisconsin Winnebago Tribe, as Paul Radin knew them, changed their name to the Ho-Chunk Sovereign Nation (Ho-Chunk) in 1994. The research referenced within this thesis directly refers to the recorded oral tradition of Red Horn by Paul Radin as told to him by the Sam Blowsnake, a member of the Ho-Chunk Nation in the early 1900s. It should be noted the Ho-Chunk are one member of the Chiwere-Siouan speaking peoples and other members of this linguistic group include the Ioway and the Oto, who share versions of the Red Horn legend (R. Salzer personal communication). Therefore, it is based on the general consensus of the Chiwere-Siouan speaking people and the geographic location of the Gottschall Rockshelter that this site be directly affiliated with the Ho-Chunk. In addition, the Ho-Chunk Nation of Wisconsin continue to retain a connection to the Winnebago Tribe of Nebraska.

[2] For the reader who is unfamiliar with the Gottschall Rockshelter please refer to Salzer and Rajnovich 2001. An overview of this work is presented in Appendix A.

(Gartner 1993) form the foundation of this study. The wealth of contextual and spatial information collected over the span of 18 field seasons at the Gottschall Rockshelter allows the study to proceed in a manner consistent with the research goals. The site is dated by 24 uncalibrated radiocarbon dates. The descriptive analysis of the lithic assemblage forms the empirical core of this thesis and is presented first, while the spatial analysis of a sample of this assemblage is presented second.

The descriptive analysis of this thesis includes all of the diagnostic and non-diagnostic chipped stone artifacts, retouched and utilized debitage, ground stone, minerals, miscellaneous rocks, and sandstone artifacts recovered and thus far identified within the collected assemblage regardless of the associated spatial context. A sampling strategy was designed to isolate those pieces of unmodified lithic debitage amenable to spatial analysis, because a large percentage of the lithic debitage is attributed to a non-provenienced spatial category.[3] The results of this descriptive analysis are presented in Chapter 4 and Appendices C, D, and E.

The second objective of this research is to evaluate the hypothesis that the interior space of the rockshelter was differentiated and/or organized in accordance with the placement of human-prepared and deposited sediment referred to at the Gottschall Rockshelter as anthropogenic sediment (Gartner 1993), while concurrently assessing the hypothesis that ritually related behavior was the causal agent (Gartner 1993; Salzer and Rajnovich 2001). The null hypothesis formulated at the outset of this research is based on the belief the lithic material from the Gottschall site should also be partitioned because ritual space tends to be highly organized (Renfrew 1994); thereby further reflecting

[3] Non-provenienced categories used during excavation at the Gottschall Rockshelter include: no-vertical-control "NVC", no-vertical-control or no-horizontal-control "NVC-NHC", and surface.

differentiated ritual and secular spaces. Regardless of the observed patterning in the data, this approach holds promise for understanding the evolution of and changes in rockshelter space over time, i.e. through the span of its occupation. This part of the study is presented in Chapter 5 and Appendix F.

In summary, this thesis serves a number of goals simultaneously by providing the first formal description of the lithic assemblage from the Gottschall Rockshelter and serves as the first independent test of the hypothesis that sacred and secular space is differentiated at the Gottschall Rockshelter. The process of assessing the presence or absence of a spatial partition associated with these anthropogenic sediments jointly tests the functional hypothesis that the site is a site of ritual significance.

CHAPTER 2
ENVIRONMENTAL BACKGROUND

This chapter presents a summary of the geological history of the Driftless Region, an overview of the complexity of the environmental setting and an introduction to the regional environmental context of the Gottschall Rockshelter. The effort was taken to flesh out these aspects because they are often used to provide additional supporting evidence for the hypothesis that the Gottschall Rockshelter is a ritual location (Salzer and Rajnovich 2001). An overview of the paleoenvironmental reconstruction for the region is typically included in this type of a chapter, but in this thesis it is integrated into the presentation of the regional culture history in Chapter 3.

Definition and Glacial History

The Driftless Area was formally described by Chamberlin and Salisbury (1885), summarized by Fenneman (1938) and later elaborated on by Martin (1965) as being a 15,000 mi^2 (38,850 km^2) area located within the four-corners area of Minnesota, Illinois, Iowa, and Wisconsin (Figure 2.1). It is called the Driftless Area because it lacks ice-laid drift as typically represented by the presence of glacial till, indicating that the area was surrounded by glacial ice but not covered by the last major glacial advance (Figure 2.2). The region is occasionally referred to as the Quad State Region (Benn 1979; Benn and Green 2000:429-430), but the terminological use of the "Driftless Area" predominates in the published record and will be used within this thesis.

Figure 2.1: Location of the Driftless Region is shown in black near the center

(Martin 1965: 85)

Fenneman (1938:518) considered the area to be larger than the former definition, which is the definition commonly ascribed to by archaeologists (Arzigian 1987; Stoltman and Christiansen 2000; Birmingham et al. 1997), "For geological purposes it is found best to include in this section a small area once glaciated and thinly covered by till, but so long ago that the topographic effect has been lost ..." Fenneman identifies the topographical similarities between the Driftless Area and this area to the west referred to as the Western Young Drift (Fenneman 1938). The incorporation of the Western Young Drift into the Driftless Area increases the size of the area to 20,000 mi^2 (51,800 km^2), in addition to increasing the territorial range westward from the Mississippi River and to the northwest toward the upper reaches of the Wisconsin River. Fenneman's revised definition is advantageous from an archaeological viewpoint because it includes the headwaters districts of larger western tributaries of the Mississippi. Thus, it is the preferred physiographic definition of this thesis and may help provide an understanding for why westward cultural materials are associated with the site.

The Driftless Area is characterized by a series of "dissected cuestas whose trend is northwest-southeast", while the rock bedding dips to the southwest (Fenneman 1938:522). The topography of the area ranges from its highest levels of 365 m to 396 m asl to lower elevations that are 274 m asl. The most prominent location of sustained higher elevation within the Driftless Area is the Military Ridge composed of a smooth crest running parallel to the Lower Wisconsin River at a distance roughly 12 miles to its south. The ridge was an important path for travel, first for prehistoric people, and subsequently for the early European settlers. The first European farmers started working the soil in 1840 after the government lifted farming restrictions in the Driftless Area, as a

Figure 2.2: Driftless Region during the last glacial (Martin 1965: Plate VI)

result of the declining lead mining business within the region (Smith 1997). The Military Ridge is presently the roadbed for Highway 18, which connects Madison and Prairie du Chien, Wisconsin.

The Wisconsin River is the second largest river in the Driftless Area, second only to the Mississippi River. The section of the Wisconsin River beginning at the lock and dam in Sauk City and terminating at the Mississippi River is referred to as the Lower Wisconsin River and remains today essentially a wild river. The Wisconsin River Valley is 114-152 m below the Military Ridge and the roughly 12 mile slope from the ridge to the river is characterized as "one of the most rugged tracts of land in Wisconsin" (Fenneman 1938:529).

The Lower Wisconsin River trench contains a floodplain that is 5 miles wide in the eastern most portion, gradually narrowing to less than a mile in width at its confluence with the Mississippi (Fenneman 1938:529). The tributaries of the Lower Wisconsin River are typically wide and flat at their entry into the trench. In many instances the tributaries have experienced periodic ponding due to the collection of silt in the Wisconsin River basin as a result of its mouth being elevated by periodic aggradation of glacial outwash along the Wisconsin River banks (Fenneman 1938:529).

Varied Topography and Potential Benefits

The environmental context of the Driftless Area is described as an ecotone situated between the deciduous forest and prairie (Curtis 1959). The vegetational ranges of each ecotone are dependent upon a number of variables including topography, microclimate and the frequency of fire (Arzigian 1987; Curtis 1959; Gartner 1996). The complexity of the regional environment is more clearly recognized if it is subdivided into four different topographical zones; with the lowest being the floodplain, followed by the slightly higher terraces, that transform into higher rolling dissected hills and conclude with the highest elevation areas being comprised of the prairie (Curtis 1959).

The Driftless Area contains wet to mesic prairies with scattered trees along the floodplains of the major river valleys. The micro-environments identified in this topographic zone include localized marshes and sedge meadows, which tend to be species rich, as the major river valleys form micro-climatic conduits allowing plants and animal species to stray outside of their normal ranges. These areas also tend to be dominated by such floral species as silver maple, American elm, green ash, red oak and basswood. Large stands of willow and river birch may be found in wet areas. Lesser amounts of cottonwood, swamp oak, honey locust, boxelder, buckeye and sycamore may also be present. The ground layer is typically occupied by flowering plants such as toothwort, green dragon, Virginia bluebell, and various species of sedges, grasses and nettles. These lowland areas can also support a diverse community of lianas, including hog peanut, moonseed, wild yam, groundnut, wild cucumber, poison ivy and bittersweet (Curtis 1959). It appears based on the present archaeological evidence, that some of the earliest evidence of domesticated plants in the Great Lakes region are generally associated with this type of environment and include goosefoot, knotweed and sumpweed (Stevenson et al. 1997).

The faunal resources associated with these environments include those from both aquatic and semi-aquatic habitats, such as fish and mussel species. Fish species played a major role in the subsistence practices of prehistoric peoples and remains have been found at a number of sites along the margins of the major river valleys including such species as gar, bowfin, buffalo, pike, bullhead, largemouth bass, channel and flat head catfish (Arzigian 1993; Theler 1987). There are also many edible aquatic plants including water plantain and arrowhead, wild rice and pickerel weed.

The next higher topographical subdivision, the higher terraces, includes a range of micro-environments such as lowland forests, scrub oak barrens and lowland prairies. These three micro-environments tend to separate each other largely predicated on the underlying soils. For example, the scrub oak barrens form where the soils are extremely sandy often separating large expanses of the mesic prairie. These scrub oak barrens are often considered analogous to the upland oak openings, and it is likewise assumed fire was used as a mechanism to maintain these locations. While, lowland prairies tend to dominate soils that hold greater amounts of moisture and are dominated by grasses such as big bluestem, joint grass, sloughgrass, wild rye and prairie muhly. The numbers of edible and medicinal plants are fairly low as only swamp milkweed and sneezeweed are presently assumed to be of value (Niering and Olstead 1992). The fauna associated with this topographic zone tend to be larger game birds such grouse and prairie chicken whose population numbers tend to be larger than those associated with the floodplains (Cleland 1966).

The next topographical subdivision, the rolling dissected uplands, also contains a series of micro-environments including oak openings, cedar glades, and what is collective referred to as the southern mesic and xeric forests (Curtis 1959). These microclimates are defined on the basis of the localized topography, soil type, presence of spring water, grade of slope and facing direction (Arzigian 1987; Curtis 1959). Cedar glades tend to be highly interspersed locations on the landscape in very specific conditions, but tend to make wonderful locations to view large expanses of the landscape (Curtis 1959). The two types of forest pervade in this topographic subdivision of the Driftless Region with the oak opening being a direct result of the application of fire to maintain the landscape (Gartner 1993). These oak openings provide an abundance of wild game such as elk, bison, deer, turkey, and an array of small mammals. The presence of such fire resistant species as black and burr oak trees with some shagbark hickory provide an abundance of nuts.

The southern xeric forest tends to line the side of the Driftless region coulees, while the southern mesic forest tends to dominate in the moist valleys and sheltered locations across the region. These areas are typically considered to be resource poor although they support a diverse biotic community. The flora within this environment includes a number of plant species used by historic Native Americans such as bladdernut, mayapple, trillium, beech, gooseberry and hawthorn (Arzigian 1993; Niering and Olstead 1992; Theler 1987). Several useful hardwoods are found within this zone too, including basswood and ironwood (Radin 1923). The fauna residing in this forest type tend to include smaller game animals such as squirrel and chipmunks, but populations of porcupine and turkey tend to be higher in these areas (Cleland 1966).

The southern xeric forests occur on well-drained southern and western slopes and ridge tops typically forming the buffer between stands of southern mesic forest and oak savannas. This forest type is highly scattered, but is among the most species rich of the upper portions of the region. There are many nut-bearing tree species present in black, red, burr, chinquapin and Hills' oak. The understory contains a host of flowering plants such as nightshade and creeping honeysuckle in addition to many shrubs like blackberry, gooseberry, prickly ash and hazelnut (Curtis 1959). This type of environment tends to support a large array of animals including the majority of the song birds, gray and fox squirrels, cottontail rabbits, groundhogs, raccoon, gray fox, deer and occasionally bear, turkey, elk, bison and porcupine.

Repeated fires would have the effect of maintaining a savanna or thin oak woods, maximizing forage opportunities, particularly for deer and humans (Arzigian 1987; Curtis 1959; Gartner 1996). It is estimated that the deer population for the region was high, ranging from 20-50 per square mile (Theler 1987). Thus, in summary, "the considerable vertical and horizontal zonation resulting from the dissected topography means that most resources would have been available in close proximity to one another" (Arzigian 1987:222). The result of the presence of such a landscape undoubtedly contributed greatly to the formation of stable seasonal rounds that most archaeologists characterized pervades local population beginning in the Archaic and extending into the Late Woodland.

The oak savanna or English prairie sometimes referred to as the xeric uplands prairie dominates the highest topographical areas in the Driftless Region. This prairie is dominated by short grass species such as big bluestem, little bluestem, Indian grass, prairie panic grass and side-oats grama. The few edible plants that grow in this area are extremely interspersed but include sunflowers, strawberry-tomato and wild onion. One of the most valuable plant species would have been wild indigo, as it was a popular dye. The faunal community includes larger game animals including elk, deer, and bison along with skunks, badgers, rabbits and grouse (Cleland 1966).

Local Environment and Hydrology

The rockshelter is positioned adjacent to an upland environment forming one of two large amorphous upland islands fashioned between deeply incised drainages north of the Military Ridge. All of these drainages eventually empty into the Wisconsin River. The closer of these two upland areas is the eastern one situated between the Military Ridge and the Wisconsin River. The closest drainages to Morrey Creek coulee are the Sixmile Branch, an upper branch of the Blue River drainages, and Pompey Pillar Creek, an upper branch of the Otter Creek drainage, which archaeological speaking remains entirely unexplored.

The Gottschall Rockshelter sits at the headwaters area of an unnamed intermittent stream forming the southernmost upper reaches of Morrey Creek, a southern tributary of the Wisconsin River. The headwaters area is formed by a deeply incised trench lined with towering 10 to 13 m sheer cliffs of Galena or Platteville dolomite overlying exposed St. Peters sandstone formation. The rockshelter is situated at the base of the southern bluff and is the by-product of the scouring of the St. Peters sandstone formation by the periodic heavy volumes of water draining from the surrounding uplands. The area around the upper rim of this coulee is lined by white pines along one side, which is a rare occurrence in this area because the majority of the upland forests are composed of various hardwoods such as oaks. The remaining portion of the vegetation along the upper rim and within the coulee is dominated by large oaks. The coulee itself contains biological aspects related to the southern mesic forest.

The drainage beginning at the Gottschall Rockshelter, Morrey Coulee, presently flows directly northward to the Wisconsin River. Based upon a review of the aerial photographs of the region it appears that during prehistoric times Morrey Creek would have made a sharp bend westward upon entering the floodplain of the Wisconsin River, paralleling it until reaching the present town of Muscoda at which point the creek flowed into the larger river. Thus, the present course of Morrey Creek is a product of 19th century European channelization activities (Salzer and Rajnovich 2001).

CHAPTER 3
CULTURE HISTORICAL FRAMEWORK

The following overview of the cultural historical sequence of the Driftless Region focuses on describing the temporal span associated with the fabrication of anthropogenic sediment at the site, which is from the Late Archaic period to the Terminal Late Woodland. The reason why this synthesis is presented is because materials relating to each of these temporal units frequently occur within the Driftless Region but yet not all occur within the Gottschall Rockshelter. This discussion represents the cultural historic backdrop for the descriptive analysis presented in the next chapter.

Late Archaic Stage: 1500/1200 B.C. - 500/100 B.C.

The Late Archaic stage is defined within the boundaries of Wisconsin as reflecting the immigration of peoples into the area from southern and eastern localities (Lovis and Robertson 1989; Stoltman 1997). The documented transformations between the former Archaic periods and this one are largely based on the excavations of rockshelter sites such as Preston, Knoop, Durst and Raddatz (Wittry 1959a and b).

It has been noted by several researchers (Emerson 1986; Griffin 1967; Lovis and Robertson 1989; Stoltman 1997) that southern immigrants imported innovations into the region such as different projectile related technologies emphasizing a reduction of size and the shift of notch placement from the side to the corner. These immigrants likewise reduced their rate of utilitarian copper artifact discard. The reason why it is expressed as a reduction in discard rather than a decrease in the overall use of copper acknowledges the potential for an increase in copper recycling. During the Late Archaic, there is an absence of identified organized cemeteries, which suggests a declining regional population (Stoltman 1997:134).

These observed cultural changes correlate with regional climatic shifts as evident in the paleoenvironmental data from the Late Archaic Stage. This indicates the replacement of the oak and savannah by closed oak forests circa 1500 B.C. (Baker et al. 1992; Winkler et al. 1986). These vegetation shifts represent a period when the region experienced a xerothermic span summarized as a warming and drying trend (Baker et al. 1992; Winkler et al. 1986). Coinciding with these floral shifts, lake levels steadily declined until they eventually stabilize circa A.D. 0 to levels comparable to those at present (Larsen 1985).

Durst Phase (1000 – 500 BC)

The second chronological subdivision within the Late Archaic stage is the Durst phase, which is marked by the Durst Stemmed point. Wittry first defined the Durst Stemmed point during excavation at the Durst Rockshelter (1959b). The original observation made by Wittry is supported by excavations in other rockshelters throughout the Driftless region such as the Lawrence I Rockshelter (1959a and b). These combined data strengthen the argument that these artifacts date to the time frame of 1,000 B.C. – 500 B.C. (Stoltman 1997:136; Wittry 1959b). The tentative consensus concerning the material assemblages is that the Durst points are closely aligned with materials to the east, whereas Preston phase materials are associated with southern localities (Justice 1987; Lovis and Robertson 1989; Stoltman 1997).

Archaic/Woodland Transition (800 B.C. – A.D. 1)

The transition from the Late Archaic stage to the Early Woodland stage is unsettled because of an absence of data, and is further muddled by the fact the Woodland tradition was a time-transgressive event that differentially spread throughout the region between 500 B.C. to 100 B.C. There are particular technological and behavioral hallmarks distinguishing the Woodland tradition from the Archaic Tradition including the presence of pottery containers. The adoption and use of pottery was followed by a behavioral shift reflected through the development of new mortuary practices orientated toward interments within specially prepared mounds. The transition from the Archaic stage to the Woodland stage is even further complicated by the fact that the transformation is not considered complete until adoption of plant agriculture/horticulture practices permeates the region. Yet, despite these seemingly clear distinctions, the cultural persistence of the Red Ocher burial complex originating in the Late Archaic stage and continuing into the Early Woodland stage complicates this seemingly clear cut transition.

Red Ocher Complex (1200 B.C. – A.D. 1)

Red Ocher is a burial complex that includes the transitory period from the Late Archaic stage to the Early Woodland stage circa 1200 B.C. to A.D. 1 (Ritzenthaler and Quimby 1962). The Red Ocher complex is ubiquitous throughout the Upper Midwest based on observed similarities in burial contexts. The shared mortuary practices are reflected through parallel elaborate burial customs knit together through the repetitious presence of specific exotic raw materials and artifacts (Stevenson et al. 1997).

The common methods of internment include burials that are either "cremated, bundled, or flex[ed] into a fetal position, and are almost always covered with red ocher or a mixture of red ocher and red sand" (Stevenson et al. 1997:144). Ceremonial chipped stone objects such as Turkey Tail or Adena bifaces manufactured from the blue-grey hornstone of either Indiana or Illinois are typically found in association with these burials. It is also common to observe objects made from Burlington Chert that have source locations in southeastern portion of Iowa and western-central Illinois. Obsidian identified as originating from the Yellowstone Park sources is associated with burials within the Red Ocher complex (Griffin 1967). Ground stone artifacts affiliated with these burials commonly include atlatl counter-weights, referred to colloquially as bannerstones or birdstones because of the artifact shape (Ritzenthaler and Wittry 1962).

The Red Ocher burial complex includes artifacts designed for personal adornment, such as beads or gorgets fashioned from Atlantic and/or Gulf of Mexico marine shell. Copper was frequently manufactured into tools, used and/or deposited within the burials associated with this complex in the form of awls, celts, or beads (Halsey 1972; Mason 1981; Overstreet 1980; Ritzenthaler and Quimby 1962). The presence of copper artifacts associated with the Red Ocher interments is alluded to as being an adoption from the Old Copper mortuary complex (Mason 1981; Ritzenthaler and Quimby 1962; Stevenson et al. 1997).

In addition to the material associations, individuals at the Convent Knoll cemetery site display signs of violent trauma (Overstreet 1980). These traumatic events are evident from projectile points embedded in individuals and apparent characteristics affiliated with dismemberment. One should be cautious about using the conclusion that dismemberment is indicative of violent death though, because the dismemberment of an individual could be intentional or unintentional postmortem processing such as secondary reburial rather than ante mortem, and indicate potential ritual activities rather than violence. The report lacks a description of the analysis relating to the time of dismemberment in relation to death of the individual. Regardless, the evidence is interpreted as representing increasing population and social complexity (Overstreet 1980; Stevenson et al. 1997).

There are no habitation sites directly associated with the Red Ocher burial complex, which may reflect the meager archaeological evidence associated with the Archaic/Woodland transition. It is assumed the emerging Woodland tradition lifeway remained similar to the practices of the Late Archaic. The one addition to the subsistence strategies during this transition is a greater dependence and exploitation of aquatic resources as a result of stabilizing lake levels and technological shifts (Larsen 1985). In accordance with the stabilizing lake levels and jointly connected Upper Great Lakes water sources, technological developments were created to exploit these more predictable and reliable aquatic based resources. The technological shifts include an expanded fishing tool kit comprised of toggle-head harpoons, fixed barbed harpoons, fishhooks and possibly nets (Pleger 1992; Cleland 1982). These technological innovations accompanied by sturgeon bones in a burial at the Riverside site in Northeast Wisconsin (Hruska 1967) and evidence for wild rice within a cremated burial at the Dunn Farm site in Michigan (Ford and Brose 1975) support the assumption that a greater reliance was being placed upon aquatic resources.

The lack of associated habitation data is bothersome, yet it does not preclude increasing social complexity because differential mortuary treatment is interpreted as reflecting recognized status ranking. These facts combined with the association of exotic materials within burials throughout the region indicate a more complex ceremonialism than that practiced during the Old Copper mortuary complex (Stevenson et al. 1997).

The confusion of this Archaic/Woodland transitional Red Ocher burial complex has resurfaced due to review by Pleger (1998, 2000) of the evidence from the Riverside site (Hruska 1967). The material from this site coupled with Esarey's (1986) re-investigation of earlier excavation notes indicate some previously defined Red Ocher burials are potentially associated with mounds and Marion Thick pottery, which are both Early Woodland traits. For example, it is reported that Dane-Incised pottery was associated with a Red Ocher burial at the Riverside site (Hruska 1967). Dane-Incised pottery is firmly dated to the Early Woodland stage of southeastern Wisconsin (Salkin 1986). The present temporal disputes over the Red Ocher mortuary complex continue, but it is noted the developing social complexity reflected here in association with the expanse of trade networks orientated toward the attainment of exotic materials is ideologically tied to the subsequent Hopewell Interaction Sphere (Stevenson 1997:150).

Woodland Tradition

The Woodland Tradition spans 1500 years of prehistory between circa 500 B.C. to A.D. 1000 in southern Wisconsin. It is commonly subdivided into Early, Middle and Late stages. The overarching cultural trends observed throughout this tradition include the manufacturing of pottery containers, a shift in mortuary practices involving specially prepared earthen mounds and evidence for plant cultivation (Stevenson et al 1997:141).

These characteristics were not ubiquitous throughout the region, but were similar to the practices of the Archaic, in that they were time transgressive across the landscape.

The varied cultural adoption of these technologies is deemed reflective of the environmental differences within this region, and the belief that cultural groups were becoming more restricted in their landscape associations. The tradition also reflects an increase in trade that is evident through the Woodland tradition until the decline of the Hopewellian Interaction Sphere, after which, the intraregional network subdivides into isolated cultural localities with minimal interaction (Emerson et al. 2000).

Early Woodland Stage (500 B.C. - A.D. 100)

The Early Woodland Period is distinguished on the basis of three technological innovations. These technological innovations likely represent the migration or diffusion of technological concepts from the south and east. One of these innovations involves the manufacture and use of earthen pottery containers. The presence of pottery containers as witnessed through the archaeological record is a traditional although increasingly contended dividing point between the Archaic and the Woodland traditions (McKern 1931b; Griffin 1952, 1967). A second innovation often utilized to separate the Late Archaic stage from the Early Woodland stage is represented by an increase in preserved plant resource remains. This increased evidence is often used to draw the conclusion that by the Early Woodland Period prehistoric peoples participated in horticultural practices (Arzigian 1987). The third innovation involves lithic projectile styles and technologies that switch from larger side or corner notched varieties to smaller either straight-stem or an expanding stemmed forms (Stevenson et al. 1997).

The regional database of materials attributable to this stage from southern Wisconsin is sizable enough to allow for the identification and construction of a formal cultural historical sequence indicating the presence of a cultural separation between southwestern and southeastern Wisconsin. The materials discovered on archaeological sites in southwestern Wisconsin are aligned with the northward expanse of materials relating to the Indian Isle and Prairie phases associated with more southerly sections of the Mississippi River Basin (Stoltman 1986, 1990), while those sites located within the southeastern portion of Wisconsin appear to have a stronger relationship to the material culture originating within the Illinois Valley and points to the east (Salkin 1986). The separation of these two geographic areas is a common practice used in the discussion of the cultural history of this tradition: therefore, this thesis will focus on the cultural historic sequence as it pertains to the Driftless Region and move away from data pertaining to southeastern Wisconsin.

The environmental conditions during this period remained fairly constant and more or less reminiscent of the modern climatic conditions. In fact, it is assumed that by 1000 B.C. the climatic setting in the Driftless Region had stabilized to what it is today (Arzigian 1987; Knox 1983). This period of relative stasis allowed people the opportunity to rely on accumulated life experiences relating to subsistence resources in new ways. It is also during this time the first extensive evidence relating to shellfish exploitation occurs within the region (Stoltman 1986, 1990; Theler 1983, 1986, 1987). The use of this new food source during the Early Woodland period is thus far isolated to sites along the Mississippi River and the mouths of the basin's major tributaries such as the Mill site and the Clam Shell Point site (Stoltman 1986, 1990; Theler 1983, 1986, 1987). The exploitation and expansion of the perceived and utilized resource base and the introduction of pottery coupled with landscape investments in the form of earthen mounds, and possible habitat management through the use of fire, indicates increasing sedentism and territorialism (Farnsworth and Emerson 1986).

The increase in plant utilization is displayed through regional evidence indicating people were using squash, sunflowers, and potentially the bottle gourd (Arzigian 1987). The collection of nut resources such as hickory, hazel and walnuts persisted through this time period, similar to that observed in association with the Late Archaic. Also present in contexts associated with this time period is evidence for the harvesting and utilization of sumac, grapes, raspberries, blackberries, black nightshade and hawthorn berries (Arzigian 1987).

The Early Woodland stage in the Driftless Region of southwestern Wisconsin is subdivided into two phases. These phases are separated on the basis of two distinct wares or pottery types and observed differences in the associated projectile styles. The first phase is termed the Indian Isle phase (Stoltman 1990), whereas the subsequent phase is referred to as the Prairie phase (Stoltman 1986).

Indian Isle phase (300 BC – AD 100)

The Indian Isle phase in southwestern Wisconsin is defined on the basis of Marion Thick pottery (Emerson 1986; Munson 1966; Stoltman 1990). Marion Thick pottery and/or variants of this style are ubiquitous throughout the Midwest (Griffin 1952). The archaeological cultures associated with Marion pottery types are generally paired with the Red Ochre ceremonial complex, such as the Ryan focus defined in northeastern Iowa (Logan 1976) or the Marion culture of Illinois (Munson 1966, 1982, 1986). But, within the Driftless region of southwestern Wisconsin Marion Thick ceramics are the sole secular diagnostic artifact present, as no other aspects of the Red Ochre ceremonial complex have been identified. Thus, Tiffany (1986) and Stoltman (1990) called for a new term to be used to identify this phase – the Indian Isle phase. The presence of Kramer Stemmed projectiles is assumed to be a second diagnostic artifact of this phase (Stoltman 1990), but Waubesa projectiles are also associated. It is clear that additional evidence is sorely needed to help understand the Early Woodland of the Driftless Region (Benn 1979; Logan 1976; Munson 1966, 1982, 1986; Stoltman 1990; Tiffany 1986).

Prairie Phase (100 BC – AD 100)

The second phase in the Early Woodland specific to Wisconsin's portion of the Driftless Area is the Prairie Phase (Stoltman 1986, 1990). The Prairie Phase is defined largely on the presence of the Prairie Incised series of pottery types (Stoltman 1986, 1990; Theler 1986). The Mill Pond site and the Dillman I site near the Prairie du Chien locality are identified as two sites possessing Prairie Phase occupations; in fact, these two sites represent the sample upon which the division between this phase and the former is predicated (Stoltman 1990; Theler 1986).

Another factor contributing to the decision to subdivide the Early Woodland into these two phases is the difference in observed subsistence practices. Evidence from Indian Isle phase sites is scare due to the limited rate of preservation because these sites tend to be in sandy soils. The rates of preservation on Prairie Phase sites tend to be better and indicate the extensive use of shellfish through the presence of large shell middens. It is assumed, based on the lack of shells found on Indian Isle phase sites, that these groups did not utilize such resources.

Dickson/Waubesa (Kramer) points continue to dominate the lithic assemblage, despite the fact the pottery styles between the phases are distinctly different. This phase is related to the Black Sand culture of Illinois, but more evidence is needed to understand the true relationship between the different phases (Benn 1979; Logan 1976; Munson 1966, 1982, 1986; Stoltman 1990; Tiffany 1986).

Middle Woodland Stage (A.D. 100 – A.D. 400/500)

The Middle Woodland Period is divided into two phases in southwestern Wisconsin, the Trempealeau and Millville phases. The Middle Woodland Stage is assumed to begin circa 200 B.C. throughout most of the lower Midwest but due to the time transgressive nature of the diffusion of materials and migration from southern to northern localities it begins slightly later in southern Wisconsin. Regardless of the Middle Woodland stage's date of inception, the distinct characteristics marking its beginning are associated with developments in the Hopewell and Havana Traditions.

The three cultural traits commonly associated with this period are the construction of conical mounds, especially for the purpose of multiple internments. There is a continual increase in evidence indicating a greater diversification and intensification selection of indigenous seed plant resources. The pottery of this stage adopts stylistically more complex patterning and typically gets thinner, employing a greater variety of tempering materials. The lithic technologies of this stage continue to exhibit the same type of innovation, but begin to exhibit trends of economization through the reduction of size.

Large mound complexes and campsites represent the Middle Woodland stage in the Driftless Area of Wisconsin. The regional Hopewell related manifestation is referred to as the Trempealeau phase (McKern 1931a, 1931b; Stoltman 1979), while the phase following the decline of the Hopewell Interaction Sphere is referred to as the Millville phase. The Trempealeau phase is discussed here in the past tense because at the 2000 Midwest Archaeological Conference in Minneapolis and St. Paul, Minnesota, Stoltman officially withdrew the assignment of such a phase (Stoltman 2000). Despite the fact that the phase has been eliminated, the wider archaeological community still utilizes the designation of the Trempealeau phase because it is historically entrenched in the literature and at present a suitable substitute is lacking.

Trempealeau Phase (AD 100 – 200)

The characteristics of the Trempealeau phase are almost entirely derived from the excavation of conical burial mounds. These burials, located primarily along the bluff tops of the Mississippi River, contained the artifacts displaying interaction with the Havanna-Hopewell Tradition. These burials are often interred in either the fill or in the subfloor at the base of conical mounds. Both fully extended primary burials and secondary bundle burials are reported, while there are no reports of cremations from any Trempealeau phase sites.

The artifacts included large chipped stone knives or "blades", copper axes, earspools, ornamental breastplates, and platform pipes. The materials used in the HIS traditionally are fashioned from exotic raw materials such as obsidian, Knife River flint, Hartville Uplift chert, and Morrison orthoquartzite that have origin points in the upper

Western Great Plans and Eastern Rocky Mountains. Other exotic materials typically associated with the HIS include a large number of marine shell and mica artifacts from the Southeastern United States, but excavations in southwestern Wisconsin have failed to produce any evidence of mica (Stoltman 1979).

The ceramics attributed to or associated with the Trempealeau phase are closely related to Havana or Hopewell wares (Griffin 1952; Stoltman 1979, 1990). The number of vessels classified as true Havana or Hopewell wares in the Driftless Region of Wisconsin are few, but a greater number of local variants or imitations have been observed. These local varieties are collectively classified as composing the Baehr Group of ceramics (Griffin 1952). Thus, it appears, based on the present data, the full expression of the Hopewell ritual and exchange was present in the Mississippi River trench, but as one moves further north into the Driftless Region the intensity of the expression through material culture becomes more subtle.

There are a number of similarities observed between the lithic assemblages associated with the Trempealeau phase and the Havana groups. There are a number of shared projectile point styles including the diagnostic Hopewellian Snyder biface, Manker, Clear Lake, Marshall and Gibson projectile (Stevenson et al. 1997; Stoltman 1990). Other shared lithic technology diagnostic of Hopewell includes the production of lamellar blades struck from prepared cores typically of Burlington chert.

The material record reflects clear evidence for the interaction between Illinois Havana people and local populations in the Driftless Region but the nature of the interactions is uncertain. One possibility is that groups along the margin of the Mississippi River served as facilitators between the Havana Hopewell and those groups within the interior of the Driftless Region. Research in the Driftless Region is presently not pursuing such questions because the majority of the research is focused on the Late Woodland and Effigy Mound studies.

Thus, the debate continues over the exact nature of this phase, as the majority of the data referred to in this section was recovered from burial context (Beaubien 1953a; Freeman 1969; McKern 1931a, 1931b; Thomas 1891, 1894). Despite all of the associated burial data we know precious little about the other aspects of the Treampealeau phase peoples lives. There are few habitation sites attributable to the Treampealeau phase and of those excavated even fewer that have been fully analyzed and documented in the form of written reports. There is a clear need to fully address this lack of data and in order to reconcile the statements made by Stoltman (2000) regarding this phase and clarify the nature of the relationship between the Driftless Region and areas further to the south at this time.

Millville Phase (AD 200 – 500)

The final phase in the Driftless Region associated with the Middle Woodland is referred to as the Millville phase, aptly named after the Millville site near the confluence of the Wisconsin and Mississippi rivers (Stoltman 1979, 1990). The Millville ceramics appear to be closely related to the Weaver ware of Illinois, which is basically a continuation of Havana related ceramics. General Weaver ware characteristics include thinner vessel walls, and a more elongated jar form with less ornate decoration (Stoltman 1990:247; Wray and MacNeish 1961:52-60). The ceramics associated with the same temporal period in Iowa are slightly different but closely related to Weaver ware; this ceramic group is referred to as Linn wares (Benn 1978, 1979; Logan 1976). The ceramics observed in Wisconsin associated with this phase are identical to the Iowa type, therefore the Linn ware classification is utilized in Wisconsin (Stoltman 1990).

Linn wares tend to be thinner than the earlier Havana wares. The exterior surficial decorations include impressions and other decorations that are less bold. Nodes common to Havana-Hopewell wares are no longer applied to these vessels. The most common type of Linn ware is the Levesen Stamped variety, which is believed to be a local adaptations evolved from Havana wares (Benn 1978, 1979).

The lithic technology associated with this phase indicates a growing familiarity with local materials, further spurring manufacturers toward the refinement and economization of stone, through the reduction of projectile size. The projectile types common to this phase are referred to in southwestern Wisconsin as either Steuben expanding stemmed points, McCoy corner-notched or Ansell points (Freeman 1969; Stoltman 1990). Other diagnostic aspects of the chipped stone tool kit for this period include side-to-ovoid and triangular scrappers, drills fashioned from flakes and generalized chopping tools (Freeman 1969). There is also an identifiable bone working industry indicated through the preservation of bone awls, needles, antler billets and turtle shell bowls from sites such as the Millville site (Pillaert 1969).

The present data for this time period are largely based on the fully excavated Millville site, which is well documented (Freeman 1969). These data suggest a lifeway similar to previous cultural periods, which included a season round of living on the flood plain during the spring, summer and early portion of the fall. Then, during the late fall, winter and early spring these groups dispersed into the uplands and rockshelters. The archaeological evidence from this period includes well preserved assemblages containing macrobotantical evidence of plant domestication and mussel shell harvesting. The faunal assemblages from these sites all indicate high frequencies of white-tailed deer (Christensen 1999).

In contrast to the previous phase, little is known about the mortuary behavior of this phase. The Rehbein I site (47RI81) in Richland County is the only dated cemetery site with burials and, rarely accompanying grave goods. It appears that specially prepared conical mounds were created on top of prepared ground surfaces for the interment of the dead. Burials during this phase include similar treatment as observed in the Trempealeau phase, with the inclusion of a small percentage of cremations.

Late Woodland Stage (A.D. 500 - A.D. 1050)

At this point it must be noted that this overview continues the practice of subscribing to the Wisconsin perspective due to the location of the Gottschall Rockshelter, but because of the wealth of information known from more southerly sites some of this more southerly data must be discussed. The Late Woodland Stage as it manifests itself in the Driftless Region of Wisconsin is a transitional phase from the perspective of major shifts in subsistence practices. The general economy of these groups eventually becomes dependent on maize based agriculture. This wholesale shift to intensive agriculture altered socially land use and settlement patterns. Despite these dramatic events, a unique well-developed complex ceremonialism with cultural roots that stretch back at least as far back as the Hopewell Middle Woodland (Green 2000) manifests itself in the form of the construction of effigy mounds. For unknown reasons, groups abandon this deeply rooted ceremonialism and associated territory during the Terminal Late Woodland Phase.

The resulting localized archaeological culture in post-Hopewell times represents the first of three major transformations associated with the Late Woodland Stage as whole (Emerson et al. 2000; Stevenson et al. 1997). The second transformation is the widespread technological development and/or adoption of the bow and arrow. Bow and arrow technology is represented in the archaeological record by small triangular bifaces, which range from side, corner, basal notched, combinations of these attributes, and some examples are unnotched. The third transformation occurring during this stage is the introduction, and subsequent intensification of maize agriculture.

> The three perceived transformations are defined as follows: (1) a fundamental demographic shift that implies substantial and regionally variable changes in settlement systems following the decline of the Middle Woodland stage; (2) the widespread adoption of the bow and arrow, and; (3) the adoption of a maize-based economy (McElrath et al. 2000:12).

The Late Woodland Stage of the Driftless Region of Wisconsin is commonly subdivided into three phases: the Mill phase, the Eastman phase and an unnamed Terminal Woodland phase.

Mill Phase (AD 500 – 750)

It is assumed the Mill Phase of the Driftless Region of Wisconsin evolved locally from the Millville Phase (Stoltman 1990). The Mill Phase is set apart from the Millville Phase largely based on a shift in the decorative treatment of ceramics. The decorative change involves the addition of dentate and/or rocker stamping in conjunction with the application of single cord impressions onto smoothed exterior surfaces, which is commonly referred to Lane Farm Cord-Impressed. The decorative arrangements appear to be regionally discrete (Christiansen personal communication 2005), while the technology of using grit tempered thin-walled vessels is ubiquitous throughout both the Iowa and Wisconsin portions of the Driftless Region.

There have only been two small projectile points recovered from Mill phase context. These points were originally reported as small corner notched projectile points classified as Snyders points from the Land Farm Mounds (Logan 1976). These corner notched chipped stone projectiles have since been reviewed by Stoltman and Christiansen (2000:500) and reclassified as unidentifiable Late Woodland corner notched points based on the available photograph of the point since the point has been lost. It is the author's opinion the point is most likely an example of a Honey Creek Corner Notched projectile (Mead 1979). Despite the fact, the establishment of the Honey Creek Corner Notched projectile was designed to subsume the continuum of Late Woodland corner notched projectiles (Mead 1979:145) and simplify a classification problem, much debate still exists. The confusion comes from the fact these Honey Creek Corner Notched points are associated with mixed deposits or lack provenience. It is assumed these points represent the initial presence of the bow and arrow in the Driftless Region but this has yet to be demonstrated through *in situ* data from a multi-component site.

It is also complicated by the presence of Cahokia points and assumed local imitations of Cahokia points collectively referred to as Terminal Late Woodland. More data is necessary to properly assess the value of this particular phase.

Eastman Phase (AD 750 – 1050)

The Eastman Phase is synonymous with the zenith of Effigy Mound Culture in southwestern Wisconsin (Stevenson et al. 1997; Stoltman 1990) and temporally comparable to the Horicon phase of south-central Wisconsin. The single most distinguishing characteristic setting this cultural stage (apart from others) is the construction of mounds in the shapes of effigies. In addition, a unique pottery type collectively referred to as Madison Ware is found in association with these mounds albeit rarely. Madison wares are typically grit-tempered and represent a vessel with a rounded body, neck narrower than the body, an occasional flaring rim with decorative techniques using single or multiple cord impressions in linear bands or geometric patterns (Baerreis 1953; Benn 1980; Hurley 1975; Keslin 1958; McKern 1928, 1931a, 1931b; Stevenson et al. 1997:171).

During the Eastman Phase, the lithic assemblage trends toward smaller triangular shaped bifaces. It is assumed the decrease in size is directly related to the wide spread shift to the bow and arrow technology. Initially, these points are either side or corner notched and shortly thereafter the practice of notching was largely discontinued. These small triangular points are commonly referred to as Madison Triangular points (Barrett 1933; Justice 1987; McKern 1930), while the small corner-notched points referred to as Klunk projectile are also associated. Occasionally, these bifaces are serrated but are almost always made from local raw materials. There were also non-diagnostic stone tools present including groundstone "spuds", scrapers, denticulates and retouched flakes (Stevenson et al. 1997).

Despite the tendency for the majority of the artifactual material dating to this time to be of local origin, a few items appear to be imported or constructed from exotic materials. Pipes dating to this time period, discovered within this region are frequently reported as manufactured from Devil's Lake pipestone. The paucity of exotic artifacts hints at the cultural significance of these few exotic items and the greater dependency on localized resources potentially reflecting increased territorialism.

Settlement patterns at this time shift to large village sites located away from the major river sources during the season of warmer-weather, and the evidence of cold-weather occupation along major river ways (Stevenson et al. 1997). It is assumed that the presence of mounds along less significant tributaries and smaller valleys represents evidence of population increase (Stevenson et al. 1997). It is during this period that specialty sites or logistical sites increase in number, such as mussel extracting stations along the Mississippi and lower Wisconsin Rivers (Theler 1987).

The evidence from northwestern Illinois relating to this time period is limited due to a lack of research in the area except along the Mississippi River and Rock River (Emerson and Titelbaum 2001). Except for the major riverways, it appears the majority of the Driftless Region, located within Illinois south of the Military Ridge, may have served as an area for elk and deer hunting (Emerson and Titelbaum 2001:416; Penman 1999), and locations for nut processing, and eventually corn cultivation (Emerson and Titelbaum 2001:416; Simon 1998).

The ceramic assemblage within the northwest corner of Illinois includes collared wares such as Starved Rock Collared (Hall 1962), which are at the center of a debate concerning their association with the Effigy Mound tradition (Benn and Green 2000;

Emerson and Titelbaum 2001: 415; Goldstein 1991; Salkin 1987, 2000; Salzer and Rajnovich 2001; Stoltman and Christiansen 2000). The lithic assemblage from the southern portion of the Driftless Region exhibits stylistic similarities traditionally associated with more easterly peoples, such as Jack's Reef-like bifaces found during the Greater Rockford Airport Expansion Project (Emerson and Titelbaum 2001:415; Justice 1987; Titelbaum 1999). Thus, it is apparent that differing cultural manifestations occur in the Driftless Region during this time period.

It is during the beginning of the Eastman phase that corn agriculture is introduced to the area. Evidence of corn has been found at several sites in southwestern Wisconsin including the Gottschall Rockshelter, the Fred Edwards site and the Mill Pond site (Arzigian 1987; Bender et al. 1981; Salzer and Rajnovich 2000). The presence of corn is often used to support the interpretation that southern influences were present south of the Wisconsin River and along the Mississippi River at this time. The nature of the relations between the intensively maize-based Mississippian society and local populations is uncertain at this time.

There are a number of sites exhibiting evidence of both Mississippian and local Eastman Phase populations that are providing insights into these questions. The Fred Edwards site is a large village site, with a large bird effigy mound in proximity. The association between the village and the effigy mound are uncertain, but excavations indicate evidence of Mississippian style house construction, collared pottery types, and vessel forms representing an amalgamation of local Late Woodland with more southerly characteristics are present (Finney and Stoltman 1991). It is thought that the art styles at the Gottschall Rockshelter show a similar amalgamation between what is considered local style and more southerly style (Stevenson et al. 1997). This conclusion is further strengthened by the fact that collared ceramics, identified as having chemical signatures similar to clays local to the site of Aztalan, have been recovered from the site (Stoltman personal communication 2001).

Regardless of the nature of the interactions between these two cultures, the end of this phase seems marked by a massive migration of peoples out of the region. The lower Wisconsin River is virtually abandoned, while large village sites are constructed along the Mississippi River at the present locations of La Crosse, Wisconsin and Red Wing, Minnesota. It is unconfirmed but highly likely the populations from the interior of the Driftless Region are pushed westward out of the Wisconsin River valley due to severe flooding and pressures from hostilities with Mississippian groups (Salzer and Rajnovich 2001). The present evidence and associated literature do not account for much activity within the Driftless Region between the end of the Eastman Phase and the beginning of the fur trade (Stevenson et al. 1997; Theler and Boszhardt 2006).

Terminal Late Woodland Phase (AD 1050 – 1200/1300)

Based on the present archaeological evidence from approximately A.D. 900, major cultural shifts were occurring in the Driftless Region, mostly including those mentioned in the previous section associated with transformations of hunter and gathering groups to agriculturalists. Technological shifts correlating with the economic shifts followed, and by the beginning of the Terminal Late Woodland Phase many groups throughout southern Wisconsin were supporting the rims of pottery vessels through the use of distinct collars. This shift in ceramics is used to mark the beginning of this phase.

The eastern manifestation of the phenomena is referred to as the Kekoskee Phase (Salkin 1987; 1993), while the Driftless Region lacks a formal designation for the phase. It is the author's opinion that the reason a formal designation is lacking is because of the apparent mass exodus from the region.

There are a number of sites throughout the Driftless Region containing data relating to mature Late Woodland Phase, but very little exists relating to the Middle Mississippian or Oneota cultural phenomena. The evidence is sparse, and probably indicative of localized populations experimenting or trading with peripheral groups, rather than these internal groups constructing their own collared wares. The collared vessel from the Gottschall Rockshelter for example is identical in form and composition to those associated with the site of Aztalan. Other isolated reports of collared wares occur at the Rosenbaum Rockshelter (Stoltman 1976), Mayland Cave (Storck 1972), the Statz site (Meinholz and Kolb 1997), Syttende Mai site (Finney and Meyer 1991) and the Pine River site (Christiansen 1999). It would be a beneficial avenue of research to conduct trace element analysis of these sherds in an attempt to identify the clay source used for these vessels.

Summary

The history of archaeological inquiry in Wisconsin has roots that stretch back to the survey work of Increase Lapham in the mid-1800s. Lapham identified and mapped many of the effigy mounds and other earthworks present on the landscape at this time. The fascination with these mounds and their connection to both prehistoric populations and present populations has been one of the main archaeological foci in Wisconsin ever since. Therefore, the majority of the research conducted in the Driftless Region has focused on the establishment of culture chronologies. The cultural framework for the region is in place, but additional work is needed.

The current research within the Driftless Region is utilizing this cultural historic framework as the backdrop to address questions of cultural continuity, identity and boundary maintenance. Research directed at explaining these complex cultural phenomena are in their infancy as the amount of data collected throughout the region has grown to the point of surpassing the requirement to establish basic culture histories. Research questions focused on such behavioral questions will hopefully be able to provide the basis for constructing models relating to how social groups in geographically isolated locations become or fail to become integrated into surrounding larger socio-political mainstreams. The Gottschall Rockshelter is a critical site for this region, because it provides data amenable in assisting with both endeavors simultaneously. The stringent recording systems and associated 24 radiocarbon dates will aid greatly in the refinement of this cultural historical sequence, while further analysis of the artifacts associated with the anthropogenic sediments will help to clarify the cultural continuity of groups participating within the ceremonialism attributed to the Gottschall Rockshelter.

CHAPTER 4
DESCRIPTIVE ANALYSIS OF A SAMPLE OF THE GOTTSCHALL ROCKSHELTER LITHIC ASSEMBLAGE

Sample and Sampling Strategy

The study sample examined for this thesis consisted of a subset of the lithic assemblage recovered during the 18 years of excavation at the Gottschall Rockshelter. The sample was created through a multi-stepped process with the first step involving isolation of the previously identified lithic materials from those artifacts having undergone preliminary analysis. The second step involved the inspection of the unanalyzed level and No-Vertical-Control (NVC) artifact bags (bags of artifacts having only horizontal provenience) for lithic materials. Each bag was reviewed individually, and once lithic materials were identified they were removed, labeled and incorporated into the study. Upon completion of the backlog review, the study sample was subjected to several analytical manipulations. The end result was a combination of some materials being analyzed for the first time and others being reanalyzed. The author employed this strategy because the majority of the preliminary identification and analysis conducted on this assemblage prior to this study was done by an untrained volunteer labor force in a field lab setting.

This study represents the most comprehensive lithic analysis thus far completed on the Gottschall Rockshelter assemblage and describes a total of 3,348 lithic artifacts, but remains inherently limited. These limitations relate to the fact a backlog of unanalyzed heavy fraction and flotation samples remain in storage and require analysis. The full analysis of these materials will undoubtedly greatly assist in the understanding of this site.

This chapter presents a summary of the descriptive analyses of the lithic assemblage sample. This chapter is subdivided into four sections based on general artifact class: chipped stone (Appendix C), debitage (Appendix D), groundstone and miscellaneous rocks (Appendix E) and details of individual artifacts can be accessed through these Appendices. Samples from the chipped stone projectile points and the debitage are the two classes of artifacts later used in the spatial distributional study described in Chapter 5.

Chipped Stone Artifacts

A total of 511 chipped stone artifacts were identified and analyzed during this study (Table 4.1 and Appendix C). There were 167 diagnostic chipped stone projectile types attributable to previously defined diagnostic types. The diagnostic bifaces present within the Gottschall Rockshelter assemblage represent archaeological cultures spanning from the Early Archaic (8000/5500 B.C.) to the Terminal Late Woodland (ca. A.D. 900 – 1200/1300). In addition, another 88 non-diagnostic chipped stone projectile fragments were identified in the forms of bases, mid-sections, notch fragments, and tips; included are a few unidentifiable fragments. There were 19 preforms identified during the course of this analysis that are likely blanks used in the creation of various Late Woodland projectile points.

There were 66 less formal bifaces of unknown function observed during this study, two of which are unidentifiable flake points. It is possible these bifaces are various types of preforms, but it is more likely they represent a generalized tool category that incorporates the functions of both a chopper and a scraper. Two of these bifaces are manufactured from Burlington chert, while the remaining are made of locally available cherts. The hypothesis that this biface category represents a generalized tool group at the Gottschall Rockshelter is further supported by the fact that only nine scrapers and 65 blades were identified within the assemblage.

Table 4.1: Summary of Chipped Stone Artifacts	
Artifact Class	**Frequency**
Diagnostic Bifaces	167
Unidentifiable Biface Fragments	88
Preforms	19
Less-Formal Bifaces	66
Blades	65
Chopper	1
Scrapers	9
Drills	2
Cores	49
Denticulates	7
Uniface	1
Retouched Debitage	39
Total	511

One of these 65 blades is a diagnostic Burlington chert Hopewellian blade that was likely transported to the site and there are five other blade fragments morphologically similar, but fashioned from locally available raw materials. The reason why the diagnostic blade is thought to have been transported is due to the fact there is no evidence of an associated core, core fragments or lithic debitage. In addition, there were two "T" shaped drills recovered from the site manufactured from local materials.

There are seven denticulates, sometimes referred to functionally as "shredders", contained within the assemblage. These denticulates are assumed to be functionally associated with the shredding of vegetal material to be utilized in the manufacture of cordage or rope (Salzer personal communication). All of these denticulates are manufactured from locally available cherts, with the exception of one fashioned from Burlington chert. There are three denticulates each associated with the Late Archaic period and the Late Woodland stage, while the remaining one is associated with the uppermost deposits.

There were also 49 cores and/or core fragments identified within the assemblage. The majority of these core are multidirectional (n=44) in addition to one bifacial and unidirectional cores and two tested cobbles. All of these cores except one are associated with strata dated to the Woodland Tradition Stage, and that core is tentatively associated with the Late Archaic. A total of 22 of the cores are made from locally available cherts, with the exception of two fashioned from Burlington chert.

The chipped stone class of artifacts also contains 39 retouched pieces of various types of debitage. Three are made from Burlington chert, while the rest are manufactured from locally available cherts, and all but one of them are from strata associated with the Woodland Tradition.

Finally, there was one chipped siltstone uniface recovered from the bottom of a pit superimposed by other pits and post-molds. This uniface is unlike any other artifact recovered from the site. It has obviously been struck repeatedly on one side but was not worked along the margins or the opposite site. This uniface has been heat treated, as evidenced by and has a questionable chronological affiliation due to the super positioning of features above, but is assumed to be associated with the Late Woodland Stage.

The frequency of chipped stone projectiles makes this class of artifacts especially useful for spatial analysis. Therefore, the sample of chipped stone projectiles will be subjected to spatial analysis as detailed in Chapter 5.

Debitage

During evaluation of the lithic assemblage, 2801 pieces of lithic debitage were observed to both possess the contextual and chronological integrity to satisfy the parameters of this study (Appendix C). There were 437 piece of lithic debitage from feature contexts and 2364 from non-feature contexts (Table 4.2). The contextual association of these pieces of lithic debris included piece-plotted, level, and general feature affiliation. The lithic debitage from the site is almost completely dominated by local raw materials, as only 103 flakes within the population, roughly four percent, were identified as being of non-local raw material. It was observed that 101 of these exotic flakes were Burlington chert and the other two were orthoroquartzite. Only 173 flakes are attributed to the Archaic, roughly six percent, while the remaining 2628 pieces of debitage are associated with the Woodland Tradition.

Table 4.2: Summary of Debitage Observed from the Gottschall Rockshelter

Context	Frequency	Local	Exotic
Feature	437	422	15
Non-Feature	2364	2276	88
Total	2801	2698	103

The presence of such high frequencies of lithic debitage make this artifact class amenable to the same spatial distributional analysis as will be applied to the chipped stone projectile points. The end result will be the ability to superimpose the results of the spatial analysis of these two lithic categories for the purpose of further testing the hypothesized partitioning of sacred and secular space at this site.

Groundstone and Miscellaneous Rocks

There were five other artifacts classes identified during this research that are represented by either a small number of objects or a single artifact (Appendix E). The small quantities of these artifacts make them impossible to use in the spatial analysis, but they are nonetheless worthy of discussion because they are associated with the site. The artifacts include: five ground stone geometric shapes, one fragmented ¾ grooved axe, 13 unidentifiable fragments, one granitic rock, a limestone tablet, five hammerstones, five sandstone abraders, one sandstone gorget and a sandstone sphere (Table 4.3).

Table 4.3: Summary of Groundstone Artifacts

Artifact Class	Frequency
Geometric Shapes	5
¾ Grooved Axe	1
Unidentifiable Fragments	13
Granitic Rock	1
Limestone Tablet	1
Groundstone Bowl	1
Hammerstones	5
Sandstone Abraders	5
Sandstone Gorget	1
Sandstone Sphere	1
Total	34

There were five different groundstone geometric shapes recovered from the Gottschall Rocksheter. These artifacts include such shapes as a circle, cone, oval, trapezoid and a triangle. These artifacts are all associated with the Late Woodland Stage and are made of various materials including dolomite, granite and locally available chert.

The function of these artifacts is unknown but use-wear analysis my help clarify if a few of these were as possible abraders.

There were two pieces of ground greenish tinted basalt recovered during excavations that conjoining to form a three-quarter grooved axe. This grooved axe has been obviously used as one end exhibits evidence of use-wear through the presence of many peck marks. The fracture parallels the long axis of the stone tool and appears to be a byproduct of use. In addition, there may be another much smaller grooved axe but there is very little of it yet recovered and it is made of a type of dolomite, which is uncommon given the assumed purpose of these artifacts. Those fragments of the other possible grooved axe are considered at present to be part of the 12 unidentified groundstone fragments unit additional pieces and refits are identified.

There is one granitic rock within the assemblage identified as a piece of gabbro. This dark stone is easily fractured into small squares, and appears macroscopically to match well with the tempering material observed in at least one of the Late Woodland ceramic vessels. It is worth mentioning that at least two piles of clay were excavated from within the rockshelter, and one of the piles of clay had textile impressions on its underside. There was also a large poorly fired shell tempered "squeeze" recovered from the site, which likely represents a raw material test. These pieces of evidence have been used to justify the claim that ceramics were manufactured on or within the proximity of the site.

Five hammerstones are present within the lithic assemblage. All of these hammerstones come from a fairly spatially isolated area within the shelter and come from the temporal boundary between the Late and Middle Woodland stages. All of these hammerstones are from locally available materials.

There were several sandstone artifacts recovered from the site including five abraders, a gorget and a sphere. The sandstone abraders were likely used in associated with the flaking of stone. All of these artifacts are associated with the Late Woodland Stages and are evenly distributed through the rockshelter. The sandstone gorget is a perforated piece of highly consolidated sandstone and likely is not a true gorget. The term is being used here because it is the best terminological fit presently available. The sandstone sphere was recovered out of context and is probably natural rather than cultural. One final note, the number of sandstone artifacts is reportedly greater than seven according to the original field notes, but a number of these artifacts have since disintegrated into piles of sand before they were formerly analyzed.

Summary

The lithic sample used in this study is composed of 3,345 artifacts from 23 artifact classes. The full detailed descriptive analysis is presented in each of the associated Appendices and a summary of those findings are described in this chapter; therefore, the interested reader is urged to refer to the appropriate Appendix for information on the individual artifact: chipped stone (Appendix C), debitage (Appendix D), groundstone and miscellaneous rocks (Appendix E). The results obtained from the process of formally describing the Gottschall Rockshelter lithic assemblage indicates these two artifacts classes of sufficient size to be amenable to spatial analysis are debitage and chipped stone projectiles. These two artifact types form a strong comparative base for assessing the hypothesized differentiation of sacred versus secular spaces within the rockshelter. The remaining artifact classes have sample sizes too small to assist in the type of spatial analysis conducted in association with this thesis and reported in Chapter 5.

CHAPTER 5
SPATIAL ANALYSIS

The spatial analysis was designed to test the hypothesis that the anthropogenic sediment present within the Gottschall Rockshelter demarcates differentiated space assumed to represent the partitioning of sacred and secular spaces. As a result of testing this hypothesis two critical assumptions supporting it need to be addressed, which include: 1) sacred and secular space is partitioned and reflected by other artifact classes at the Gottschall Rockshelter and 2) the proposed period of anthropogenic sediment fabrication and deposition, extending from the Durst Phase (1000 BC) to the Eastman Phase (AD 1050) reflects a similar and continuous trend of spatial partitioning.

The spatial analysis conducted in this thesis focuses on two classes of artifacts within the lithic assemblage, the chipped stone hafted bifaces or projectiles and the unmodified debitage including shatter, complete and broken flakes. These two artifact classes were selected because they have the greatest frequencies within the lithic assemblage and represent polar opposites along the continuum of chipped stone manufacture. The debate concerning the analytical strengths and weakness of each artifact class are well documented in the archaeological literature and will not be summarized here (Inizan et al. 1999), but it should be noted these two artifacts classes provide converging lines of evidence.

The spatial analysis was contingent upon the development of a mechanism to minimize the complications of chronostratigraphy and lithostratigraphy. This process was accomplished by establishing aggregated observational units through the analysis of the calibrated radiocarbon dates. Once these observational units were established, the associated projectiles and debitage were pooled together to form the sample for this study. The full discussion of the methodology used in this process is included in this chapter under the discussion of calibrated radiocarbon dates and aggregated chronometric units.

Once the chronometric units were established, the second step was to tabulate the projectiles and debitage separately according to excavation unit per chronometric unit for the purpose of analysis. This process was accomplished by compiling and recording the raw frequencies of each artifact class as described above, followed by the entry of those data into the appropriate spreadsheets for statistical analysis. The ultimate goal of the spatial analysis is to identify those chronometric units having greater variability in their distributions from the D zone than chance alone, because the D zone post-dates the hypothesized period of anthropogenic sediment manipulation and associated ritual activity. Thus, the D zone is assumed to represent a more secular distribution of material. The methodology used in relation to the spatial analysis is fully discussed under the heading of statistical methods and data sets in this chapter.

The concluding portion of this chapter presents the results of these investigations and discusses the significance of these findings in relation to the tested hypothesis and associated assumptions.

Calibrated Radiocarbon Dates and Aggregated Chronometric Units

The first hurdle in the investigation of the spatial distribution of the lithic assemblage at the Gottschall site was to devise a method to reduce or negate the potential complications attached to that of lithostratigraphy and chronostratigraphy. These complexities are present on every archaeological site, but they are exacerbated at the

Gottschall site because some of the sediments are fabricated, deposited, and manipulated through human behavior as well as natural processes. A quick snap-shot of these complexities can be witnessed through the inspection of the stratigraphic correlation charts (see Appendix B). Thus, as a means to avoid these unforeseen pitfalls it was decided that all 24 radiocarbon dates associated with the site would be calibrated, but only those 18 assays associated with the period described above would be statistically investigated for the purpose of identifying those radiocarbon ages that are statistically similar. The radiocarbon ages statistically proven to be similar would then be aggregated and form the defining temporal parameters of the study units used in this analysis.

The original strategy implemented by Salzer (personal communication) was to obtain a sample of datable carbon from each respective Zone or strata. It was originally thought that this was going to be a fairly simple task because of the fact that surface burnings or small hearths occur frequently at the site, and at most rockshelters (Salzer and Rajnovich 2000:3). It should be noted that the terms burning or small hearth are used here to refer to a feature not likely used for extensive food processing. These features are rather small discrete burnings unlike large roasting pits or earth ovens. The Gottschall Rockshelter is known to have been periodically flooded with charcoal from forest fires, thus instigating the requirement that all potentially datable carbon from the rockshelter needed to be covered on at least three sides by remnants of the oxidized portion of an intact feature (Salzer and Rajnovich 2001).

The succession of submitted radiocarbon dates from the site is difficult to trace because these dates were originally processed through the generosity of researchers at each respective institution. The "Wis" assays were gratis provided by Ray Steventon, while the "AA" samples were transmuted to graphite by John Junkin at the former University of Wisconsin-Madison laboratory in accord with the University of Arizona requirements. The AMS dating was then paid for by a research grant provided by Beloit College. It is for these reasons that formal radiocarbon data sheets were neither produced nor readily available, thus making the process of obtaining reliable information on the samples difficult. For example, the weight of the processed samples remains unknown. The radiocarbon dates processed by the Radiocarbon Dating Laboratory at the Center for Climatic Research at the University of Wisconsin-Madison were published in *Radiocarbon* while the others were never published. The Canadian web site (http://www.canadianarchaeology.ca/) has digital records of these radiocarbon dates available to the public.

Twenty-four charcoal samples were submitted for radiocarbon dating from the Gottschall Rockshelter. Eight of these samples were conventional samples processed by the Radiocarbon Dating Laboratory at the Center for Climatic Research at the University of Wisconsin-Madison ("Wis" prefix). The other sixteen samples were processed by the NSF-Arizona AMS facility at the University of Arizona-Tucson ("AA" prefix), for accelerator dating. These radiocarbon dates have never been calibrated, thus the 24 radiocarbon ages from the site were calibrated using CALIB Radiocarbon Calibration HTML version 4.2 (Struiver, Reimer and Reimer 1998). These dates were calibrated for the purpose of inspection, but because the Late Woodland radiocarbon ages are visually inseparable a statistical analysis was needed to determine the discrete chronometric units.

The establishment of these chronometric units was conducted using the freeware OxCal program as provided by the Oxford Radiocarbon Accelerator Unit (http://c14.arch.ox.ac.uk/embed.php?File=oxcal.html; Kidder 2006). The OxCal program during this process was set to calibrate the radiocarbon dates using the calibration curve referred to as IntCal04: Northern Hemisphere (Reimer et al. 2004). The raw data was entered into the program and then each individual date was tested against its nearest chronological affiliate(s) using the C^{14} date combination function that tests probability at a 95% confidence rate that the two or more dates in question are from the same population using a Chi-square related analysis. The groupings were continually enlarged until the results failed the test, resulting in the establishment of preliminary groupings.

The next step in this process was to take these preliminarily identified groupings and test them using the contiguous phase model function present within the OxCal program. This function tested the preliminary groupings by assessing if the dates assigned to each of three closely related phases (Eastman Phase, Mill Phase and Millville Phase) were statistically distinct from one another using an agreement index based on Bayesian modeling. The other identified phases involved with this study, the Terminal Late Woodland and the Late Archaic, are obviously well outside the possibility of being considered part of the same population as the others. The end result is that either the groups will be found to be separate discrete groups or enough overlap remains to warrant further revision (Kidder 2006:200). The results of this run indicated the preliminary groupings did in fact represent separate and discrete groups; thus, these groups formed the temporal bounds for the aggregated spatial study units (Figures 5.1 and 5.2).

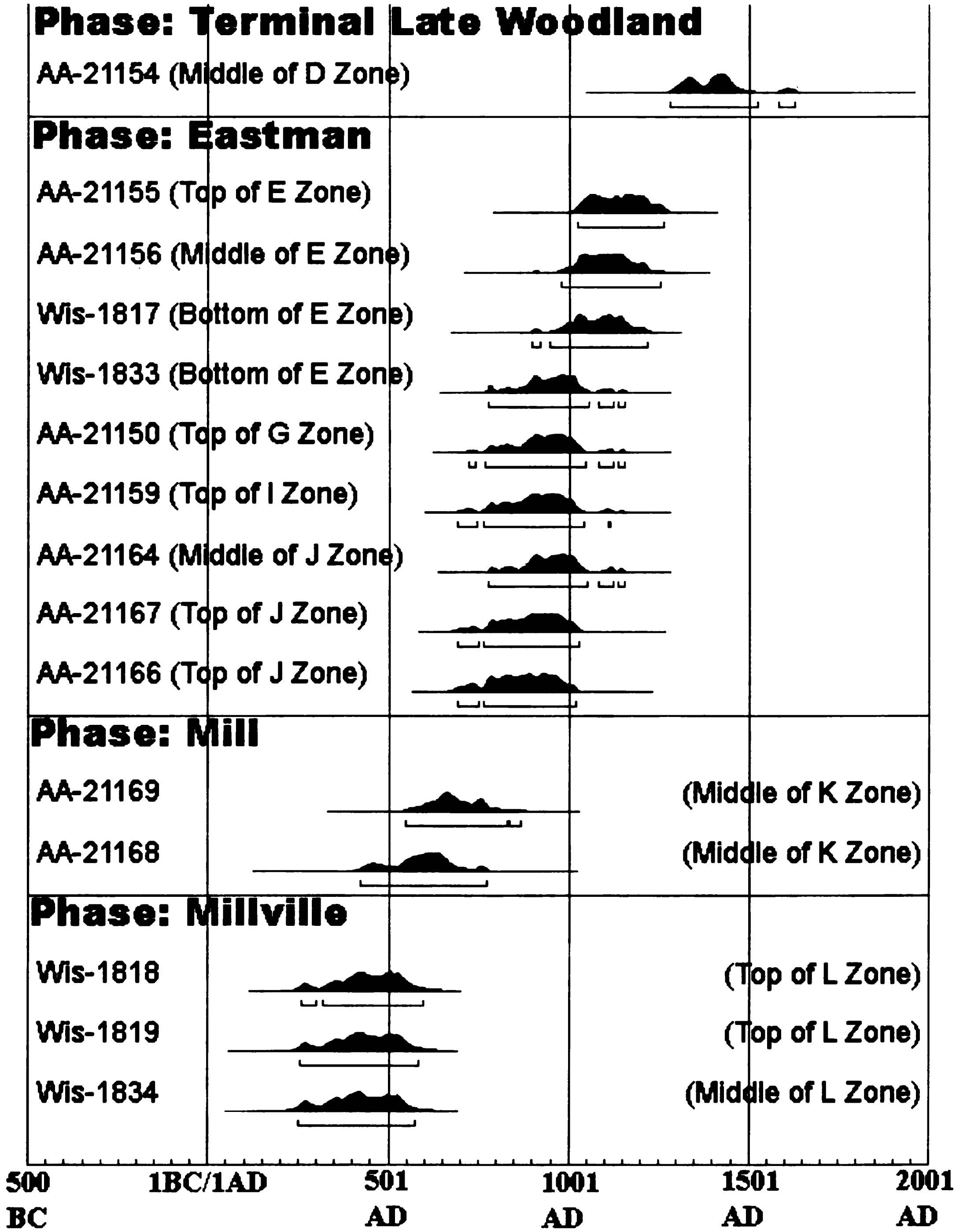

Figure 5.1: OxCal Derived Calibrated and Grouped Late Woodland Radiocarbon Dates

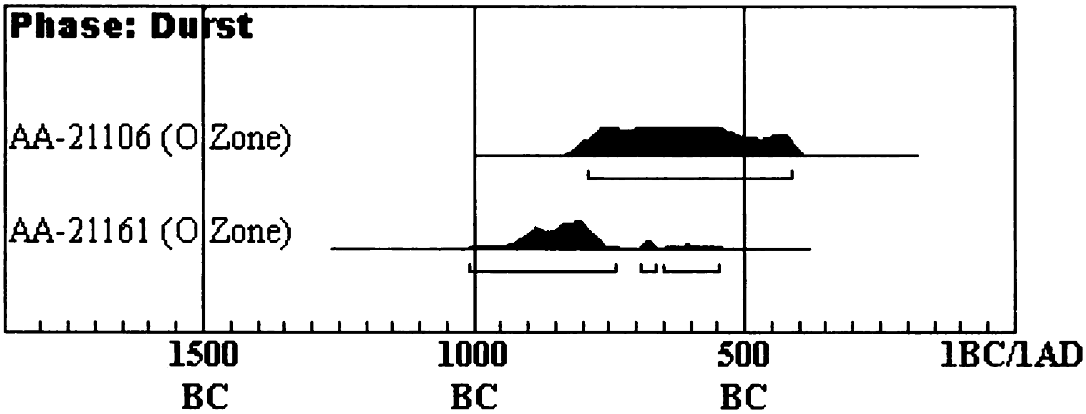

Figure: 5.2: OxCal Derived Calibrated and Grouped Late Archaic Radiocarbon Dates

Statistical Methods & Data Sets

The shift in excavation strategy from the two-meter test trench to the one-meter excavation units, combined with the backlog of unanalyzed materials has continuously hindered attempts at conducting spatial analyses of the artifacts from this site. The shift in excavation strategy in the early 1990s changed the observational scale by effectively subdividing a larger analytical unit to a more refined one. The typical process used to ameliorate this problem usually involves some type of an averaging mechanism, but this has the tendency to blur the nuances contained within the data. Rather, in an ideal world, a more statistically sound option would be to aggregate the $1m^2$ into $2m^2$ blocks, but this would obscure the potential strengths of the data collected at the site post the two-meter trench and in essence obscure the distinctions presently available through this $1m^2$ resolution. The compromise generally undertaken by those conducting spatial distributional studies on the Gottschall collection is to in effect ignore the two-meter trench data by focusing exclusively on the $1m^2$, but this type of analysis ignores more than 25% of the area excavated within the rockshelter and an unknown percentage of the assemblage.

The nature of the question being asked in this study focuses on attempting to identify change in the use of space during the span of hypothesized anthropogenic sediment fabrication and manipulation between the Late Archaic and the Terminal Late Woodland. Thus, a method was adopted using the nonparametric statistical measure referred to as the Wilcoxon Matched-Pairs Signed-Ranks statistical test to compare each individual excavation unit to itself over the course of the previously calibrated and aggregated radiocarbon study units. This statistical measure was adopted because it focuses on the comparison of the observational pairs over time, which in the case of the Gottschall Rockshelter means the $2m^2$ blocks are compared to each other rather than to the $1m^2$.

The test ranks the difference without regard to the sign of the difference, ignores all zero differences and affixes the original signs to the rank numbers. It essentially uses the sizes of the differences to assign a level of significance by dividing the number of all distributions of signs over the ranks that have a SUM(+ranks)<=W+(if W+<W-) by 2**N (i.e., the total number of possible distributions of signs) and assigning a value that can then be cross-referenced and translated into a level of significance. The level of significance set in this study was to a 95% confidence level. This statistical test works well with small numbers with unknown distributions and is more sensitive than the Student t-test and in fact is recommended as a statistical measure when the number is less than 50 (Blalock 1972; Siegel 1956).

After a review of the available Gottschall excavation data it was determined 41 excavation units comprised of 34, $1m^2$ and seven, $2m^2$ blocks would be included in the study area (Figure 5.3). The partially excavated units, those with major disturbances and/or lack of the complete stratigraphic sequences spanning the time frame specified within this spatial distribution analysis were deleted from the analysis. The assemblage of projectiles and debitage as originally reported in association with Chapter 4 was reduced to adhere to the parameters of this analysis and resulted in the formation of two data sets: one including 165 diagnostic projectiles (see Appendix C and the other consisting of 2,645 pieces of unmodified debitage (see Appendix D).

Both data sets required a review of the specific artifactual context, especially in regards to the feature materials because a number of initially identified features were later confirmed to be the by products of natural or taphonomic processes. Thus, the feature data was reconciled by reviewing the Master Feature List (Appendix G) to see if in fact the feature was a cultural feature, if the feature had been determined to be non-cultural then the artifact was not included in this study and assigned to the non-provenienced category of NVC. If the feature was cultural, then the description was inspected for the stratigraphic point of origin, which was then used as the basis for assigning the artifacts to their stratigraphic position. This data was recorded and included in the data set tables.

The data were then compiled and entered onto graphical representations of the Gottschall excavation grid in numerical form. The excavation units on the grid were each pre-assigned a standardized case number between 1-41 (see Figure 5.3), and the resulting compiled artifact data per case were then entered into the statistical program SPSS Graduate Pack 15.0 for Windows. The data were then explored and analyzed using the

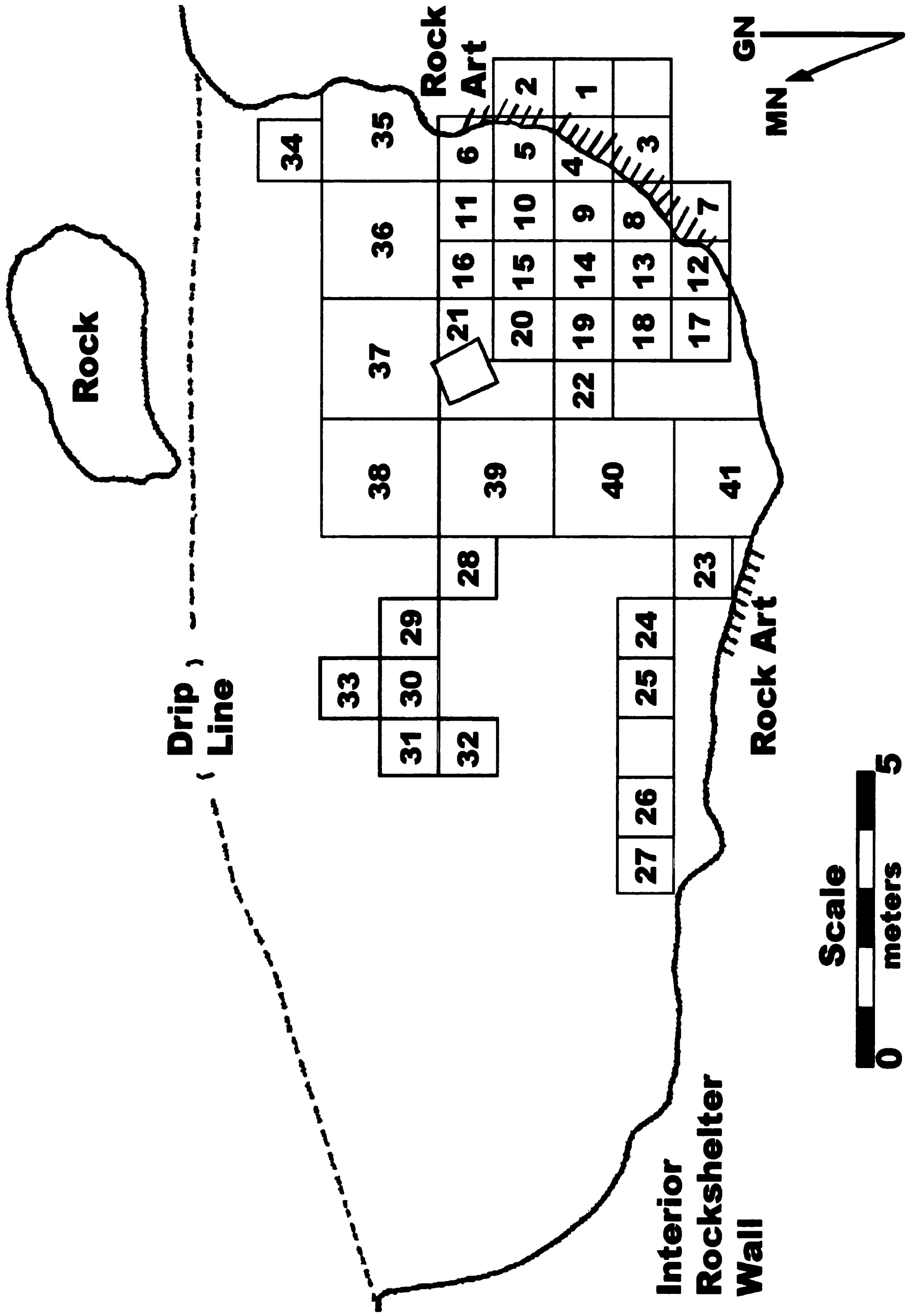

Figure 5.3: Excavation Showing Assigned Case Number per Excavation Unit

Wilcoxon Matched-Pairs Signed-Ranks test, in which the D zone was utilized as the null hypothesis.

Results

An initial inspection of the data was conducted through the use of the exploratory statistics function that reports the results of the frequency, mean, median, standard deviation among others (interquartile ranges, confidence intervals, variance, range, skewness and Kurtosis). The initial inspection of the data was conducted to both explore the data and identify any potential problems with the data entry process, using basic exploratory data analysis (EDA) affiliated functions for the purpose of identifying patterning or order. These functions deemed most useful included the graphical information provided through the formation of box plots and stem-and-leaf plots. A review of these data indicated the combined box plots of each study unit (projectiles and debitage) would be informative, and essentially serve as a preface to the results compiled through the Wilcoxon Matched-Pairs Signed-Ranks test. Therefore, all of the projectile and debitage cases were analyzed using side-by-side box plots (Figures 5.4 and 5.5). In the instances when the frequencies were too small for the SPSS statistical package to process the Wilcoxon Matched-Pairs Signed-Ranks test it defaulted to comparing the two paired study units on the basis of positive or negative ranks.

The results of the box plots indicate the samples associated with the combined E, G, H, I, and J zones have greater spreads than any other study unit. This was expected as these five strata span the Late Woodland period that is also the period of most intensive occupation of the rockshelter. This is the time period of greatest fabrication and deposition of anthropogenic sediments, and the H, I and J zones are three of the four

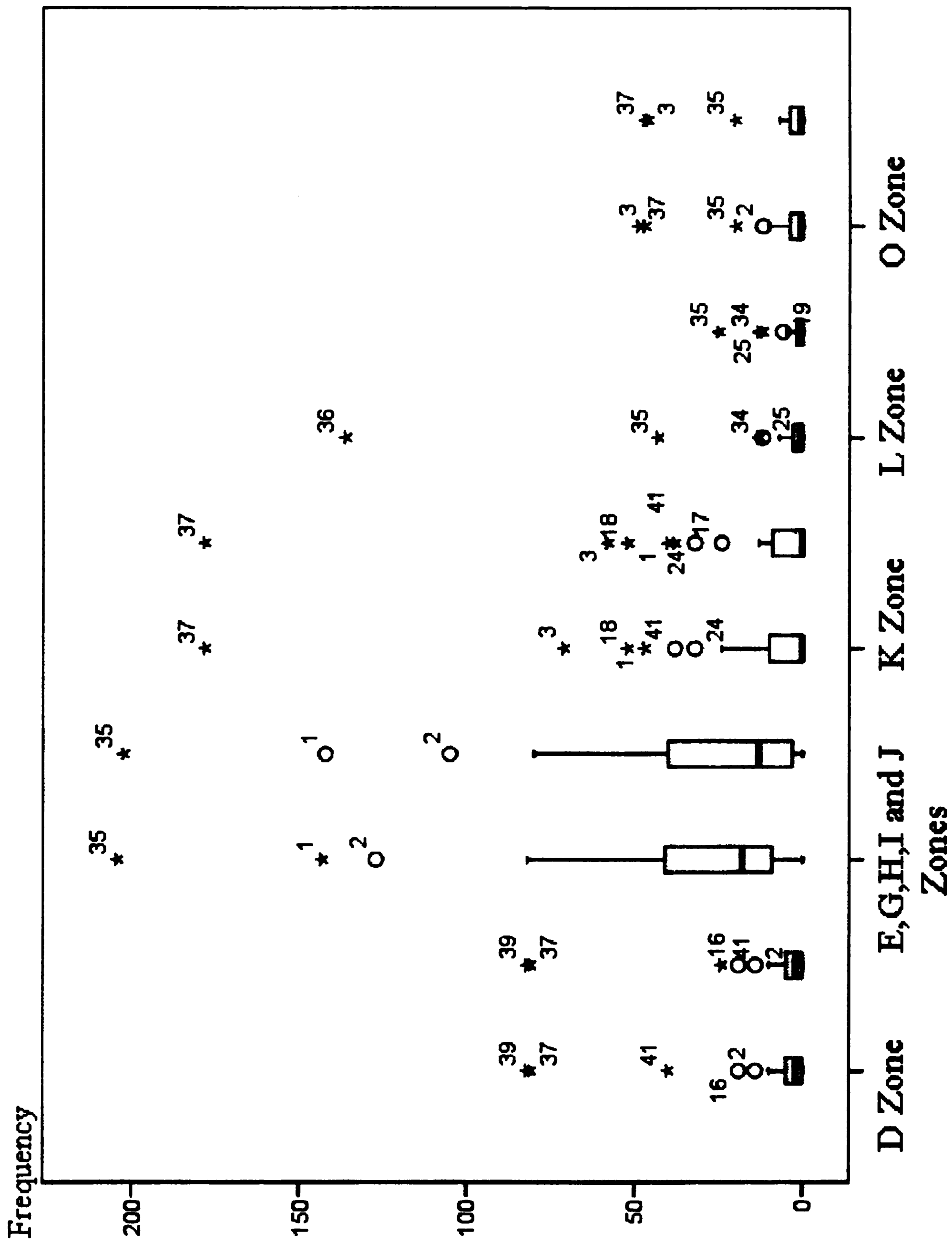

Figure 5.4: Combined debitage box plots.[4]

[4] X-axis: the unlabeled boxplots in this graph are paired with the zone to its left, and do not include feature material. The purpose is to show that regardless of inclusion or exclusion of the feature data there was no major effect on the nature of the data sets.

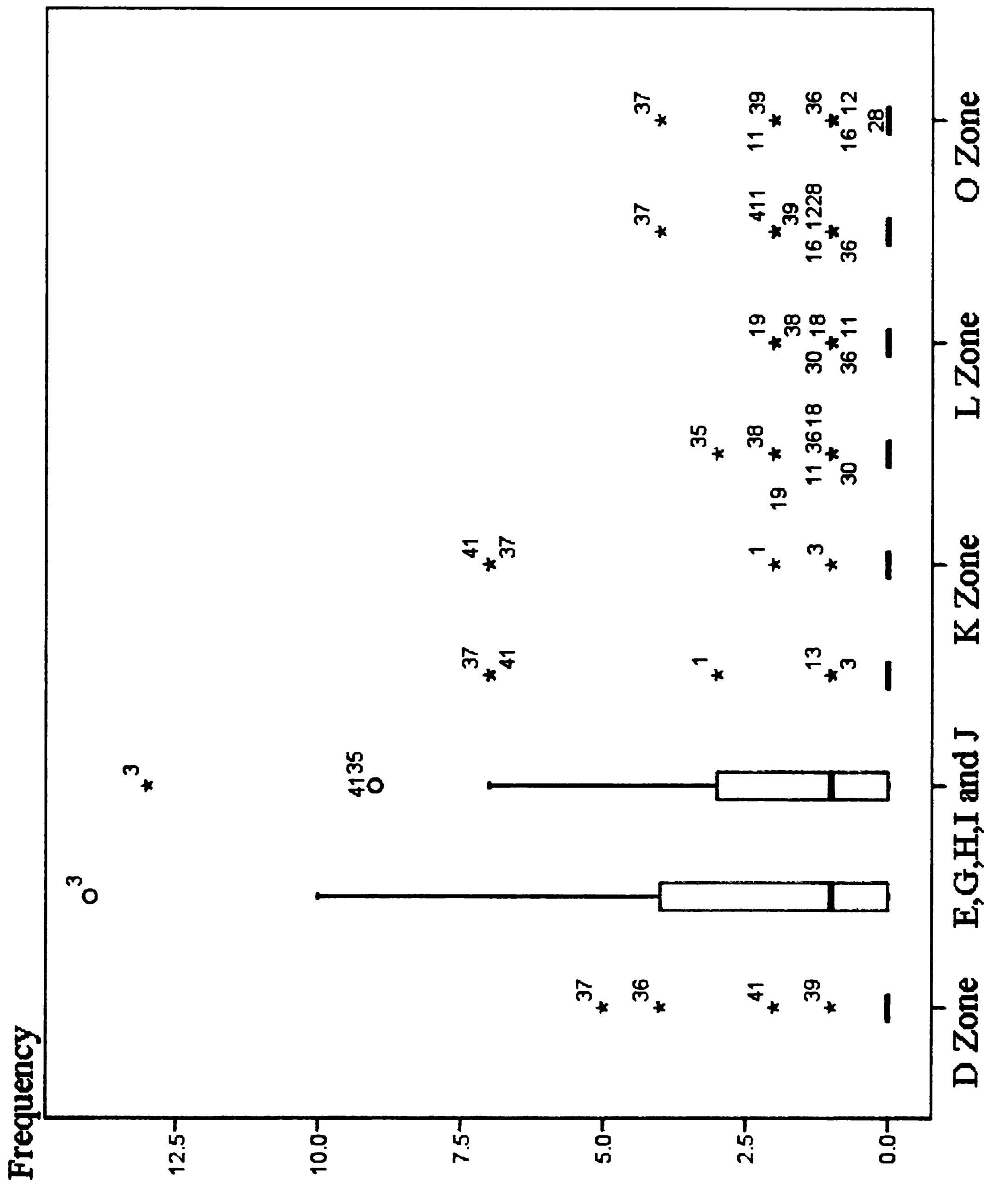

Figure 5.5: Combined projectile box plots.[5]

[5] X-axis: the unlabeled boxplots in this graph are paired with the zone to its left, and do not include feature material. The purpose is to show that regardless of inclusion or exclusion of the feature data there was no major effect on the nature of the data sets.

strata largely composed of anthropogenic sediment with the remainder being the K zone. One of the interesting aspects of the side-by-side box plot is that the K zone has the second largest frequency of artifacts, because this is generally referred to as the "most pure" or artifact absent anthropogenic strata that is more highly restricted spatially in the rockshelter than the others.

It should be noted it was expected the outliers would be associated with the $2m^2$, for the simple fact they represent four times the volume of sediment reported in the $1m^2$. Thus the presence of the excavation blocks from the two-meter trench among the outliers is not too surprising, but the presence of additional outliers along the interior margin was not expected. It needs to be stressed that the other areas of the rockshelter such as the interior space in front of the paintings still contains debitage and in the instance of the spatial patterning of the data the only avoidance of this area occurs during the D zone, L zone and O zone times (see sequence of distribution maps in Appendix F).

The second phase of this spatial analysis was conducted using the Wilcoxon Matched-Pairs Signed-Ranks test and sets the D zone as the null hypothesis or control, because it is considered to post-date the period of anthropogenic sediment fabrication, deposition and alteration. Therefore, it is assumed to represent the distribution of lithic materials inside the rockshelter given the absence of ritual activity. The D zone is naturally deposited sediment that is ubiquitous across the site and contains a fairly homogeneous associated artifact assemblage reflecting its temporal assignment to the Terminal Late Woodland (see Appendix C). The tests conducted in association with the debitage indicate the aggregated unit containing the E, G, H, I, and J zones is the only unit significantly different than the D zone, therefore the remainder are interpreted to be variations on the non-ritual distribution of debitage (Table 5.1 and 5.2).

These tests conducted here focused on scenarios that both included and excluded the feature data to see if in fact there was any difference between the two. The results were identical in that only the aggregated E, G, H, I, and J zones were significantly different from the D zone. The remaining units were statistically similar to the distribution of materials as observed with the D zone. A visual inspection of the spatial distribution indicates there is fluctuation in the location of the debitage with a general pattern including the location of concentrations during the D, L and O zones toward the mouth of the rockshelter and during the K zone there are greater concentrations in relation to the southeast corner. But, these are not statistically significant differences based on the comparison to the null hypothesis.

The results of the spatial analysis of the projectiles using the Matched-Pairs Signed Ranks Test indicated that the only significant difference existed between the populations associated with the aggregated E, G, H, I, and J zones including and excluding feature materials in relation to the rest of the study units (Table 5.3). There were no indications of difference with zones including and excluding feature materials or between zones. One of the reasons for this straight forward determination is the result of the differing sample size. The sample associated with the aggregated units is five times larger than the others that have comparable frequencies.

In summary, the results of these tests indicate a significant difference between the aggregated E, G, H, I, and J zones as compared to the rest of the zones. It is evident part or potentially all of this significant difference is attributable to the larger sample size

Table 5.1: Results of the Spatial Distribution of the Debitage Tested against D zone with Feature Data.

	D zone w/out Fea. – D zone w Fea.	EGHIJ zones w Fea. – D zone W Fea.	EGHIJ zones w/out Fea. – D zone w Fea.	K zone w Fea. – D zone w Fea.	K zone w/out Fea. – D zone w Fea.	L zone w Fea. – D zone w Fea.	L zone w/out Fea. – D zone w Fea.	O zone w Fea. – D zone w Fea.	O zone w/out Fea. – D zone w Fea.
Z	-1.00(a)	-3.94(b)	-3.71(b)	-.57(b)	-.56(b)	-.57(a)	-1.57(a)	-1.06(a)	-1.42(a)
Asymp. Sig. (2-tailed)	.317	.000	.000	.566	.577	.567	.118	.287	.154

a Based on positive ranks.
b Based on negative ranks.

Table 5.2: Results of the Spatial Distribution of the Debitage Tested against D zone Excluding the Feature Data.

	EGHIJ zones w Fea. – D zone w/out Fea.	EGHIJ zones w/out Fea. – D zone w/out Fea.	K zone w Fea. – D zone w/out Fea.	K zone w/out Fea. – D zone w/out Fea.	L zone w Fea. - D zone w/out Fea.	L zone w/out Fea. – D zone w/out Fea.	O zone w Fea. – D zone w/out Fea.	O zone w/out Fea. – D zone w/out Fea.
Z	-4.05(a)	-3.81(a)	-.89(a)	-.88(a)	-.57(b)	-1.556(b)	-1.04(b)	-1.40(b)
Asymp. Sig. (2-tailed)	.000	.000	.371	.380	.567	.122	.297	.160

a Based on negative ranks.
b Based on positive ranks.

present in this aggregated unit of analysis. Thus, the immediate question that arises when viewing these data is, what happens when the aggregated unit is teased apart and the individual micro-strata are analyzed. A further investigation designed to investigate the complexities of this Late Woodland aggregated unit is presented next in this chapter.

Table 5.3: Results of the Spatial Distribution of the Debitage Tested against the D zone Excluding the Feature Data.

	EGHIJ zones w Fea. – D zone	EGHIJ zones w/out Fea. – D zone	K zone w Fea. - D zone	K zone w/out Fea. – D zone	L zone w Fea. – D zone	L zone w/out Fea. - D zone	O zone w Fea. - D zone	O zone w/out Fea. – D zone
Z	-4.38(a)	-4.00(a)	-1.0(a)	-.84(a)	-.05(a)	-.05(b)	-83(a)	-.74(a)
Asymp. Sig. (2-tailed)	.000	.000	.307	.399	.959	.959	.409	.457

a Based on negative ranks.
b Based on positive ranks.

Further Investigations – Analysis of the Late Woodland Eastman Phase

The cultural complexities of the Late Woodland Stage (AD 500 – 1050), particularly the Eastman Phase (AD 750 – 1050) are well documented in the regional literature and will not be reprinted in this thesis. The purpose of this section is to probe further into the reasoning behind the significant difference in the spatial distribution of the materials composing the aggregated E, G, H, I and J zones and D zone. It is possible given the present understanding of the site and its associated formation processes to formulate a preliminary understanding of this complexity by subdividing the aggregated unit into its recognized micro-strata using the stratigraphic correlation chart. The same type of analysis as conducted previously is applied to the distribution of the unmodified debitage and projectiles associated with these micro-strata. The data will first be explored using summary statistics and box plots, and then analyzed using the Wilcoxon Matched-Pairs Signed-Ranks Test.

The exploration of the data indicates the unmodified debitage associated with these stratigraphic zones are widely distributed with the major concentrations occurring in the I and J zones (Figure 5.6). The immediately glaring aspect of this graph is the lack of outliers associated with the $2m^2$, which is unlike the other distributions investigated earlier with the exception of the E and J zones that have major outliers associated with these units along the eastern wall near the mouth of the rockshelter. This is not completely unexpected though because the majority of the anthropogenic strata (H, I, and J zones) are concentrated in the southeast corner of the rockshelter.

The G zone and the H zone have outliers indicating increased frequencies of debitage to the north and west of the excavated area, but also have pockets of increased frequencies directly in front of the pictographs. The I zone outliers are located in the southeast corner of the rockshelter with the exception of one outlier along the eastern wall near the mouth of the rockshelter. The J zone distribution mirrors the I zone with the inclusion of a pocket of increased frequencies located in front of the pictographs. These results are not too surprising given the fact the majority of these sediments are anthropogenic and concentrated in the southeastern corner of the rockshelter. But, it is worthy to note several of the outliers associated with these units are located in the relative area often described as being "avoided" during this time period.

The distribution of projectiles indicates the highest frequencies are associated with the I and J zones, which are also the two zones with the highest volumes of associated anthropogenic sediment (Figure 5.7). All of the micro-strata have outliers of projectile frequencies associated with the area directly underneath the pictographs, except for the G zone. The G zone in fact should probably be reclassified as a feature given the fact it may represent the final burned floor within the sequence (Salzer, personal communication). The entire zone is mostly concentrated near the central and mouth areas of the rockshelter.

The results of the spatial analysis involving the comparison of the D zone both including and excluding the feature debitage against the micro-strata of the Eastman Phase mirror each other. Both of these studies indicate the distribution of the materials associated with the G, H and I zones are significantly different (p= 95%) from the D zone spatial patterning. The E and J zones on the other hand are similar to the D zone (Table 5.4 and 5.5).

The significant difference associated with the G zone can be attributed to the fact mentioned earlier that it should be reclassified as a feature, but it should be noted there is a possibility this zone is the result of taphonomic processes washing in the results of forest fires. The H zone on the other hand is slightly more complicated. It is the uppermost strata of largely anthropogenic sediment and is mostly concentrated in the eastern portion of the rockshelter. The H zone is significantly different (p=95%) from the D zone. The distribution of the H zone debitage includes two concentrations of flakes. The largest concentration of debitage is situated directly beneath the pictographs, while the other is located to the westward in sediments attributed to H zone times through the extension of the stratigraphic correlations. This westward concentration should be treated with some caution, as a greater understanding of the stratigraphic sequence is needed to

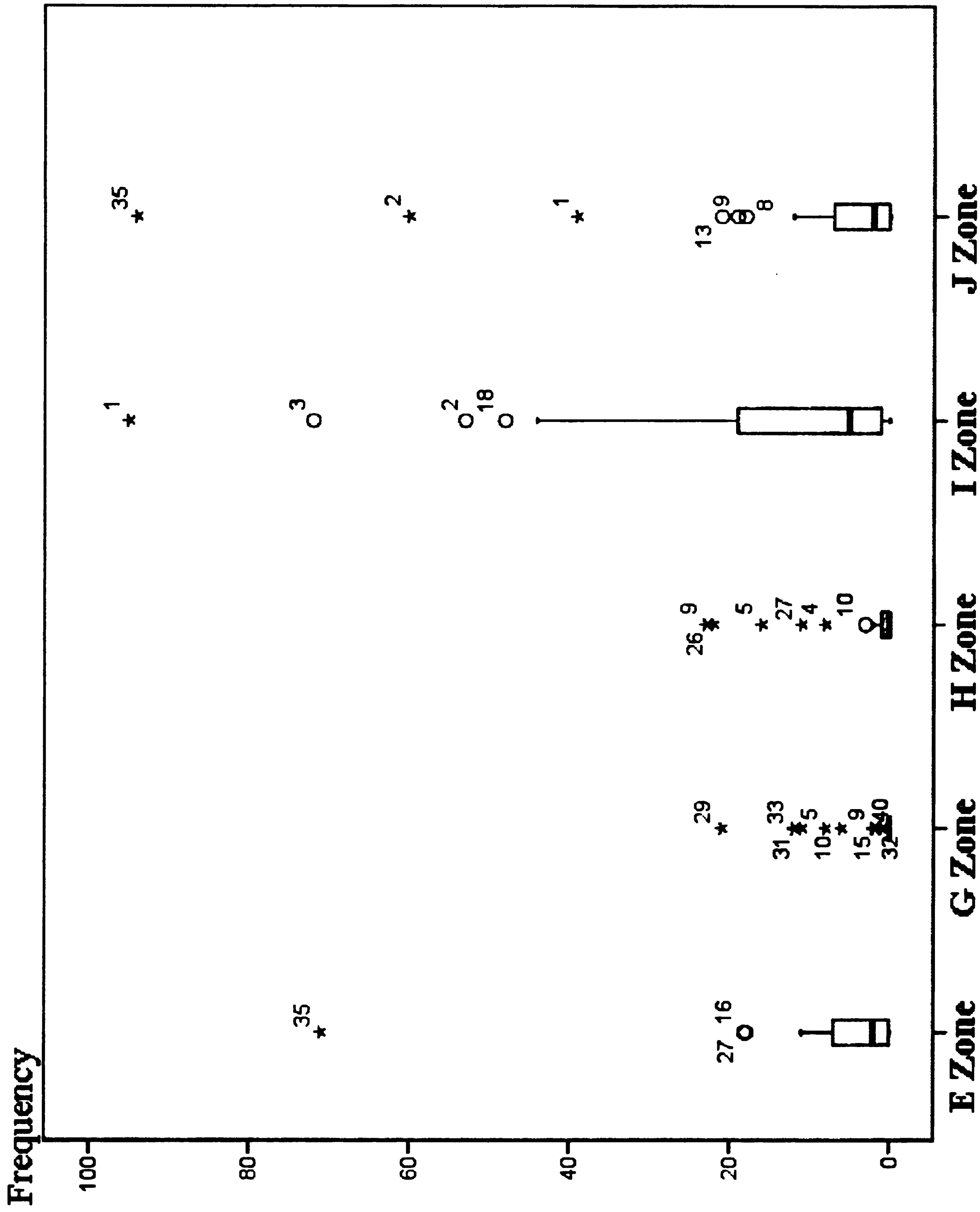

Figure 5.6: Combined Late Woodland Eastman Phase Debitage Box Plots

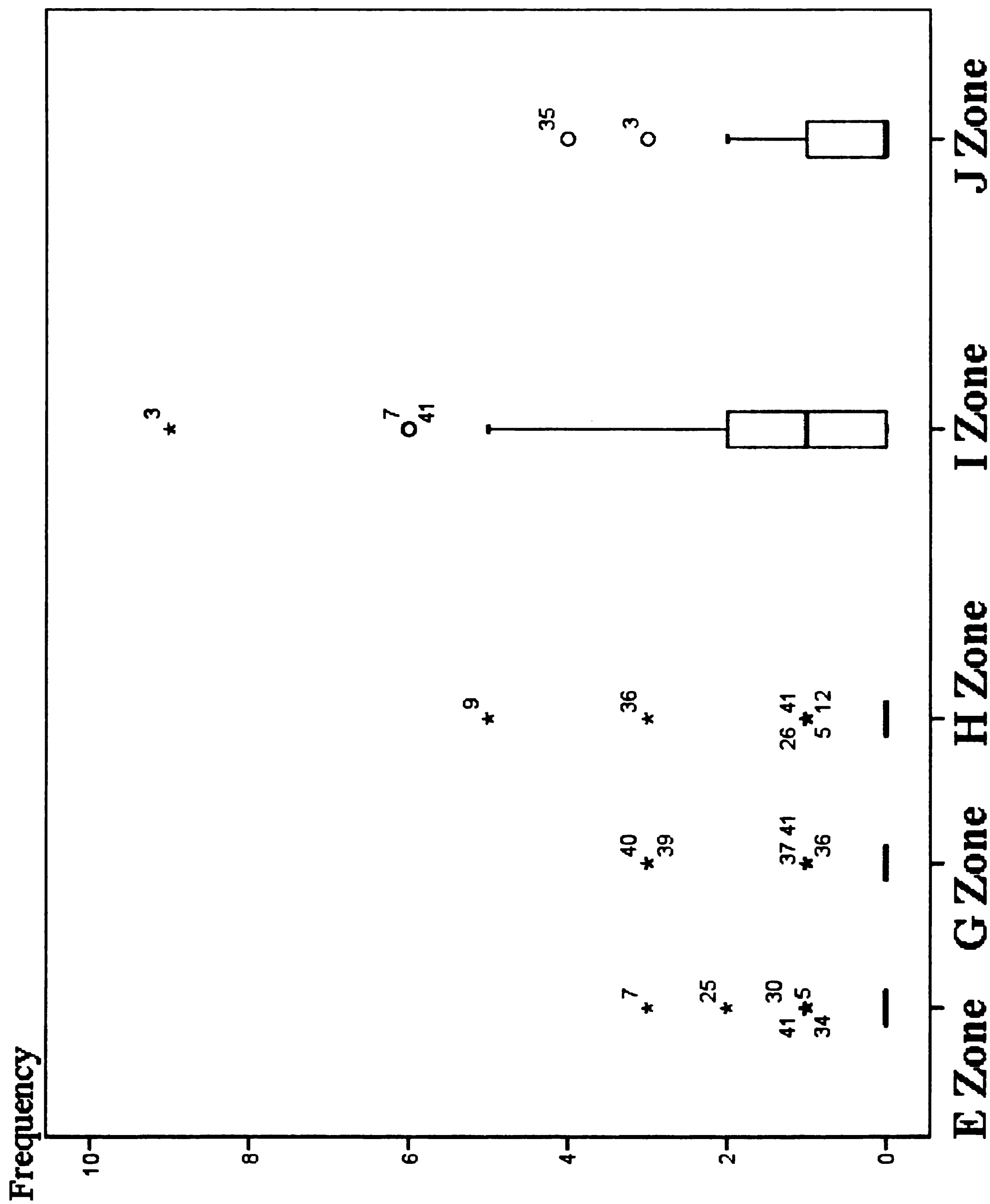

Figure 5.7: Combined Late Woodland Eastman Phase Projectiles Box Plots

Table 5.4: Results of the Spatial Distribution of the Late Woodland Micro-Strata Debitage Tested against the D zone Excluding Feature Data.

	E zone w Fea – D zone w/out Fea.	E zone w/out Fea. – D zone w/out Fea.	G zone w Fea. – D zone w/out Fea.	G zone w/out Fea. – D zone w/out Fea.	H zone w Fea. – D zone w/out Fea.	H zone w/out Fea. – D zone w/out Fea.	I zone w Fea. – D zone w/out Fea.	I zone w/out Fea. – D zone w/out Fea.	J zone w Fea. -- D zone w/out Fea.	J zone w/out Fea. – D zone w/out Fea.
Z	-.113(a)	-.281(b)	-2.760(b)	-2.863(b)	-1.878(b)	-2.436(b)	-1.952(a)	-1.845(a)	-.740(a)	-.680(a)
Asymp. Sig. (2-tailed)	.910	.778	.006	.004	.060	.015	.051	.065	.459	.497

a Based on negative ranks.
b Based on positive ranks.

Table 5.5: Results of the Spatial Distribution of the Late Woodland Micro-Strata Debitage Tested against the D zone Including Feature Data.

	E zone w Fea. – D zone w Fea.	E zone w/out Fea. – D zone w Fea.	G zone w Fea. – D zone w Fea.	G zone w/out Fea. – D zone w Fea.	H zone w Fea. – D. zone w Fea.	H zone w/out Fea. – D zone w Fea.	I zone w Fea. – D zone w Fea.	I zone w/out Fea. – D zone w Fea.	J zone w Fea. – D zone w Fea.	J zone w/out Fea. – D zone w Fea.
Z	-.113(a)	-.281(b)	-2.760(b)	-2.863(b)	-1.878(b)	-2.436(b)	-1.898(a)	-1.789(a)	-.725(a)	-.650(a)
Asymp. Sig. (2-tailed)	.910	.778	.006	.004	.060	.015	.058	.074	.468	.516

a Based on negative ranks.
b Based on positive ranks.

further understand the western portion of the rockshelter. The H zone concentration beneath the paintings tightly clustered around four units and should be explored further.

The results of the spatial analysis testing the distribution of projectile between the D zone and the Eastman Phase micro-strata indicates the only zone significantly different (p=95%) is the I zone (Table 5.6). The I zone including and excluding the feature data are both significantly different than the distribution of projectiles associated with the D zone. These findings are somewhat at odds with the debitage data, which was not expected. When one looks further at the raw frequencies behind these significant differences it is clear sample size is playing a major role; the I zone projectile assemblage is nearly five times the size of the D zone sample of projectile points. The opposite holds true for the debitage in that the D zone population is roughly three-and-a-half times the amount reported for the G and H zones. Thus, as to be expected, the location of the varied frequencies is the critical variable for determining significant differences between the spatial populations.

Table 5.6: Results of the Spatial Distribution of the Late Woodland Micro-Strata Projectiles Tested against the D zone.

	E zone – D zone	G zone – D zone	H zone – D zone	I zone – D zone	J zone – D zone
Z	-.156(a)	-.542(b)	-.250(a)	-3.068(a)	-1.281(a)
Asymp. Sig. (2-tailed)	.876	.588	.803	.002	.200

a Based on negative ranks.
b Based on positive ranks.

Summary

The results of these investigations reveal several pieces of information with the most striking being that the high frequencies of artifacts associated with the Late

Woodland or aggregated E, G, H, I and J zones have significantly different distributions as compared to the null hypothesis or D zone. When this aggregated unit is separated into its constituent parts, or micro-strata, the population of I zone projectiles and G and H zone unmodified debitage were found to be significantly different from the null hypothesis or D zone.

The projectiles associated with the I zone have long been considered to be directly associated with the unknown ritual in the rockshelter. Units S22W10 and S23W11 account for 15 of the 57 I zone diagnostic bifaces including a reworked Turkey Tail and a small pit with three Madison points stacked on top of one another (Figure 5.8). The pit fill also contained the evidence of at least one additional Madison point, but it was badly burned and broken. Further research is needed to explore the data collected from this area because it is likely a larger pit exists with superimposed smaller features such as that with the stacked points in this locality.

The G zone as mentioned earlier should be reclassified as a feature, because it is composed of evidence associated with the final burning of the rockshelter floor (Gartner 1993). The G zone is discontinuous across the site for unknown reasons but contains a unique association of a broken and stacked pile of an Oneota vessel and fragments of at least two Aztalan Collared vessels. The clay composing these Aztalan Collared vessels has been sourced to the site of Aztalan (Stoltman personal communication).

The H zone contains numerous lenses that are easily distinguished from other anthropogenic sediments due to their characteristics (Gartner 1993:36). The H zone is associated with the Effigy mound and McKern phase Oneota pottery, the pigment spill below the red horn panel and the identified sanding debris (preparation of the rock surface for the red horn painting). Therefore, it is highly likely the H zone represents individualized basket loads or offerings of anthropogenic sediment within the rockshelter. Further investigation and refitting of the debitage associated with the H zone may help to further explain this zone.

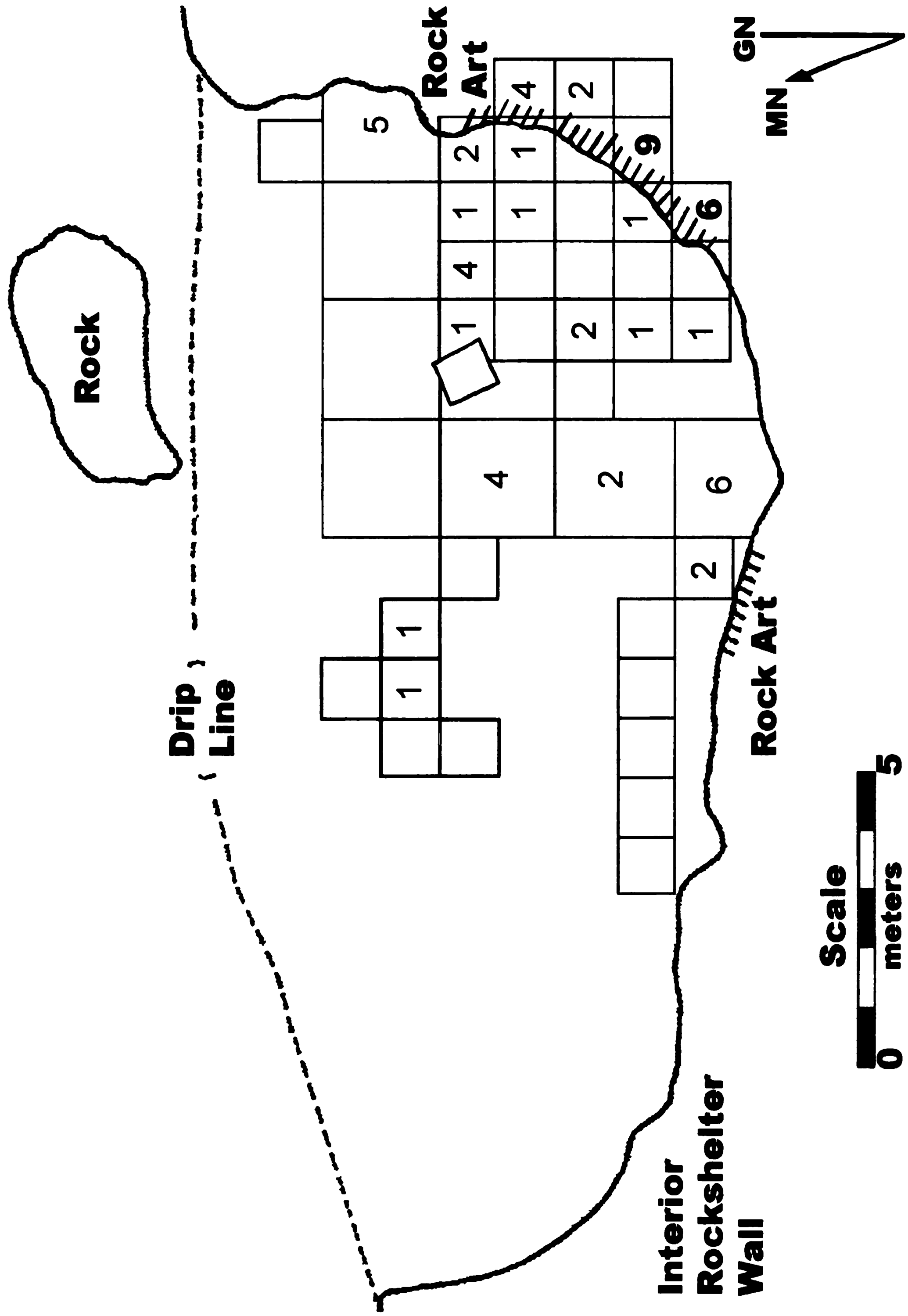

Figure 5.8: Distribution of I Zone Diagnostic Bifaces – Excavation Units S22W10 and S23W11 are represented by bolded numbers.

CHAPTER 6
CONCLUSIONS AND FUTURE RESEARCH

The Gottschall Rockshelter in southwestern Wisconsin is a hypothesized ritual locale of an unspecified function (Salzer and Rajnovich 2001). The primary goals of this thesis were stepwise and involved: 1) presentation of the descriptive analysis of the lithic assemblage and 2) providing an independent test of the hypothesized partitioning of space at the site.

The descriptive analysis provided in this thesis represents the first and only comprehensive descriptive analysis of the 3,348 artifacts comprising the lithic assemblage. These artifacts consist of all identified diagnostic and non-diagnostic chipped stone tools, retouched and utilized debitage, ground stone, minerals, miscellaneous rocks, and sandstone artifacts regardless of spatial context. The descriptive analysis also includes all the provenienced unmodified lithic debitage, but excludes the non-provenienced unmodified lithic debitage. This descriptive analysis ultimately formed the data pool from which the samples for the spatial analysis were selected.

The second analytical portion of this thesis investigates the spatial distribution of the provenienced chipped stone bifaces or projectiles and the debitage associated with the timeframes between the Late Archaic Durst Phase (1000 BC) through the Late Woodland Eastman Phase (AD 1050), which spans the period of the hypothesized manufacture and manipulation of anthropogenic sediment. The purpose of conducting such an analysis was to offer an independent assessment of the hypothesis that the anthropogenic sediment demarcates differentiated scared and secular space, which has been assumed to be the case for other artifact classes (Salzer and Rajnovich 2001). The projectiles and debitage were selected because they have the largest frequencies within the lithic assemblage. These data and this analysis represent the only comprehensive independent assessment of the hypothesized partitioning of scared and secular space.

Summary of Descriptive Analysis

The descriptive analysis indicated there is a tendency in all time periods of occupation studied for the lithic assemblage to be dominated by local raw materials. In addition, it was also observed there are several rarely occurring or unique specimens of diagnostic hafted bifaces or projectiles and ground stone artifacts associated with this assemblage. Finally, there are significant frequencies of lithic artifacts with observable macroscopic use wear patterns such as identified on the minerals, which indicate localized use and/or processing of these materials.

The lithic assemblage is overwhelmingly fashioned from locally available raw material, which provides supporting evidence for the site being occupied and utilized by local populations (Table 6.1). The locally available raw material sources include Prairie du Chien chert (PDC), locally available siltstone, Galena chert and a type defined as local river cobble that is either PDC or Galena chert naturally weathered to point of being unidentifiable. The small percentage of artifacts identified as exotic is mostly dominated by Burlington Chert, but does contain one instance of Indiana Hornstone, several examples of silicified sandstone likely Hixton, igneous rocks such as granite and gabbro and one small flake of Knife River Chalcedony. This evidence indicates the exotic materials were coming into the rockshelter in or near their final forms and the processing of exotic materials was minimal.

Table 6.1: Summary of Raw Material Type per Artifact Class			
Artifact Class	**# of Exotic (%)**	**# of Local (%)**	**Total #**
Chipped Stone			
Diagnostic Bifaces	17 (10%)	153 (90%)	167
Unidentifiable Bifaces Fragments	8 (9%)	80 (91%)	88
Preforms	1 (5%)	18 (95%)	19
Less Diagnostic Bifaces	2 (3%)	64 (97%)	66
Blades	5 (8%)	60 (92%)	65
Choppers	0 (0%)	1 (100%)	1
Drills	0 (0%)	2 (100%)	2
Scrapers	0 (0%)	9 (100%)	9
Cores	2 (4%)	47 (96%)	49
Denticulates	1 (14%)	6 (86%)	7
Uniface	0 (0%)	1 (100%)	1
Retouched Debitage	5 (13%)	34 (87%)	39
Debitage			
Debitage	103 (4%)	2698 (96%)	2801
Groundstone			
Geometric Shapes	0 (0%)	5 (100%)	5
Groundstone Axe	0 (0%)	1 (100%)	1
Groundstone Bowl	0 (0%)	1 (100%)	1
Groundstone Fragments	0 (0%)	13 (100%)	13
Possible Temper Source	1 (100%)	0 (0%)	1
Groundstone Tablet	0 (0%)	1 (100%)	1
Hammerstones	0 (0%)	5 (100%)	5
Sandstone Artifacts	0 (0%)	7 (100%)	7
Totals	145 (4%)	3203 (96%)	3348

There are several rarely occurring or uncommonly identified diagnostic point types within this assemblage (Table 6.2 and see Appendix C). The Turkey Tail, Dickson Contracting Stemmed, and Snyders types are uncommon in the Driftless Area but are nonetheless noted as being distributed throughout the region. The Turkey Tail and

Dickson Contracting Stemmed types likely represent curated artifacts due to the fact they are reworked and associated with feature contexts. The Okoboji points also potentially occur within the region, but these types are more commonly affiliated with southerly and westerly sites; while the Liverpool Stemmed type is traditionally found on more southerly and easterly sites in central Illinois (Montet-White 1968). The Cahokia points are uncommon but reported in the literature of the region. The remainder of the diagnostic point types reported in this study are commonly observed and widely documented in the Driftless Region.

Table 6.2: Summary of Rarely Occurring Driftless Region Point Types Present within the Gottschall Assemblage

Type	Associated Time Period	Period of Deposition	Frequency	Raw Material
Turkey Tail	Transitional Archaic to Early Woodland	Late Woodland	1	Indiana Hornstone
Dickson Broadblade	Early Woodland	Late Woodland	1	Burlington
Liverpool Stemmed	Early Woodland	NVC*	1	PDC
Snyders	Middle Woodland	Middle Woodland	1	PDC
Lowe Flared base	Middle Woodland	Late Woodland	2	Burlington (2)
Okoboji	Late Woodland	Late Woodland	5	Burlington, PDC and Galena (3)
Cahokia side-notched	Late Woodland	Late Woodland	4	Burlington (2), PDC and Galena

It is important to point out that the Okoboji and Cahokia points possess interesting patterns based on their raw material and condition. The Okoboji point style is represented by five points and four of these possess apparent impact fractures. These points are all associated with the Late Woodland period and are more commonly found in eastern Plains contexts. The presence of these points coupled with the small flake of Knife River Chalcedony strengthen the claim for relations between those individuals affiliated with the Gottschall site and groups to the west, despite the fact the nature of these relations remain unclear. The Cahokia points identified within this assemblage are classic Cahokia points in that they are fashioned from Burlington chert and may have been made by the same individual (Salzer and Rajnovich 2001). If so, it is likely these points were fashioned by someone closely related to the Mississippian culture rather than an individual attempting to imitate or replicate this type of technology, which is more commonly affiliated with the Driftless Region.

The hematite, calcite crystals and galena analyzed within the framework of this thesis all posses macroscopic usewear and are likely related to unidentified activities within the rockshelter. In addition to the heavy usewear on a majority of the hematite, four of the chipped stone tools show evidence of heavy use near the proximal end with what appears to be adhering hematite within the micro-cracks. The author hypothesizes these tools were used in the processing of hematite for the purpose of processing red ochre based pigments.

Finally, there are several unidentifiable ground stone artifacts such as the limestone tablet, several geometric shapes, and a limestone bowl that are all associated with the Late Woodland period. It is unclear what cultural purpose they are attributable, but objects of similar shape and raw material are described within the context of regional Oneota sites (Sasso 1989).

Summary of Spatial Analysis

The result of the spatial analysis conducted during the course of this study has established a new method for investigating the intrasite distribution of materials at the Gottschall Rockshelter. It is an easily transferable method that can be used to further analyze any of the other existing subclasses of artifacts and ultimately continue testing the hypothesized partition of space within the rockshelter. The only sub-classes identified during this study with sufficient frequencies appropriate for this type of analysis were the diagnostic chipped stone projectiles and the unmodified debitage.

These two sub-classes of artifacts were subjected to a multi-stepped analytical process beginning with the calibration of the radiocarbon dates. These calibrated dates formed the basis of aggregated chronometric units as determined by the Ox Cal program. Once these were established, summaries of the frequencies per excavation unit were calculated per aggregated chronometric unit, and then these combined results were compared using the Wilcoxon Matched-Pairs Signed-Ranks statistical test.

The spatial analysis was predicated on the assumption that the D zone represents a secular distribution of material within the rockshelter; thus, the spatial distribution of materials in this zone was used as the basis of the null hypothesis. The results of the tests conducted on these two sub-classes of artifacts produced identical results, in that, only the aggregated micro-strata E, G, H, I, and J zones were found to be significantly different (P=95%) from the D zone, despite the fact the anthropogenic sediment and associated ritual activity is hypothesized to predate this time period. Per the results of these initial tests, the large aggregation of micro-strata was parsed out into its individual constituents and subjected to another series of tests. Further analysis should be conducted such as a GIS based type of spatial distribution because the data is amenable to such analysis and the large versus small sample size may be influencing these results.

The results of these tests indicated the debitage within the G and H zones, and the projectiles within the I zone possessed significantly different distributions than the null hypothesis. These results are best considered in the context of the present site interpretation. The G zone represents a unique sedimentary construct and should be reclassified as a feature due to the fact it represents the naturally eroded, last burned floor within the depositional sequence of the rockshelter (Gartner 1993). It is possible that the G zone is further complicated by the fact that it may possibly represent the culmination of ritual(s) involving as many as three different archaeological cultures (Oneota, Mississippian and an unclassified local archaeological culture) or be the result of taphonomic processes. A closer holistic investigation of the G zone will provide insight into not only this instance in time, but will strengthen the ability to understand the other three burned floor features present within the rockshelter.

The H zone represents a highly concentrated mass of anthropogenic sediment in front of the pictographs and almost exclusively contains debitage. This micro-stratum is differentiated from others on the basis of sedimentary characteristics, and is commonly described as being composed of identifiable individual basket-loads of anthropogenic sediment.

The only significant difference within the distribution of the projectiles from the null hypothesis is associated with the I zone micro-stratum. These data represent clear evidence of ritual offerings in the form of projectile points stacked on top of one another in a small pit, which is associated within a larger deposition of 12 projectiles constrained to a small area within the southeastern corner of the rockshelter directly beneath the pictographs. These projectiles are likely part of a larger yet undefined pit within this area of the rockshelter filled with anthropogenic sediment. These points are representative of multiple time periods in various uselife stages.

Future Research

The results of these analyses have highlighted several key pieces of data requiring further investigation, which include the uncommon or rarely occurring diagnostic projectile points within the assemblage especially those associated with the concentration in the I zone, the Okoboji points and the Cahokia points. This study has preliminarily identified those lithic artifacts possessing macroscopic evidence of wear, which indicates usewear analysis would provide valuable information about the utilization of these stone tools and the activities that occurred within the rockshelter. One avenue of research in need of being conducted is associated with the local processing of minerals. Finally, re-fit analysis is another type of research that would provide evidence useful for determining onsite activity, such as providing clarity for understanding of the H zone materials.

One of the aspects hindering this study is the lack of fully analyzed and spatially documented assemblages from other rockshelters. The view of several researchers in the region is that the spatial distribution of materials within Driftless Region rockshelters is bimodal, i.e., concentrations of artifacts are found distributed at both the entrance of the rockshelter and along the internal walls (E. Boszhardt; R. Salzer; J. Theler personal communication). This view is predicated on the belief that the central portion of the rockshelter is commonly utilized for living space and is therefore kept relatively clean of debris. The distribution of materials within the Gottschall Rockshelter does not conform to this pattern, and that is attributable to the fact it is a ritual locale. There is a need for further analysis to be conducted on previously excavated rockshelters such as Preston, Durst, and Brogely in order to help establish clearly founded distributional models for Driftless Region rockshelters.

The presence of such rarely documented materials within the Gottschall Rockshelter assemblage provides a wealth of information useful for investigating the relationship between the interior of the Driftless Area and greater cultural historic sequence of the Upper Mississippi River Valley. The limited presence of artifacts associated with some of the most influential cultural phenomena of the region including the Hopewellian and Mississippian is useful for addressing questions of ethnicity and boundary maintenance or frontiers. The Gottschall Rockshelter is a pivotal site in understanding how local populations interacted with these and other influential cultural phenomena due to its unique character and geographic position. Once the entire assemblage has been fully analyzed and area data have been compiled these issues will continue to further illuminate them.

Conclusions

The lithic assemblage from the Gottschall Rockshelter contains a number of rarely or uncommonly occurring diagnostic point types, minerals and ground stone tools. The diagnostic materials in particular provide useful information for further refining the cultural historic sequence in the region by providing the first clearly dated Honey Creek Corner Notched projectile points, which are shown to be bracketed at this site to between A.D. 550 to 1300 with a mode at ~ A.D. 800 $\pm$ 75 based on the calibrated radiocarbon dates. In addition, several rarely or uncommonly occurring diagnostic projectile points strengthen the connectivity of the Driftless Region populations to archaeological cultures beyond its geographic boundary and indicates that individuals at the Gottschall Rockshelter likely had contact outside this physiographic zone, especially during the Late Woodland period. The nature of these relations is presently unclear but future research will continue to illuminate these relations.

It is also apparent that only during the Late Woodland period is the distribution of debitage and diagnostic projectiles significantly different than is assumed to be a secular distribution of materials. The distributions of these artifacts are almost assuredly the result of ritual behavior given the fact their distribution is structured and concentrated. These patterns become more evident when the individual micro-stratum and their depositional histories are illustrated. It is also clear from this research that the study of the nature of ritual within the rockshelter should begin with a holistic review of the Late Woodland period and then be extended back into time as the data allow. The Late Woodland period is when the ritual is most elaborate and most easily identifiable within the archaeological record. This is by no means an easy task, and will require a complete review of the Gottschall site excavations, full analysis of the artifactual materials and digitization of all records.

The wealth of information obtained from the Gottschall Rockshelter will continue to invite and entice scholarly research for generations. The manner in which the data was collected is a true testament to the care and professionalism forwarded by Dr. Robert Salzer and Dr. Grace Rajnovich. These data will allow for an unlimited number of research avenues spanning spatial analysis, individual artifact analysis and even the assessment of archaeological techniques. The site truly does represent one of the greatest archaeological data sets thus available within the Upper Mississippi River Valley.

APPENDIX A: SUMMARY OF RESEARCH AT THE GOTTSCHALL ROCKSHELTER

Discovery

A local 11-year-old boy named Dean Dax initially discovered the Gottschall Rockshelter. Dean was playing in this locally well known rockshelter with a flashlight and happened upon more than 40 different pictographs and a smaller number of petroglyphs on the shelter walls. He notified his father, who in turn took photographs of the paintings and began circulating them among professional archaeologists. Dr. Robert Salzer of Beloit College observed the photographs and was eventually convinced to make a trip to the rockshelter in the early 1980s. Upon arrival Salzer recognized the Mississippian iconography within the paintings and began formulating a strategy to test the underlying deposits and assess the authenticity of the paintings (Salzer 1987).

Rock Art Research

The rock art present at the Gottschall Rockshelter is well studied and publicized (Salzer 1987, 1987a, 1997; Salzer and Rajnovich 2001; Salzer, Hall and Dieterly 2005). The analysis and recording of the rock art at the site was given first priority in terms of the research strategy employed at the Gottschall Rockshelter. The paintings were photographed using ultraviolet light and color infrared film. Once clear photographic images of the painting were obtained Mary Steinhauer made tracings of the individual figures, and these tracing stand today as the primary source for interpretation of the figures represented by the pictographs (Salzer and Rajnovich 2001). There are six "panels" or compositions of pictographs at the Gottschall Rockshelter with the most famous of them being the "Red Horn" panel.

The Red Horn panel is a group of figures hypothesized by Salzer and Rajnovich (2001) to represent the major characters in a section of the Red Horn Cycle as recorded by Paul Radin from Sam Blowsnake and translated by Oliver Lamere (Radin 1948). It is not the goal of this thesis to assess the interpretation of the Red Horn panel; therefore, the interested reader is directed toward several publications on this topic including an on-line debate recently held between Salzer, Hall, and Dieterly (2005).

The Red Horn panel is not only directly attributable to an oral tradition, but is commonly cited as one of the only prehistoric rock art sites in North America where the composition is hypothesized as being datable (Boszhardt 2003; Salzer and Rajnovich 2001). The dating of the painting is predicated on three converging lines of evidence. The first is related to the assumption that the surface of the rock where the Red Horn panel was painted was prepared or sanded. The results of the preparation of the rock surface undoubtedly resulted in the removal of an unknown amount of sand grains from the St. Peter's sandstone formation. The sanding debris from this event was reportedly observed during the excavation process of the area below the Red Horn panel (Salzer and Rajnovich 2001:23) The sanding debris was observed in the H Zone from which there are no dated carbon samples, but this zone is being reported as being stratigraphically positioned between the G Zone (AD 785 – 935) and the I Zone (AD 765 – 945; Salzer and Rajnovich 2001:4).

A second line of evidence used to date the Red Horn panel is predicated on the results of cross-dating the present iconography. According to Salzer and Rajnovich (2001:21-33) the iconography referred to relates to " ... several [shared] traits with Mississippian art to the south produced between AD 1000-1400", which include the forked-eye motif and the Akron grid (Brown and Kelly in press; Phillips and Brown 1978; Salzer and Rajnovich 2001:31-32).

The reasoning behind this elaboration of the evidence used to make the connection between the Red Horn panel and the chronological sequence at the Gottschall Rockshelter is because the panel is often used to support the claims of ceremonial and cultural continuity at the Gottschall Rockshelter (Salzer and Rajnovich 2001). The panel is also frequently used as evidence to hypothesize about the nature of the behavior associated with the site, including an interpretation that the viewing area relating to this Red Horn panel is sacred space. It is important to acknowledge these hypotheses and assumptions prior to assessing and interpreting the archaeological evidence for the human behavior responsible for the observed archaeological record. It should be noted this thesis assumes the above hypothesis to be correct, but acknowledges there is no evidence to support or negate the possibility of rock art on the panel before the construction of the Red Horn composition.

Excavation

Excavation at the site began in 1984 under the direction of Dr. Robert Salzer of Beloit College. Subsequent to initial inspection of the site, a two-meter exploratory trench was extended mid-way near the drip line of the rockshelter and then turned south, towards the rear of the shelter (Figure A.1). The exploratory two-meter wide trench revealed a well-stratified, undisturbed sequence within the rockshelter (Figure A.2). Re-evaluation of the excavation strategy, after completion of the two-meter trench, prompted the adoption of $1m^2$ excavation units. These $1m^2$ units were excavated in 2cm levels by stratum, with the requirement all items larger than a dime in size whether cultural or non-cultural be left in situ. The artifacts and the top of each 2cm level were photographed and mapped, and the artifacts assigned individual provenience information (Salzer and Rajnovich 2000:9).

Sediments considered "suspect" or disturbed and the artifacts within them were assigned to a category of "no vertical control" (NVC). Thus, securing that only artifacts within clearly defined contexts would be assigned provenience information, consistent with the adoption of Butzer's (1982) contextual approach (Salzer and Rajnovich 2000:9).

Similar demands for secure context were utilized in collecting datable carbon samples. All carbon collected for potential radiocarbon samples had to be associated with hearths or surface floor burnings, and surrounded on a minimum of three sides by the oxidized portion of an intact hearth or burning (Salzer: personal communication). These procedures resulted in 24 radiocarbon assays that reveal a sequence of occupations at the site from 1504 B.C. ± 80 to A.D. 1430 ± 85 uncalibrated calendar years.

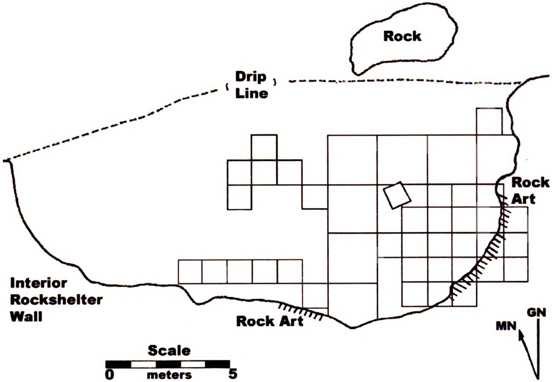

Figure A.1: Gottschall Site Map

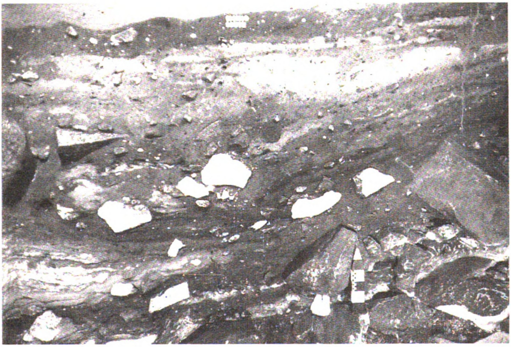

Figure A.2: Profile wall

Sedimentological Research

It has been hypothesized by William Gartner (1993) that the zones labeled as strata G, H, I, J, and K, originally thought to be aeolian soils (Salzer 1987a), may instead be the result of human construction or fabrication. Consequently, these soils were termed anthropogenic sediments, commonly abbreviated as anthroseds.

> "They vary in color from a light gray to a 'peach' to 'pink' to 'yellow' to 'tan' to 'dark gray'. They are powdery and feel rather 'talcy.' They are primarily composed of ash from burned coniferous trees and grass. Significant quantities of burned and ground limestone are also present. Crushed and ground (unburned) animal bone and shell are included in lesser amounts. Minor additions of crystals of rutile, calcite, galena, and hornblende are also noted (Gartner 1993). Of these ingredients, two are certainly exotic: the nearest outcrop of limestone is about two miles away; the nearest source of clams is the Wisconsin River which is about eight miles distant (Salzer and Rajnovich 2000:10)."

There is evidence of a hearth, Feature 85, also referred to as an "earth oven," at the site that contained burned limestone slabs. Limestone is thought to be one of the main components of anthroseds, and thus it has been inferred based on the presence of these prepared limestone slabs, that the anthroseds were made on site (Salzer and Rajnovich 2000:10).

Anthroseds, by definition, are an artifact; because humans constructed them they are subject to human intention and are not necessarily deposited in accord with natural processes. The placement of the anthrosed is consistent through time and space with the largest concentrations located in the southeast portion of the rockshelter (Salzer and Rajnovich 2000). The known span of anthrosed use at the rockshelter is from the Late Archaic Durst Phase (1000-500 B.C.) to Late Effigy Mound Phase (A.D. 1000-1100), with the most intensive use of anthrosed between the Late Millville Phase (A.D. 350-500) and the Eastman Phase (A.D. 750-1000; Salzer and Rajnovich 2000:11).

Ceremonial Continuity

The Gottschall Rockshelter is being interpreted as a pre-contact ritual location possessing ceremonial continuity spanning the Late Archaic to the Late Woodland periods (Gartner 1993; Salzer and Rajnovich 2000, 2001, 2004). The premise for this conclusion relates to the presence of hypothesized anthropogenic sediment being constructed and deposited at the site. The location of the deposition of the anthropogenic sediment and the chemical signature of the sediment itself remains relatively consistent throughout this time span (Gartner 1993).

The earliest observed deposit of anthropogenic sediment is observed within the O and N zones. These strata are associated with Feature 85 the "earth oven", and are Late Archaic period deposits (780 – 450 BC). The anthropogenic sediment is reportedly used as "caps" on surface or floor burnings cleaned of ash and charcoal within the O and N Zones (Salzer and Rajnovich 2001, 2004). These burnings were constructed on a surface where water had previously flowed, which is supported by the sedimentary structures of the matrix below the hearths (Salzer and Rajnovich 2001, 2004). The use of anthropogenic sediment as "caps" on hearths continues until the Middle Woodland period.

The proposed ceremony involving anthropogenic sediment becomes more elaborate in the Middle Woodland period or the beginning of the Millville Phase, as witnessed through increased volumes of anthropogenic sediment deposited within the same location in association with more intense burnings (Salzer and Rajnovich 2001). The first "burned floor", Feature 100, was "massive burning of the top of the L Zone (AD 210 - 410). It appears to have been rectangular, about 5 meters wide and orientated approximately east-west." (Salzer and Rajnovich 2001:11). Feature 100 was outlined by a series of widely spaced posts defining the northern and eastern edges, and it is speculated these posts represents the supports for an unknown structure within the rockshelter (Pizza 1995, Salzer and Rajnovich 2001:12).

There is an additional construction within the rockshelter that has its origins during the L Zone (AD 210 – 410), which is the "revetment". The revetment is a pile of large rocks, bones and dirt. It is proposed to be a flood control mechanism (Salzer and Rajnovich 2001:13). The revetment also serves as an impoundment for the anthropogenic sediment and continues to do so until the Late Woodland Stage – Eastman Phase.

Regardless of the function of these posts, sheet flow eventually eroded the Feature 100 complex (burning covered with anthropogenic sediment). After the flooding event, a second large scale intensive burning occurred referred to as Feature 94 (Salzer and Rajnovich 2001). Feature 94 was a fire constructed directly above the location of Feature 100. Feature 94 is associated with the K Zone (AD 425 – 670) or the end of the Millville Phase.

Shortly after the construction of the Feature 94 complex (burning covered with anthropogenic sediment) Gartner recognizes a "significantly different [zone] from the remainder of the anthroseds" (1993:33). Gartner posits the J zone (AD 725 – 900) as beginning or being the result of sheet flow across the rockshelter, or raking activities (Gartner 1993, personal communication). Regardless of the origins of the J Zone, it is in some respects a cultural disconformity, in that it is positioned at the juncture between the Middle Woodland Stage – Millville Phase and the Mature Late Woodland – Eastman Phase. The J Zone is "easily distinguished from the I and K Zones by its dark brown (10YR3/3) color and high sand content." (Gartner 1993:33). It is easily distinguished because the anthropogenic sediment became mixed with natural sediments creating a "dirty" appearance and a "gritty" feel due to the presence or inclusion of sand grains or larger particle sizes. The J Zone is also characterized by large sized, disoriented artifacts, which further support the interpretation the zone is a combination of K Zone and L Zone beginning mixed and redeposited.

The I Zone (AD 765 – 945) represents a time period during the Late Woodland Stage – Eastman Phase when anthropogenic sediments were intermittently being deposited throughout the rockshelter. There is a rectangular pattern of post molds of unknown function situated in roughly the same location as the Millville Phase posts, but they are smaller in size (Pizza 1995; Salzer and Rajnovich 2001).

It is during the period in which, the I Zone is being manufactured and deposited that another structure is manufactured within the rockshelter. The structure manufactured at this point is a pile of "pure" anthropogenic sediment or a pile of anthropogenic sediment consisting of little to no sand grains. The pile is situated directly in front of the hole in the southeast corner of the rockshelter and is an elongated mound of anthropogenic sediment. This pile of pure anthropogenic sediment and the same anthropogenic sediment is placed on the ramp and on the revetment. Salzer and Rajnovich hypothesize that the makers, and eventually depositers, of the anthropogenic sediment during the Late Woodland – Eastman Phase conceptually linked the revetment and the ramp, because they envisioned these two structures as being one (Salzer and Rajnovich 2001). The resulting conclusion indicates the potential for the ramp and revetment to be joined in the shape reminiscent of a bird. This hypothesis, too, has yet to be confirmed and it only can be with confirmation relating to the other side of the mound of anthropogenic sediment.

The G Zone (AD 795 – 935) dates to the same time period as the I Zone Late Woodland – Eastman Phase based on the radiocarbon assays, but based upon stratigraphy and unusual associated artifacts it can be situated more recently in time. The artifacts associated with the G Zone include Aztalan Collared and early Oneota pottery. It is thought the G Zone represents the by-products and admixture of the results of an intense burning event of unknown origin with anthropogenic sediments, most probably I Zone materials (Gartner 1993:41).

The E Zone (AD 810 – 1130) marks the official end of the deposition of anthropogenic sediments at the site. It is during the Terminal Late Woodland Stage – Kekoskee Phase that the amount of anthropogenic sediment deposited on site decreases dramatically. The discard of the carved and painted sandstone head in association with feasting debris and anthropogenic sediment also occurs at this time (Salzer and Rajnovich 2001:41; Theler 1998, personal communication).

The D Zone (AD 1345 – 1840) is the most recent prehistoric deposit inside the rockshelter and it contains no evidence of anthropogenic sediment construction or deposition. There is evidence of human occupation inside the rockshelter, but it is sporadic and less intensively utilized than in earlier time periods.

Ceremonial continuity is predicated on the continued manufacture and deposition of the anthropogenic sediment in relation to the same ceremonial core (Salzer and Rajnovich 2001). Salzer and Rajnovich (2001) propose the core of the ceremony to involve the consecration of ground impacted by the erosion of high-energy sheet flow or flooding events. It is assumed the ceremony has roots in the Late Archaic and then becomes more elaborate through the presence of anthropogenic sediment capped burnings, covered burned floors, ramps of pure sediment until it ceases in the Late Woodland period. It is also proposed that the area demarcated by the anthropogenic sediment represents the ceremonial area within the Rockshelter, resulting in general avoidance of the area in relation to those areas where anthropogenic sediment does not exist.

Recognizing Pattern in Preliminary Spatial Analysis

There have been numerous small-scale studies conducted relating to the spatial analysis of artifacts recovered from the Gottschall Rockshelter but all are relatively limited in scope relative to the larger sets of information available. The following section will discuss the history, basis and limitations of the known preliminary spatial analysis reports.

Spatial Distribution Analysis (GIS approach)

Wagner (2004) completed a Masters Degree at the University of Northern Illinois by conducting a preliminary spatial distribution analysis using GIS to investigate artifact patterning of all artifacts indicated within the field notes and catalogues from the inception of the project in 1984 to the mid 1990s. It is a project completely reliant upon field observations/notes, which is problematic for a number of reasons. One of the shortcomings is predicated on the high volume of identification errors resulting from reliance upon the identification of artifacts by inexperienced volunteers and interns. Another inherent limitation relates to the field notes associated with the two two-meter trench. These observations/notes rarely include piece-plotted artifacts, as the majority of the artifactual material was bagged by arbitrary level or assigned to a particular feature.

This report is also limited to only those artifacts receiving piece plot coordinates, which account for an unknown percentage of the total assemblage from the Gottschall Rockshelter. These piece-plotted artifacts are the end result of the excavation of a 2cm level, and represent at the least a size bias. The size bias is present because the excavator is instructed to "put dime sized artifact or smaller into your level bag", while the remaining smaller artifact are often incorporated into the aggregated level sample. Thus the field observations/notes do not contain any information relating to those artifacts recovered in the flotation samples, NVC bags or Level bags. These artifacts are absent from the analysis. Despite these limitations this thesis stands, at present, as being the only spatial distribution analysis concurrently investigating the entire piece-plotted assemblage.

Debitage Analysis

Haley and Shimer's (2002) study on the preliminary distribution analysis of waste flakes examined the distribution of mostly complete flakes from the lithic debitage assemblage. The results of the study are skewed to the scale of investigating only the distribution of complete or intact, unbroken flakes. The limitations of time were a critical factor in the compilation of this study.

Despite the fact that this study focuses on only one aspect of the lithic debris, the data appears to indicate differentiated space, especially during the period when the I Zone was being deposited on the site (AD 765 – 945) (Haley and Shimer 2002).

Postmold and Scaffolds

Pizza's (1995) study, as previously mentioned in this thesis, investigates the distribution of the proposed post molds at the site. This report is much more narrowly focused and uses the photographic record, maps and field notes as the data sources. The one aspect potentially limiting to Pizza's study is that the stratigraphic correlation chart might be slightly different at present than it was when her 1995 report was written.

The excavations at the Gottschall Rockshelter approached the central location under the Red Horn panel from two different directions. The southward progression of excavation units along the east wall provided somewhat different observations than the eastward progression of excavation units along the south wall. The true stratigraphic correlation for the site was not completely reconciled until the excavation of S21W10 and W22W10, which didn't occur until the late 1990s and early 2000s.

Anthropogenic Sediment

Gartner's (1993) hallmark research project has provided a wealth of information relating to the stratigraphic record at the Gottschall Rockshelter. This report stands alone as the backbone of the stratigraphic-related interpretations from the site. The report discusses both the natural and cultural activities responsible for the ultimate depositional sequence at the rockshelter. It is also the most authoritative publication relating to the chemical composition of the hypothesized anthropogenic sediment. More intensive study of the chemical composition of the anthropogenic sediment has been proposed, but to date it does not exist (Gartner, personal communication).

Gartner's piece includes a discussion of the spatial distribution of the anthropogenic sediment, but it is now somewhat out of date since the excavations have continued beyond the scope of his study. It is likely the amount of excavated space at the rockshelter has doubled since the original publication on the anthropogenic sediment was conducted. Many new samples of anthropogenic sediment remained unanalyzed, which can be used to test the hypothesis of geochemical continuity between the Terminal Late Woodland Stage and the Late Archaic Stage anthropogenic sediment. The study is also limited to the analysis of the anthropogenic sediment, which means there is little to no discussion of the artifactual material or the C^{14} chronology.

Human Remains

There have been two recent studies conducted on the human remains from the Gottschall Rockshelter. Petty (2002) provided the first preliminary investigation of the identification and distribution of human remains from the site, while Sauer and Tichnell (2006) have conducted a study augmenting the former.

The Petty (2002) study focused on identifying the remains, their treatment and their spatial distribution. The Sauer and Tichnell (2006) study does much the same but stands as the official report due to the fact that it is a published document and is more exhaustive than the Petty (2002) study.

There were 349 bone specimens analyzed in this study and "the sample is overwhelmingly cranial, about 95%" (Sauer and Tichnell 2006:13). It was concluded that there is no evidence to support a direct internment, rather it maybe these cranial fragments were being broken somewhere else and carried to the site, because the breakage patterns suggest human manipulation (Sauer and Tichnell 2006). The spatial distribution of these human skeletal fragments provides compelling data supporting a concentration of human remains toward the mouth of the rockshelter.

The distribution of these human skeletal remains does take into account the vertical distribution. The spatial analysis present in the report is a horizontal analysis, probably due to the fact the researchers were unaware of and lacked access to this type of information. It is possible to reconstruct the vertical distribution of these human skeletal fragments for comparative purposes within this thesis, but it will require more research because the Sauer and Tichnell (2006) report does not associate the reported stratigraphic information in the published inventory. It may well be useful to compile these maps, because they will indicate if in fact there are changing distributional patterns relating to the human remains at the Gottschall Rockshelter over time.

Summary

The synopses of these preliminary reports indicate the amount of research undertaken to understand the patterning present at the Gottschall Rockshelter. These studies at times go beyond the limitations of the excavation notes, and at other times rely solely on this data. The purpose of the current spatial study is to go beyond the confinements to which previous distributional studies adhered in order to assess, in a less biased manner, the distributional pattern of the Gottschall assemblage. This thesis is narrowly focused on the descriptive and spatial analyses of the lithic assemblage, but it is hoped that through investigation of the entire lithic assemblage, including all piece plotted, level, NVC and flotation sample related artifacts, that a greater understanding of the potential differentiation of the interior space at the Gottschall Rockshelter can be obtained.

APPENDIX B: STRATIGRAPHIC CORRELATION CHARRTS

Compiled by Grace Rajnovich and amended by Aaron Naumann

The purpose of this appendix is to document the means necessary to fully understand the two stratigraphic correlation charts created for the Gottschall Rockshelter. These two sections are separated based on the shift in excavation methodologies, with one associated with the initial testing of the site through the two-meter test trench, and the other with excavations post two meter trench.

Stratigraphic Correlations: two-meter test trench

The two-meter test trench constitutes the initial testing strategy designed to assess the stratigraphic integrity of the site deposits. These tests involved the excavation of a two-meter trench in the shape of an "L" (see Figure A.1). The first part of a strategy was designed to sample the sediments inside the rockshelter parallel to the mouth of the rockshelter through the excavation of an east-to-west series of units (S18W8, S18W10, S18W12, S18W14 and S18W16). The second step in this testing strategy was to extend a series of units southward (S22W16 and S24W16) to the back of the rockshelter from S18W16. These units were excavated in a leap-frog fashion to enable the resultant profile walls of adjacent units to be studied to ensure unexcavated units be dug with greater precision. The initial two-meter test trench units were excavated in 10 cm arbitrary levels based on the natural stratigraphy and no artifacts were piece plotted. Also, detailed plan view maps were only made when features were observed.

The correlations presented in this section are largely based on the excavation notes of Mary Steinhauer, Dan Miller and William Gartner's Master's thesis (1993). These excavation notes were cross referenced against Dr. Robert Salzer's field notes and the collective memory of other present during the excavations including Dr. William Gartner and Dr. Grace Rajnovich. In addition, these conclusions were compared to the results of later excavations of adjacent 1-x-1 m^2.

In summary, the series of units along the "18 line" or northern most edge of the excavations revealed a mixture of sediments resulting from alluvial processes at the mouth of the rockshelter or birm indicated by the drip line in Figure B.1 and the sediments defining the southeastern portion of the rockshelter. The strata observed in these units was often fragmentary and failed to cover the entire square; therefore, the excavation conducted and these subsequent stratigraphic correlations represent the "best guess" as to the true stratigraphic position of those materials excavated from these units.

Table B.1: Stratigraphic Correlation for S18W16

Original Zone	*Stratigraphic Correlation*
B zone, level 1	B zone in southern half and D zone in northern half
B zone, level 2	D zone (and E zone?)
B zone, level 3	D zone
D zone	I zone
E zone	L zone

Table B.2: Stratigraphic Correlation for S18W12	
Original Zone	*Stratigraphic Correlation*
D zone, level 1	D zone
D zone, level 2	Bottom of D, E, and G zones
E zone, level 1	Lens of H zone
E zone, level 2	Lens of I zone
G zone	G and J zone
I zone	K zone
J zone	L zone
K zone	L zone

Table B.3: Stratigraphic Correlation for S22W16	
Original Zone	*Stratigraphic Correlation*
D zone	D and G zones
E zone, levels 1, 2, & 3	H and I zones
G zone	J, K, L, M and N zones

Table B.4: Stratigraphic Correlation for S18W10	
Original Zone	*Stratigraphic Correlation*
D zone	D and E zones
DX zone	Birm was mixed with D zone, No-Vertical-Control (NVC)
E zone	Lenses of H and I zones with Fea. 32 (H zone fill)
G zone	I zone
I zone	Lenses of I and J zone
IX zone	A discrete dumping – should be called a feature
K zone, level 1	I zone
K zone, levels 2 & 3	J zone
L zone	Bottom of J zone and L zone

Table B.5: Stratigraphic Correlation for S20W16	
Original Zone	*Stratigraphic Correlation*
D zone, level 1	D zone
D zone, level 2	G zone
E zone	H zone?
G zone, level 1	I zone
G zone, level 2	J, L and M zones

Table B.6: Stratigraphic Correlation for S18W14	
Original Zone	*Stratigraphic Correlation*
D zone, level 1 & 2	D zone
D zone, level 3	E zone
E, G, H, I, J & K zones	H, I, J, and K zones

Table B.7: Stratigraphic Correlation for S24W16	
Original Zone	*Stratigraphic Correlation*
D zone, level 1	"good" D zone (and E zone?)
D zone, level 2	H zone?
E zone	I zone
G zone, level 1	I zone
G zone, level 2	J zone
G zone, level 3	K zone
H zone	Mixed J and K zones
I, J, KX & K zones	O zone
L & M zones	T zone
N zone	?
O & P zones	?
Q zone	?
R zone	?
S zone	?
T zone	?
U zone	?
V zone	?

Stratigraphic Correlations: one-meter excavation units

Post two-meter trench excavations were conducted under a revised methodology largely based on the discovery of anthropogenic sediment (Gartner 1993). The $1m^2$ units were excavated in 2 cm levels by stratum, with the requirement that all items cultural or non-cultural be left in situ. Upon completion of the level, it was photographed, mapped and each artifact was assigned individual provenience information and collected (Salzer and Rajnovich 2000:9).

During the course of excavation, some errors were made in classifying each individual 2 cm level. For example, the westerly units S22W18 and S22W19 exhibited sediments that did not appear to correlate with adjacent units or those within the southeast corner until excavations reached the "L zone". Then, upon review of the excavations determinations and revisions of the stratigraphic assignment of the upper zones was secured. Other forms of error included misreading notes and profiles "user errors" and still other arose as a result of features obscuring the stratigraphic continuation of zones through multiple units. Therefore, these correlations are designed to correct the majority of the problems for the purpose of analysis and interpretation of vertical distribution of artifacts.

Correlations with a "?" indicate our "best guess" at the moment based on the review of the excavation notes, director notes, and the collective knowledge and experiences at the site of the senior research team directed by Dr. Robert Salzer and consisting of Dr. Bill Gartner, Dr. Grace Rajnovich and the author. Those units not listed in this series of tables such as S19W11 and S19W12 do not require a stratigraphic correlation chart and the stratigraphic classifications initially assigned during excavation stand.

Table B.8: Stratigraphic Correlation for S16W10	
Original Zone	*Stratigraphic Correlation*
E zone, levels 15 – 20	L zone

Table B.9: Stratigraphic Correlation for S20W9	
Original Zone	*Stratigraphic Correlation*
IA zone	Fea. 25

Table B.10: Stratigraphic Correlation for S20W11	
Original Zone	*Stratigraphic Correlation*
IA zone	Fea. 25

Table B.11: Stratigraphic Correlation for S20W10	
Original Zone	*Stratigraphic Correlation*
Artifacts #ed E1/20 – E1/39	Fea. 25
IA zone	Fea. 25
JA zone	K zone
All N zones (N, NA, NB, NBA, etc.)	O zone
E zone	L zone

Table B.12: Stratigraphic Correlation for S20W12	
Original Zone	*Stratigraphic Correlation*
H zone, levels 1, 2, & 3	I zone (except artifacts H1/3 and H1/13 = H zone)
H zone, levels 4 – 15	J zone (except artifacts H4/3-5, H4/10, and H4/18 = I zone; H5/10-11, H6/1, H6/8-13, H7/11 and H8./10 = I zone)

Table B.13: Stratigraphic Correlation for S21W10	
Original Zone	*Stratigraphic Correlation*
J and JA zones	K zone
All N zones	O zone

Table B.14: Stratigraphic Correlation for S21W11	
Original Zone	*Stratigraphic Correlation*
J zone, level 8	K zone

Table B.15: Stratigraphic Correlation for S21W13	
Original Zone	*Stratigraphic Correlation*
H zone	I zone
Feature 88	M zone

Table B.16: Stratigraphic Correlation for S22W11	
Original Zone	*Stratigraphic Correlation*
IBC zone	No-Vertical-Control (NVC)

Table B.17: Stratigraphic Correlation for S22W19	
Original Zone	*Stratigraphic Correlation*
EC, ED, EE zones	H zone
EF zone	I zone?
EG zone	J zone?
EH zone	K zone?
EI zone	L zone?

Table B.18: Stratigraphic Correlation for S20W11	
Original Zone	*Stratigraphic Correlation*
IA zone	Fea. 25

Table B.19: Stratigraphic Correlation for S22W18	
Original Zone	*Stratigraphic Correlation*
G, GA, GAA, GBE, GC & GD zones	E zone
GB, GBA, GBB, GBC & GBD zones	H zone
GH, GI, & GJ	J zone
GK & GJA zones	K zone

Table B.20: Stratigraphic Correlation for S23W13	
Original Zone	*Stratigraphic Correlation*
JB zone	K zone

Table B.21: Stratigraphic Correlation for S23W17	
Original Zone	*Stratigraphic Correlation*
H & I zones	E zone

APPENDIX C: CHIPPED STONE

The purpose of this appendix is to present the full data set for the Chipped Stone Artifact group that includes blades, choppers, cores, denticulates, diagnostic bifaces, non-diagnostic bifaces and biface fragments, retouched debitage, preforms, scrapers, T-drills and one uniface. These data are presented in the progression of the aforementioned alphabetized sequence of artifact classes and the combined spreadsheet at the end of this appendix includes the relevant metric data per individual case that is summarized in the main text. The vacant cells within the spreadsheet represent data that were unobtainable during the course of this research (Table C.1).

Blades

Blades are specialized flakes removed from prepared cores. The formal definition stipulates that the flake be twice the dimension of the width, often with parallel ridges running longitudinally along the dorsal surface. These ridges are the result of prior flake removal and there is generally some additional evidence from the grinding of the platform or other preparations evident on the blade.

A total of 65 blades were recovered from the rockshelter. The majority of these (n=59) are somewhat ambiguous as they possess the general blade morphology, but are not classic examples of specific blade technology. Rather, these artifacts may likely represent lithic debitage closely relating to blade morphology, but due to the paucity of blades observed in the rockshelter these artifacts are being included. Despite these ambiguous blades, there is one utilized complete classic Hopewell blade fashioned from heat treated Burlington chert and five other Hopewell blade fragments constructed from local raw materials (Figure C.1). It is likely these blades were imported to the site as no formal blade cores or debitage indicative of this technology was observed within the rockshelter assemblage.

Figure C.1: Hopewell blades from the Gottschall Rockshelter

Choppers

Choppers are cobbles that have been modified, usually bifacially, into a teardrop shape by the removal of several flakes from one end. The opposite cortical, rounded end is unmodified, providing a handgrip during utilization. A single chopping tool was recovered from the site. It is a large piece of PDC chert that was likely a multidirectional core that was later utilized as a chopper (Figure C.2).

Figure C.2: Large chopper (S22W12 JB 1)

Cores

Cores are blocks of raw material with obvious evidence of intentional manipulation from such activities as platform preparation or flake scars. A total of 49 artifacts attributable to this category were recovered from the rockshelter, including three types of cores (bifacial, multidirectional and unidirectional) and tested cobbles (n=49).

Bifacial cores exhibit flakes scars primarily on opposing sides, with an artificially created edge between them (Figure C.3). There was one core recovered from the rockshelter.

Figure C.3: Bifacial core (S22W19 EHB 1/15)

Multidirectional cores possess random oriented flake scars (Figure C.4). There were a total of 46 multidirectional or fragments of multidirectional cores recovered from the site. These cores were nearly entirely fashioned from locally available raw materials sources such as Prairie du Chien and Galena cherts. There were only two multidirectional cores recovered from the site made of Burlington chert or exotic material.

Figure C.4: Multidirectional Core made from Burlington Chert (S23W13 JK 4)

Unidirectional cores exhibit flakes scars oriented in a similar direction and are often associated with blade production (Figure C.5). There were two unidirectional cores recovered from the rockshelter. One of these is a burned unidirectional core fragment recovered from feature context, while the other is a complete core recovered from the K zone.

Figure C.5: Unidirectional core (S23W13 F81)

Tested cobbles are blocks of raw material generally covered with a high percentage of cortex that have had flakes removed (Figure C.6). It is assumed the limited number of flake scars indicate an assessment of the prehistoric raw material's suitability as a core. The tested cobble therefore, represents a rejected block of raw material. There were two tested local cobbles recovered from the Gottschall Rockshelter.

Figure C.6: Tested cobble (S22W12 LA1/2)

Denticulates

This type of tool is formed when small flakes are removed along one lateral edge of a piece, in order to form a working edge that is multiple-notched or serrated. It is generally assumed these types of artifacts were fashioned for the shredding of vegetal matter for the purpose of creating cords or rope (Salzer personal communication). There were seven denticulates identified within the assemblage spanning from the Late Archaic to the Late Woodland (Figure C.7).

Figure C.7: Denticulate (S18W8 T2)

Diagnostic Projectile Points

Early Archaic - Kirk Corner Notched

The Kirk Corner Notched point type exhibits a large triangular blade with a straight or slightly rounded base and bifacially serrated blade edges (Coe 1964). The blade edges are occasional beveled, but basal grinding is absent (Broyles 1971; Justice 1987:71). In addition, the shoulders are wide and exhibit barbs projecting downward toward the base with deep corner notches. It is largely interpreted as a spear/knife point (Higgins 1990; Nienow and Boszhardt 1997).

The temporal span often assigned to this type of point stretches from 7000 to 5000 B.C. Several of these were found stratigraphically below Raddatz Side Notched points at the Raddatz Rockshelter in Sauk County, Wisconsin. The presence of such diagnostic chipped stone bifaces in the Driftless Region is interesting, because this point type is primarily found in the eastern United States. Examples of this type are rare in Wisconsin as well as areas west of the Mississippi River, though a number of other examples are known in Buffalo and Trempealeau Counties (Nienow and Boszhardt 1997).

There was one fragmented Kirk Corner Notched point recovered during the excavations of the Gottschall Rockshelter. The lone example was recovered by a group of University of Wisconsin-Platteville undergraduate geology students. The group decided to place a test excavation in the center of the rockshelter in an attempt to test the deposits. The students luckily encountered a massive sandstone boulder rather quickly in the test pit, which they mistakenly interpreted as the top of bedrock. The group recovered a few artifacts, but decided to abandon additional excavations. Once Dr. Robert Salzer began formal excavations at the site one of the former students residing in the area dropped by to turn over the artifacts to the research project.

Figure C.8: Kirk Corner Notched.

Middle Archaic – Raddatz Side-Notched

The Raddatz Side-Notched type was first defined by Wittry (1959a and b) as being a large side notched form with distinctive "U"-shaped notches and squared ears with a straight base. Justice (1987:67-68) states that Raddatz bifaces were manufactured from trianguloid preforms using percussion and pressure flaking. He also notes the blade shape varies considerably due to breakage and resharpening. Blades vary from excurvate to nearly straight in outline with notches placed perpendicular to the main axis of the blade. Justice is explicit in reminding analysts the Raddatz form subsumes many different regional varieties of large side notched points throughout the Eastern United States, an argument supported on a regional basis (Stoltman 1997).

The Raddatz biface is attributed to the Middle Archaic by Justice (1987) based on excavations at stratified rockshelters and open-air sites from Iowa to Kentucky, southern Wisconsin and northern Illinois. The dates from these sites consistently fall with the time period 6000 to 1200 B.C., with well dated examples from Wisconsin reporting to date to 4000 to 1200 B.C. (Boszhardt 1977, 1982; Stoltman 1997).

There were nine Raddatz bifaces recovered from the Gottschall Rockshelter. Two of these points were recovered from deposits associated with the Late Woodland, which clearly indicates there is some factor contributing to their location out of sequence. Three of the bifaces were recovered from deposits dating to the Archaic, while another three were collected from disturbed areas. The final point was recovered from feature context.

Figure C.9: Raddatz Point

Late Archaic – Madison Side Notched

Although recent commentary on the veracity of this type has moved towards including it in the Raddatz Side-Notched type (Stoltman 1997), many researchers are reluctant to do so until additional analysis is conducted. The type was originally defined by Baerreis (1953) on the basis of nine points recovered from the Airport Village site on the north side of Madison. He described the point as being a side notched point with a "U" shaped notch placed near the base of the point. The blade outline is convex and only rarely straight sided while the edge frequently bears fine serration.

The point was initially associated with the Woodland Tradition (Baerreis 1953:154), but Stoltman (1997) has assigned it to the Archaic Tradition based on his research of previous excavated collections. Justice includes this biface type within the same cluster, which indicates the two are basically morphological correlates. Wittry (1958) was making similar remarks regarding these two point types during the excavations of the Durst Rockshelter, where both point types were identified.

A total of three bifaces recovered from the Gottschall Rockshelter are identified as Madison Side Notched. These three bifaces are recovered from different stratigraphic affiliations within the rockshelter. One of the points was recovered from the "IA" zone, which was discovered later in the excavations to define a filled in erosional gulley. Thus, the materials from this zone are interpreted as NVC artifacts. The other two were recovered in situ with one associated with the Late Woodland and the other with the Late Archaic.

Figure C.10: Madison Side Notched

Late Archaic – Durst Stemmed

The Durst type was defined by Wittry (1958, 1959b) on the basis of collections from the Durst and Governor Dodge State Park Rockshelters. He describes these bifaces as being produced by the removal of long shallow notches from the corners of a leaf-shaped blank, resulting the production of a long slightly expanding stem. The shoulders are rounded and represent a smooth transition between the blade edges and the stem. Justice (1987:127-130) includes Durst Stemmed bifaces within the Lamoka Cluster, which reflects the statistically supported belief that Durst Stemmed points are the by product of local populations interacting with more easterly groups (Stoltman 1997:136-137).

A total of 17 Durst points were recovered from the excavations of the Gottschall Rockshelter. Durst points were recovered from every stratigraphic zone in the sequence, but the majority was collected from those deposits temporally related to the Late Archaic. There was even one Durst point directly associated with the oxidize portion of a Late Archaic heart (F137).

Figure C.11: Durst Stemmed Point Recovered from Feature 137

Late Archaic – Karnak Unstemmed

The Karnak unstemmed is a thick lanceloate form that is similar in length, width and thickness to the Karnak stemmed variety (Cook 1980). The distinction between the two is relates to several small morphological characteristics related to the haft element such as basal ears, shoulders and a straightened stem (Justice 1987:133). These points are generally found in central and southern Illinois, central Indiana, Kentucky and southern Ohio. There are morphological correlates in North Carolina and a separate correlate in Michigan and southern Ontario (Justice 1987). Yet, there have been several Karnak stemmed variety recovered from sites in eastern Iowa (Morrow 1984). The presence of this specimen is the first of this type reported within the Wisconsin portion of the Driftless Region.

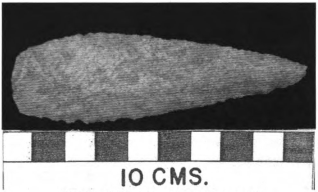

Figure C.12: Karnak unstemmed

Transitional Archaic to Woodland – Turkey Tail

There are presently three subtypes and several varieties of this particular point type (Justice 1987:173). These bifaces are diagnostic of the Late Archaic/Early Woodland transitional period. They are directly associated with the Red Ochre complex and are constructed from Indiana hornstone or Wyandotte chert (Cole and Deuel 1937). The majority of these bifaces are recovered from funerary contexts in the Illinois Valley, but these points have been observed from the Mississippi River to the western side of the Appalachians. The point type is dated to between 1500-500 B.C. and is sometime tied into the Adena culture (Schock and Dowell 1981; Justice 1987). It is often stated that probably no other prehistoric chipped stone tool was as widely traded as the Turkey-tail (Justice 1987:179).

There was one biface recovered during the excavations at the Gottschall Rockshelter that was fashioned from Indiana Hornstone. The biface has been resharpened to the point the blade is nearly conical. The biface is associated with Late Woodland deposits, but given the fact it has been extensively resharpened it could represent a curated artifact.

Figure C.13 – Reworked Turkey Tail

Early Woodland – Kramer

Kramer bifaces were first defined by Munson (1966, 1971) as being lanceolate bladed with distinct long, straight stems exhibiting heavy lateral grinding. The blade edges are typically straight to excurvate with a parallel-sided haft element (straight stem). The shoulders are not barbed and rarely squared, but these points are often subject to reworking (Justice 1987:184). These points are nearly always constructed from heat treated cherts (Nienow and Boszhardt 1997).

Justice (1987:184) and Munson suggest an Early Woodland cultural affiliation dating to roughly B.C. 500 and associated this point style with Marion Thick pottery and Red Ochre ceremonialism. It is thought this point type is directly associated with the Indian Isle Phase of the Driftless Region of Wisconsin (Stoltman 1990).

There were four Kramer points recovered from the Gottschall Rockshelter. Three of the four points are associated with disturbed contexts while the only Kramer point found in situ is directly associated with the Early Woodland deposits, and appears to have been refashioned into a drill.

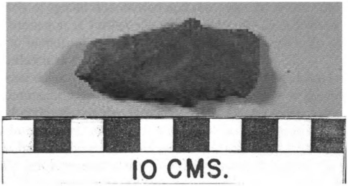

Figure C.14: Kramer Point Reworked into a Drill

Early Woodland – Dickson Contracting Stemmed (Broad Bladed)

The Dickson Broad Bladed type is also known as Dickson Contracting Stemmed (Winters 1963). This type exhibits distinct, wide trianguloid blades as a primary characteristic often with straight blade edges (Justice 1987:190; Montet-White 1968:64-65; Perino 1968:18). It is similar to the Gary Contracting Stemmed type, in that, the widest point occurs at the shoulder and the haft element is a contracting stem with a rounded or square base. It is estimated this bifacial form dates to 500-300 B.C.

The one example of a Dickson Broad Bladed projectile was recovered from a feature with origins associated with the Late Woodland. The pit was capped by a deer scapula and the point was flat lying on the bottom of this pit.

Figure C.15: Dickson Broad Bladed Biface

Early Woodland – Liverpool Stemmed

There is a great deal of confusion relating to this type, Liverpool Stemmed, because of its similarities with types such as Cresap and Robbins (Murphy 1975). These other two types, Cresap and Robbins are found further to the east and affiliated with the Adena culture of the Early Woodland period (Dragoo 1963:110). These types are separate on the basis of spatial distribution and raw material despite the fact they co-exist temporally. The confusion is further complicated by the introduction of the Liverpool Stemmed variety to identify the Illinois Adena influenced point type because the type or its relation to the other is not clearly articulated.

Despite these short comings, it can be said this type is represented by broad-bladed, straight stemmed forms. The blade edges are excurvate with maximum blade with occurring at or slightly above the shoulder. The shoulders are pronounced and well defined that vary from straight and horizontal to the main blade axis to sloping downward and forming wide barbs. These types of points are often associated with Marion Thick pottery, which is a grit-tempered Early Woodland pottery type commonly found in the region.

Figure C.16: Liverpool stemmed projectile

Early Woodland – Waubesa

Perino (1971:98) described Waubesa points as being long, narrow to medium-wide dart points with contracting stems. The blade is typically triangular with convex edges. The shoulders are the widest point and are rarely barbed. The stems may occasionally be smoothed, but never exhibit extensive grinding. These points are similar in style to Adena points that are found both to the south and east of Wisconsin. Waubesa points are found in direct association with Prairie ware ceramics and are therefore, referred to as a diagnostic artifact of the Prairie phase (Stoltman 1990). Thus, these points date to approximately 100 B.C. to A.D. 100.

There were two Waubesa points recovered at the Gottschall Rockshelter. The complete point is associated with disturbed context, while the fragment is attributed to Late Archaic/Early Woodland deposits and is a basal fragment.

Figure C.17: Waubesa Point

Middle Woodland – Snyders

Snyders points are broad bladed, corner notched points (Bell 1958; Scully 1951). This point type is diagnostic of the Middle Woodland period and appears with the rise of Hopewell ceremonialism (Fortier et al. 1983:395). This type was eventually replaced by such points as the Steuben Expanding Stemmed type (Justice 1987:203). The points occur throughout the Mississippi and Ohio River Valleys and stretch as far south as Oklahoma and are often associated with the dates of A.D. 200-400, but in the Driftless Region of Wisconsin it is probably slightly later in time (Seeman 1977).

The one point recovered from the Gottschall Rockshelter attributable to the Snyders type is the by product of refit analysis. One piece from feature context (Feature 77) rejoins with a fragment of the tool from disturbed context. The piece is burned making the identification of the raw material difficult.

Figure C.18: Snyders Point

Middle Woodland – Steuben Expanding Stemmed

The Steuben point type was initially defined by Montet-White (1968:78-79) to describe a series of projectile points from the Steuben Village site in Illinois (Justice 1987; Morse 1963). Morrow (1984:42) describes Steuben points as medium-sized with a broad, expanding stem. Blades are triangular and the stems are as wide as, or nearly as wide as the shoulders. Stems make up one-third to on-fourth of the overall length of the point. Steuben points are associated with the Millville phase, which is chronologically positioned in the latter half of the Middle Woodland stage. Therefore, Steuben points date to A.D. 200-500 in southwestern Wisconsin (Stoltman 1990).

A total of 11 Steuben points were recovered during the excavations of the Gottschall Rockshelter. Five of the eleven points were recovered from disturbed context while all but one of the remaining point types is associated with the Early Late Woodland deposits. The out of place point was recovered from earlier deposits.

Figure C.19: Steuben Expanding Stemmed Point

Middle Woodland – Lowe Flared Base

The Lowe Flared Base projectile point type is a distinctive expanding stemmed form that exhibits a trianguloid blade with straight to excurvate edges and a markedly flaring, straight-edged stem (Winters 1963; 1967:90-92; Justice 1987:212). These types of points often have flattened faces with bifacial beveling. The flake scars are short and narrow, produced from detachments on a steep angle. These points are associated with the Middle Woodland and appear to be a dominant type during the height of Hopewell ceremonial activities, circa A.D. 200-500. These points are affiliated with the Illinois Valley, but none have thus far been reported in Wisconsin (Justice 1987).

There are two projectiles from the Gottschall Rockshelter that are similar in style to the Steuben Expanding Stemmed but yet are fashioned from exotic materials and have basal structures reminiscent of the Lowe Flared Base type.

Figure C.20 – Lowe Flared Base Projectile

Late Woodland – Honey Creek Corner Notched

The projectile type Honey Creek Corner Notched appears to represent the first true arrowheads in this region. This type was proposed after work at the Rehbein Mounds, Richland County and comparison with unclarified points from several other sites (Mead 1979). The Honey Creek name was derived from the creek which flows near the Durst Rockshelter for the site from which the first types of these points were recovered (Wittry 1959). A point associated with a linear mound burial on Picnic Point in Madison is probably within the range of this type (Nienow and Boszhardt 1997). These points have also been recently recovered from excavations near the confluence of the Wisconsin and Mississippi Rivers (Theler and Boszhardt, personal communication 2002).

These particular points have small diagonal notches. The blades are straight or slightly convex, with straight to slightly convex bases that may be flared. Since the notches are small, they are often broken.

There are five bifaces recovered from the Gottschall Rockshelter excavations that appear to fit this set of criteria well. All five of these bifaces were recovered from the early strata associated with the Late Woodland. The majority of these are broken, but because the haft elements are present the identification can be made.

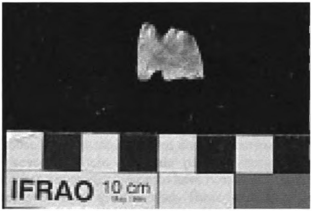

Figure C.21 – Honey Creek Corner Notched Projectile

Late Woodland – Okoboji

These projectiles are relatively slender forms with coarse serrations and expanding haft elements that often are not geometrically uniform (Justice 1987:223; Brown 1968, 1976; Morrow 1984). The blade are triangular, the shoulders well defined and over half of the specimens are distinctly barbed (Justice 1987:223). These types of points are common throughout the Caddoan Mississippian south in and around Spiro Oklahoma. These projectiles date roughly to A.D. 1000 and have been found on Mississippian sites such as Cahokia in association with Alba points (Titterington 1938:21; Justice 1987:224).

There are four projectiles from the Gottschall Rockshelter that are nearly identical in style but come from different parts of the Rockshelter. Each of these points is broken in some fashion with one point exhibiting a stepped impact fracture. These points are made from varying materials, but all at one point were distinctly barbed.\

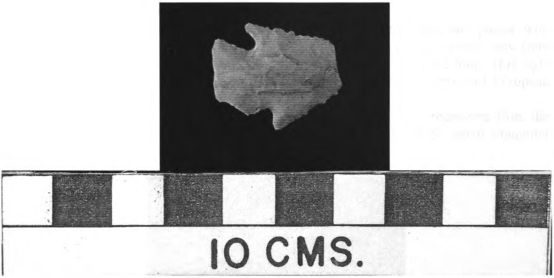

Figure C.22 – Okoboji Projectile Point

Late Woodland – Cahokia Side Notched

There are four basic types of Cahokia points: double notched, triple notched, multiple notched and serrated. These points are small to medium thin, well-made points with either straight or triangular converging sides. These points exhibit numerous patterns of notching but characteristically have a pair of deep sided notches some distance above base. Notches are perpendicular to the sides rather then parallel to the base. Cahokia double notched are the most common Cahokia type found in the Upper Mississippi Valley, but none of those points were recovered during these excavations.

There were seven Cahokia projectile points recovered from the Gottschall Rockshelter. Two of these projectiles appear to have been made by the same individual as they appear to be nearly identical to each other. These two points are also the two with the greatest degree of similarity to the classic Cahokia style. The remaining five specimens indicate a definite Mississippian influence, but may be local imitations of such points rather than true Cahokia points.

Figure C.23: Cahokia Side Notched Point

Late Woodland – Madison Triangular Points

Madison Triangular points are small, thin, unnotched triangular points with straight to convex blade edges (Morrow 1984:80). The bases on these points vary from concave to convex and they tend to be less than half as wide as they are long. This style of project was employed as the preferred style of projectile until the arrival of European metals.

As to be expected, the majority of the diagnostic projectiles recovered from the Gottschall Rockshelter were Madison Triangular points. A total of 82 small triangular points have been recovered and identified from this site.

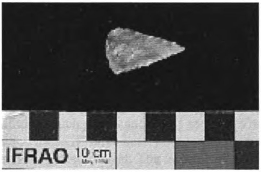

Figure C.24: Madison Triangular Projectile

Late Woodland – Nodena Elliptical

The Nodena type refers to an elliptical or willow-leaf shaped form of projectile that appears to be bi-pointed or even tear-drop shaped with a rounded base (Justice 1987:230). These points often exhibit refined pressure flaking used to finish and resharpen them and they are commonly serrated. These points are generally affiliated with the late Mississippian and proto-historic periods and have been recovered from a number of sites ranging from southern Wisconsin south along the Mississippi River trench to Alabama and Florida (Justice 1987:232).

It was first thought this chipped stone artifact maybe an unknown type of in-lay (Salzer personal communication), but the results of this analysis classify it as a projectile point (Figure C.27). This type of point is previously unknown to the author in the Driftless Region but is reported at being present in three different assemblages from Oneota Orr sites in Iowa (Anderson 1981; Straffin 1971; and McKusick 1973).

Figure C.25: Nodena Elliptical Projectile

Late Woodland – Side-Notched Triangular

This category is a type of catch-all category being used to describe an undefined Driftless Region localized side-notched projectile variety. There is a constant debate concerning the classification of such points and terms such as "Grant Side-Notched" and/or "Prairie du Sac Side-Notched" have been proposed (Christensen 1999:202), but no formal type name has been proposed in print. The lack of commitment to assigning a type to this style of side-notched point is likely due to the great range of variability that been assumed under this colloquially term Late Woodland – Side-Notched Triangular.

In general, these projectiles are small triangular shaped arrow points that have been notched one quarter of the way up the blade. The blade edges tend to be straight to convex and the basal shape is typically straight or concave. These types of points are often recovered from sites with Terminal Woodland or Middle Mississippian components.

There were nine Side-Notched Triangular Points recovered from the Gottschall Rockshelter. These points are all constructed from locally available raw materials with four composed of Galena chert and five of Prairie du Chien (PDC) chert. Only three of the nine points were untreated with two of these being from PDC chert and one of Galena chert (Figure C.28).

Figure C.26: Side-Notched Triangular projectile point (S21W9 KJA1)

Drills

A long, tapered, bifacially flaked bit resulting in a diamond-shaped cross-section is the distinguishing characteristic for this tool. During the Archaic period, the distal ends of projectile points were often reworked to produce this form. Drills from later periods often were fashioned from flakes. There were two drills recovered from the site that had been resharpened many times due to the fact they were shaped like a "T". These types of commonly referred to as T-drills, which is the term used in this thesis. The two drills made from PDC chert were recovered from the site; one was complete and the other was a fragment (Figure C.29).

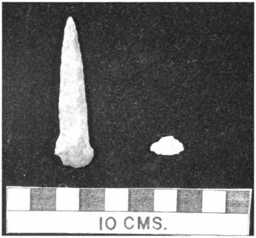

Figure C.27: Two T-drills

Non-diagnostic Bifaces

Late Woodland - Flake Points

There were two projectile points recovered from the site that are retouched flakes fashioned in unidentifiable projectiles. These two points are from stratigraphic contexts associated with the Late Woodland period and have metric attributed similar to other Late Woodland types (Figure C.30). Therefore, these two points are assumed to be from the Late Woodland period, despite the fact they are non-diagnostic.

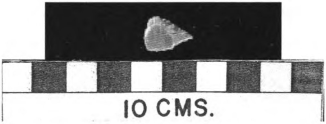

Figure C.28: Late Woodland flake point

Retouched Debitage

Utilized flakes are those which exhibit discontinuous retouch or very abrupt retouch of a thin edge, which likely reflects use wear, rather than intentional modification. Utilized flakes often functioned as expedient tools. A total of 39 retouched or utilized pieces of debitage were identified during this study (Figure C.31).

Figure C.29: Retouched debitage or an expedient tool (S21W9 Feature 94)

Scrapers

Scrapers are unifacially chipped stone tools that may have been used either for hideworking or woodworking purposes. This particular study did not differentiate between the type of scraper (e.g., end scraper or side scraper), rather it identified a class of chipped stone tools on the basis of the step (90 degree) angle of the single flaked face to the other non-worked face (Figure C.30).

Figure C.30: Scraper (S22W11 I 3)

Uniface - unidentified

Unifaces are those tools which exhibit flake scars on one face only. These types of chipped stone tools are commonly identifiable to more specific types such as denticulates or scrapers. There was one uniface recovered from the Gottschall Rockshelter that is fashioned from a rarely occurring raw material. It is constructed from a hard dolomite. The artifact was recovered from feature context (Figure C.31). This piece does not fit into any specific type easily and it is a chipped stone enigma.

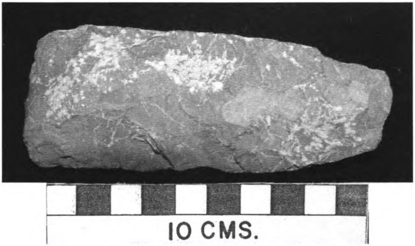

Figure C.31: Unidentifiable uniface (S22W11 KGA 2)

The following table describes each individual artifact and has highlighted those used in the spatial analysis (see Appendix F).

TABLE C.1: CHIPPED STONE

Classification	Unit	Fea.	Strat	Level	Stratigraphic Correlation	Raw Material	H. T.	L (mm)	T (mm)	W (mm)	Wt (g)
Diagnostic Bifaces											
Cahokia Side Notched*	S23W17	15			I	Galena chert	Yes	23	3.5		0.9
Cahokia Side Notched*	S24W16		D	1	D	PDC	No		4.5	15	1.5
Cahokia Side Notched*	S24W16		H	5	J & K	Burlington chert	Yes	31	3	16	1.5
Cahokia Side Notched*	S21W11		HC	1	H	Burlington chert	Yes	31	4.5	14	1.8
Dickson Broad Bladed*	S20W9	158	B	2	I	Burlington chert	No	116	7	39	28.5
Durst*	S18W18	85	H		I	PDC	Yes		7	23	5.9
Durst*	S21W10	137	A	1	O	Galena chert	Yes	36.5	5.5	20	3.5
Durst*	S18W14		D	2	D	PDC	Yes				0.4
Durst*	S19W10		I	1	I	Galena chert	Yes	42.5	7	14	5.6
Durst*	S18W10		I	2	I & J	PDC	Burned		6	21	3.8
Durst*	S18W14		J	1	H, I, J & K	PDC	Yes		12	22	11.3
Durst*	S21W13		L	1	L	PDC	Yes				1
Durst*	S21W13		L	1	L	Burlington chert	Yes				1.4
Durst*	S22W13		L	2	L	Galena chert	Yes				0.7
Durst*	S19W11		M	1	M	PDC	Yes				0.8
Durst*	S19W12		M	2	M	PDC	Yes		7	22	4.6
Durst*	S19W11		N	1	N	PDC	Yes		6		2.9
Durst*	S18W12		N	1	N	PDC	Yes		9	20	8.6
Durst*	S21W10		O	12	O	PDC	No	46	8	13	6.4
Durst	S18W8		OB	2	O	PDC	Yes	57	7	13	6.9
Durst	S18W12		P	1	P	PDC	Yes				4

TABLE C.1: CHIPPED STONE continued

Durst	S18W10		NVC		NVC	Galena chert	Yes		6		1.7
Durst	S18W14		NVC		NVC	PDC	Yes				1.2
Durst	S21W12		NVC		NVC	Galena chert	Yes				3
Durst	S22W11		NVC		NVC	Galena chert	Yes	40	22	30	7.2
Durst	Test Pit		NVC		NVC	PDC	Yes		6.5	23	4
Durst	S22W19		NVC		NVC	PDC	Yes		6	22	3.4
Honey Crk Corner Notched*	S20W16		D	2	G	Galena chert	Yes	27	4	16	1.6
Honey Crk Corner Notched*	S24W16		E	1	I	PDC	No		3.5	15	1
Honey Crk Corner Notched*	S23W12		EE	2	H	Galena chert	Yes		5	18.5	2
Honey Crk Corner Notched*	S23W11		J	1	J	PDC	Yes		4	18	2.1
Honey Crk Corner Notched*	S22W10		JA	2	J	PDC	Yes		4	15.5	1.6
Honey Crk Corner Notched*	S23W12		JK	1	J	Galena chert	Yes	28	5	15	2.3
Honey Crk Corner Notched*	S18W10		K	2	J	PDC	Yes				0.8
Karnak Stemmed	S20W10		NC	3	O	PDC	No	96	9	29	25.9
Kirk Corner Notched	UW-Test Pit		NVC		NVC	PDC	Yes		7		12.1
Kramer*	S24W16		H	1	J & K	Galena chert	Yes	56	8	27	13
Kramer	S21W10		NVC		NVC	PDC	Burned		6	24	4.6
Kramer	S22/2314		NVC		NVC	Galena chert	Yes	49.5	9.5	25.5	10.1
Kramer	Surface		NVC		NVC	PDC	No	64	11	31	18.5
Kramer	UW-Test Pit		NVC		NVC	PDC	No			23	
Liverpool Stemmed	S19W9		NVC		NVC	PDC	Yes	53	7	31	12

TABLE C.1: CHIPPED STONE continued

Lowe Flared Base*	S22W19		EB	3	E	Burlington	Yes	29	6	19	2.9
Lowe Flared Base*	S21W13		H	4	I	Burlington	Yes	49	7	28.5	10.6
Madison Side Notched*	S18W14		G	1	H, I, J & K	PDC	Yes	35	6	22	5
Madison Side Notched	S20W13		IA	3	NVC	PDC	Yes				3.6
Madison Side Notched*	S18W14		L	2	L & N	PDC	Yes		6		3.6
Madison Triangular*	S23W11	159	A	3	IB	Galena chert	Yes		4	18	1.2
Madison Triangular*	S22W10	160	A	2	HE	Galena chert	Yes		5	22	2.6
Madison Triangular*	S20W9	161	A	1	I	PDC	No	27	3.5	16	1.5
Madison Triangular*	S23W11	162	A	1	IB	PDC	Burned			23	0.5
Madison Triangular*	S23W11	162	A	1	IB	PDC	Yes	29.5	3	23	2.2
Madison Triangular*	S23W11	162	A	1	IB	PDC	Yes	28	3	18	1.8
Madison Triangular*	S23W11	162	A	1	IB	PDC	Yes	30.5	3.5	22	1.9
Madison Triangular*	S23W17	15/85			I	PDC	Yes		3	9.5	1
Madison Triangular	S19W17		B		NVC	Galena chert	No		3.5	13	0.8
Madison Triangular*	S18W12		D	1	D	PDC	Yes	32	4	16	1.7
Madison Triangular	S24W10		D	1	D & E	PDC	Yes	23.5	4	18	1.5
Madison Triangular*	S18W14		D	2	D, E & G	PDC	Yes	23	4	20	1.9
Madison Triangular*	S20W16		D	2	G	Galena chert	Yes		3		1.2
Madison Triangular*	S22W16		D	2	D & G	Galena chert	No	28	4	15	1.4
Madison Triangular*	S20W10		E	1	E	Galena chert	Yes	27	16	4	1.8
Madison Triangular*	S18W12		E	1	H	PDC	Yes		3	12.5	0.7
Madison Triangular*	S22W16		E	1	H & I	PDC	Yes		4.5	17.5	1.8
Madison Triangular*	S18W19		E	2	E	PDC	Yes		2	21	0.7
Madison Triangular*	S18W10		E	2	H, I and Fea 32	Galena chert	No			21	0.7
Madison Triangular*	S22W19		EB	3	E	PDC	Yes	25.5	6	19	2.6

TABLE C.1: CHIPPED STONE continued

Madison Triangular*	S22W19		EG	2	J	PDC	Yes		3	18	1
Madison Triangular*	S18W12		G	1	G & J	PDC	No		6	17	1.7
Madison Triangular*	S24W16		G	1	I	PDC	Yes		3.5	17	1.4
Madison Triangular*	S24W16		G	1	I	Galena chert	Yes	22	3	18	1.3
Madison Triangular*	S24W16		G	2	J	PDC	Yes			17.5	0.5
Madison Triangular*	S24W16		G	2	J	PDC	Yes	28	3	14	1.5
Madison Triangular*	S24W16		H	2	J & K	PDC	Yes	29	3	16	1.8
Madison Triangular*	S24W16		H	4	J & K	PDC	Yes	29	4	16	2
Madison Triangular*	S22W11		HA	1	E	Burlington chert	Yes		3	19	1
Madison Triangular*	S21W11		HBA	6	H	Silicified Sanstone	Yes	70	6	29	13
Madison Triangular*	S21W11		HBA	5	H	PDC	Burned				0.5
Madison Triangular*	S22W11		HDV	2	E	PDC	No	47	7	27	7
Madison Triangular*	S19W12		I	1	I	PDC	Yes	27	2.5		1.4
Madison Triangular*	S23W11		I	1	I	Galena chert	Yes	32	3.5	19	2.1
Madison Triangular*	S20W10		I	2	I	Galena chert	Yes	24	4	18.5	1.3
Madison Triangular*	S22W13		I	2	I	Burlington chert	Yes	17	3.5	16.5	0.7
Madison Triangular*	S23W13		I	2	I	Burlington chert	Yes	25	3	18	1.6
Madison Triangular*	S19W12		I	3	I	PDC	Yes	28.5	4.5	18.5	2.3
Madison Triangular*	S22W11		I	4	I	PDC	Yes	28	5	22	2.3
Madison Triangular	S20W10		IA	8	NVC	PDC	No	25	5	19	2
Madison Triangular*	S22W10		IB	1	I	PDC	Yes	22	3	16	1.2
Madison Triangular*	S22W10		IC	2	I	PDC	Yes		3	19	1.5
Madison Triangular*	S22W10		IC	2	I	PDC	Yes	25	4	22	2.1
Madison Triangular*	S21W9		IEC	1	I	PDC	Burned		3	16	0.8
Madison Triangular*	S22W10		IF	2	I	PDC	No	28	5.5	26.5	2.8
Madison Triangular*	S22W10		IFA	1	I	Galena chert	Yes	17	4	16	1.2
Madison Triangular*	S22W10		IFA	2	I	PDC	Yes		5	19	1.4

TABLE C.1: CHIPPED STONE continued

Madison Triangular*	S20W9		IXB		I	PDC	Burned		6		2
Madison Triangular*	S23W11		J	1	J	PDC	Yes		4	17	1.5
Madison Triangular*	S21W9		JA	2	J	Galena chert	Yes		3	16	1.4
Madison Triangular*	S20W9		JX	1	J	Silicified Sanstone	Yes	22.5	4	18	1.6
Madison Triangular	S12W27		NVC		NVC	Burlington chert	Yes		3	19	1.6
Madison Triangular	S18W8		NVC		NVC	Galena chert	No		3	19	0.9
Madison Triangular	S18W10		NVC		NVC	PDC	Yes		5	21	
Madison Triangular	S19W9		NVC		NVC	PDC	Yes				0.6
Madison Triangular	S19W9		NVC		NVC	PDC	No	33	5	20	2.6
Madison Triangular	S19W9		NVC		NVC	PDC	Yes	29	3.5	15.5	1.8
Madison Triangular	S20W10		NVC		NVC	PDC	No	24	5	24	2.3
Madison Triangular	S20W10		NVC		NVC	PDC	No	16	2	13	0.5
Madison Triangular	S20W11		NVC		NVC	PDC	Yes	22	3	17	1.4
Madison Triangular	S20W13		NVC		NVC	PDC	Yes	33.5	3.5	21	
Madison Triangular	S20W9		NVC		NVC	PDC	Yes		4.5	21	2.3
Madison Triangular	S21W11		NVC		NVC	Burlington chert	Yes		4	22	1.4
Madison Triangular	S21W9		NVC		NVC	PDC	No		6	22	3
Madison Triangular	S21W9		NVC		NVC	PDC	Yes		4	20	1.9
Madison Triangular	S22/21W10		NVC		NVC	PDC	Yes	28.5	3.5	18.5	1.8
Madison Triangular	S22W10		NVC		NVC	PDC	Yes		6	20	2
Madison Triangular	S22W12		NVC		NVC	PDC	Burned		3	15	1
Madison Triangular	S22W12		NVC		NVC	PDC	Yes	27	5	15	2.1
Madison Triangular	S22W13		NVC		NVC	PDC	No	27	4		1.5
Madison Triangular	S22W16		NVC		NVC	PDC	Yes			18.5	0.9
Madison Triangular	S22W18		NVC		NVC	PDC	No		6	20	
Madison Triangular	S23/24W14		NVC		NVC	Galena chert	Yes	28	5	18	2.1
Madison Triangular	S23W13		NVC		NVC	Galena chert	Yes		3	22	1.9

TABLE C.1: CHIPPED STONE continued

Madison Triangular	S24W16		NVC		NVC	Silicified Sanstone	No			17	0.4
Madison Triangular	S24W16		NVC		NVC	PDC	Yes		4	13.5	1.5
Madison Triangular	NVC		NVC		NVC	PDC	Yes				0.8
Madison Triangular	NVC		NVC		NVC	PDC	Yes				0.6
Madison Triangular	NVC		NVC		NVC	PDC	Yes		4	19	2
Madison Triangular	Surface		NVC		NVC	PDC	Yes		5	21	3.1
Madison Triangular	UW-Test Pit		NVC		NVC	Burlington chert	Yes	22	3.5	12	0.8
Nodena*	S22W18		GH	1	J	PDC	Yes	29	4	18	1.9
Okoboji*	S21W9	129	Cap	1	K	PDC	Yes		3		0.7
Okoboji*	S19W13		I		I	Galena chert	Yes		5		1.7
Okoboji*	S20W9		IG	1	I	Burlington chert	Yes		4		2
Okoboji*	S21W9		JA	1	J	Galena chert	Yes		4		1.6
Okoboji	S18W8		NVC		NVC	Galena chert	Yes	22.5	3.5	16.5	1.7
Raddatz Side Notched*	S19W10	109	B		I	Galena chert	Yes	41	6	23	6.4
Raddatz Side Notched*	S22/24W16		D	2	D & G	PDC	Burned		8		7.9
Raddatz Side Notched*	S18W14		G	1	H, I, J & K	PDC	Yes	35	6	22	5
Raddatz Side Notched*	S20W16		G	1	I	PDC	Yes	42	7.5	24	6.9
Raddatz Side Notched*	S22W10		IB	2	I	Galena chert	Yes	60	7	26	10.3
Raddatz Side Notched	S18W14		Q	1	Q	Galena chert	Yes				2
Raddatz Side Notched	S18W10		U	1	U	PDC	Yes				3.1
Raddatz Side Notched	S19W9		NVC		NVC	PDC	No		7.5		6.8
Raddatz Side Notched	S21W13		NVC		NVC	PDC	Yes	55	8	31	14.5
Snyder (refit)*	S22W12	77	NVC		KB	PDC	Burned	56	8	26	11

TABLE C.1: CHIPPED STONE continued

Steuben Expand Stemmed*	S18W10		E	1	H, I & Fea 32	PDC	Burned		7		2.5
Steuben Expand Stemmed*	S20W16		G	1	I	Galena chert	Yes	37	6	22	5
Steuben Expand Stemmed*	S21W11		HB	3	H	PDC	Burned		5		6.2
Steuben Expand Stemmed	S12W27		I	1	I	Galena chert	Yes	40	6	20	4.7
Steuben Expand Stemmed*	S20W11		I	12	I	Galena chert	Yes	42	8	22	6.3
Steuben Expand Stemmed*	S22W10		KC	2	K	PDC	No	50	9	25.5	11.6
Steuben Expand Stemmed	S18W16		NVC		NVC	PDC	Yes	44.5	8	21	6.2
Steuben Expand Stemmed	S19W9		NVC		NVC	PDC	Yes	49	7	28	10.6
Steuben Expand Stemmed	S20W9		NVC		NVC	Galena chert	Yes		11	24	10.7
Steuben Expand Stemmed	S21W9		NVC		NVC	Galena chert	No	40	7	21	6.2
Steuben Expand Stemmed	S22W11		NVC		NVC	Galena chert	Yes	42	9	22.5	6.9
Side-Notched Traingular*	S18W14		D	2	D	PDC	Yes			15	0.4
Side-Notched Traingular*	S24W16		E	1	I	PDC	Yes	19	3	13	0.9
Side-Notched Traingular	S20W9		NVC		NVC	PDC	Yes	20	3	12.5	0.9
Side-Notched Traingular*	S21W9		KJA	1	K	Galena chert	Yes	36	4	17	2.3
Side-Notched Traingular	S20W9		NVC		NVC	PDC	No		3	18	0.9
Side-Notched Traingular	S23W12		NVC		NVC	Galena chert	Yes	28	3		1.4
Side-Notched Traingular*	S24W16		D	1	D	Galena chert	No	21	4	16.5	1.1
Side-Notched Traingular*	S22W16		D	2	D & G	PDC	No		3.5	19	0.6
Side-Notched Traingular*	S22W10		IB	2		Galena chert	Yes	18	3	14	1
Turkey Tail*	S22W10		IC	2	I	Indiana Hornstone	No	67	7	22	8.3
Waubesa*	S18W14		L	3	L & N	Galena chert	Yes				6.8
Waubesa	S20W9		NVC		NVC	Galena chert	Yes	70	11.5	28	18.2

TABLE C.1: CHIPPED STONE continued

Unidentifiable Biface											
Fragments											
Base*	S18W14		D	2	D	Burlington	Yes			11	0.6
Base*	S18W14		D	2	D	PDC	Yes				0.8
Base*	S18W14		E	1	H, I, J & K	PDC	No			16	1
Base*	S20W16		G	3	J, L & M	Galena	Yes			19	2.7
Base*	S18W12		H	1	H	PDC	Yes				0.6
Base*	S18W19		I	5	I	PDC	Yes				2.6
Base*	S18W12		J	1	L	PDC	Yes				1.2
Base*	S22W12		JB	1	J	PDC	No			32	8.9
Base*	S22W10		JC	2	J	PDC	Yes			20	0.5
Base*	S19W11		L	3	L	Galena	Yes		7		3.8
Base*	S19W17		N	1	N	Galena	Yes				3.6
Base	S18W10		Q	1	Q	PDC	No			12	1.1
Base	S19W9		NVC		NVC	PDC	Yes			29	5.6
Base	S22W10		NVC		NVC	PDC	No			18	1.3
Base	S19W12		NVC		NVC	Galena	Burned			19	3.7
Base	NVC		NVC		NVC	PDC	Burned				0.8
Base	NVC		NVC		NVC	PDC	Yes				0.4
Mid-section	S18W16		B	2	NVC	PDC	Yes				4.9
Mid-section*	S20W16		D	1	D	PDC	Yes				2.8
Mid-section*	S20W16		D	2	G	Galena	Burned				1
Mid-section*	S18W10		E	1	H, I & Fea 32	PDC	Yes			11	0.7
Mid-section*	S20W16		G	1	I	PDC	Burned				9.7
Mid-section*	S18W12		H	1	H	PDC	Burned				1.4

TABLE C.1: CHIPPED STONE continued

Mid-section*	S18W14		K	1	H, I, J & K	PDC	Yes				2.3
Mid-section	S24W16		L	1	T	PDC	Burned				3.3
Mid-section	S21W10		NVC		NVC	Galena	No				1.4
Notch*	S18W14		E	1	H, I, J & K	PDC	Yes				0.8
Notch	S19W12		NVC		NVC	Burlington	Yes				0.9
Notch	NVC		NVC		NVC	PDC	Yes				0.5
Tip*	S24W16	15			I	Galena	No				0.9
Tip*	S19W11	32	A		I	PDC	No				0.2
Tip*	S18W10	37	A		J & L	PDC	Yes				1.1
Tip	S19W13	58			NVC	PDC	Yes				1.5
Tip*	S18W12		D	1	D	Galena	Yes				1.4
Tip*	S18W12		D	1	D	PDC	Yes				1
Tip*	S18W14		E	1	H, I, J & K	PDC	No				3.9
Tip	S18W8		E	1	H, I & Fea 32	PDC	Yes		3		1.3
Tip*	S22W16		E	1	H & I	PDC	Burned				0.2
Tip*	S22W10		E	1	E	PDC	Yes				1.2
Tip*	S18W16		E	1	L	PDC	Yes				0.3
Tip*	S18W16		E	1	L	PDC	Yes				0.9
Tip*	S24W16		G	1	I	Galena	Yes				4.1
Tip*	S20W16		G	2	J, L & M	PDC	Yes				0.2
Tip*	S21W13		H	4	I	PDC	No				0.4
Tip*	S22W11		HA	3	E	PDC	Yes				3.5
Tip*	S21W11		HBA	1	H	PDC	Yes				1.6
Tip*	S20W10		HBA		H	Burlington	No				0.5
Tip*	S20W16		I	1	I	PDC	Burned				1.2

TABLE C.1: CHIPPED STONE continued

Tip*	S21W9		IE	2	I	PDC	Yes				0.8
Tip*	S21W13		J	2	J	PDC	No				0.2
Tip*	S22W10		JB	1	J	PDC	Yes				1.4
Tip*	S18W10		JXA	1	J	PDC	Burned				1.4
Tip*	S21W9		KJXC	2	K	Galena	Yes		8		10.6
Tip*	S18W10		L	1	J & L	Galena	Yes				2.6
Tip*	S18W14		L	2	L & N	PDC	Yes				0.2
Tip*	S18W19		L	3	L	PDC	Yes				4.3
Tip*	S18W14		L	3	L & N	PDC	Yes				1.3
Tip*	S20W11		M	2	M	PDC	Burned				1.4
Tip*	S23W12		O	8	O	PDC	Yes				0.1
Tip	S18W12		R	1	R	PDC	Yes				0.7
Tip	S18W10		NVC		NVC	PDC	Yes				1.2
Tip	S18W14		NVC		NVC	Galena	Yes				2.9
Tip	S19W12		NVC		NVC	Galena	Yes				0.3
Tip	S19W17		NVC		NVC	Galena	Yes				7.2
Tip	S20W11		NVC		NVC	Burlington	Yes				0.7
Tip	S21W10		NVC		NVC	PDC	Yes				0.6
Tip	S21W10		NVC		NVC	PDC	Burned				1.7
Tip	S21W11		NVC		NVC	PDC	Yes				1.9
Tip	S23W11		NVC		NVC	PDC	Yes				0.9
Tip	S23W13		NVC		NVC	PDC	Yes				2.9
Tip	NVC		NVC		NVC	PDC	Burned				0.3
Unidentifiable*	S19W12	32		2	I	Burlington	Yes				0.5
Unidentifiable*	S22W21	176	CAP	2	H	PDC					0.9
Unidentifiable*	S16W10		E	9	E	PDC	Yes	38	6		2.9

TABLE C.1: CHIPPED STONE continued

Unidentifiable*	S18W10		E	2	H, I & Fea 32	Galena	Yes				0.6
Unidentifiable*	S18W10		G	1	I	PDC	Yes				0.4
Unidentifiable*	S18W10		I	1	I & J	PDC	Yes				0.5
Unidentifiable*	S18W10		L	1	L	PDC	Burned				0.3
Unidentifiable*	S18W14		D	2	D	Galena	Yes				0.8
Unidentifiable*	S19W12		I	2	I	Burlington	Yes				0.5
Unidentifiable*	S21W9		OB	4	O	Galena	Burned				0.5
Unidentifiable*	S24W16		D	2	H	Galena chert	Yes	50	5	24	5.2
Unidentifiable*	S24W16		H	1	J & K	PDC	Yes				4
Unidentifiable*	S24W16		H	1	J & K	PDC	Yes				0.2
Unidentifiable*	S24W16		H	4	J & K	Burlington	Yes				0.6
Unidentifiable	S19W9		NVC		NVC	Galena	Yes				1.6
Unidentifiable	S18W12		NVC		NVC	PDC	Burned				2.3
Unidentifiable	NVC		NVC		NVC	Burlington	Yes				0.2
Preforms											
Preform	S18W12		D	1	D	PDC	No	30	14	8	2.9
Preform	S18W12		D	1	D	PDC	Yes	30	19	9	5.5
Preform	S18W14		D	1	D	PDC	No	32	21	10	7
Preform	S20W9		D	1	D	Galena	No	29	16	8	3.2
Preform	S19W11		D	2	D	PDC	Yes	24	16	9	3.1
Preform	S20W10		D	2	D	Galena	Yes	31	19	10	5
Preform	S21W9		D	2	D	PDC	Yes		21	11	7.8
Preform	S24W16		D	2	H	PDC	Yes	25	18	9	3.6
Preform	S18W12		H	1	H	Galena	Yes	35		8	5.3
Preform	S20W9		I	2	I	Burlington	Yes	28	20	7	3.6

TABLE C.1: CHIPPED STONE continued

Preform	S19W11		I	6	I	PDC	Yes	28	16	8	3.8
Preform	S20W10		IE	1	I	PDC	Yes	31	18	10	4.9
Preform	S22W13		K	9	K	Galena	Burned	41		10	6
Preform	Surface		NVC		NVC	PDC	No		8	25	4.2
Preform	S21W9		IA	4	NVC	PDC	Yes	27	18	6	3.2
Preform	S20W10		IA	8	NVC	PDC	Yes	30	22	10	6.1
Preform	S16W10		NVC		NVC	PDC	No	30	20	10	5
Preform	S20W10		NVC		NVC	PDC	Yes	24	16	10	3.1
Preform	S21W11		NVC		NVC	PDC	Burned	32		9	3.7
Less Formal Bifaces											
Flake Point*	S18W12		D	1	D	PDC	No		3.5	14	0.6
Flake Point*	S18W12		D	2	D, E & G	PDC	Yes	17	2.5	11.5	0.6
Biface	S20W16	10				PDC	Yes				1.9
Biface	S23W17	15				PDC	Yes	30	24	5	4.5
Biface	S23W17	15				PDC	Yes	30	48	12	17.5
Biface	S23W17	15				Galena	Yes	53	28	19	33.8
Biface (Refit)	S19W13	58				Galena	Yes	53	34	9	16
Biface	S20W13	58				PDC	Yes				79.9
Biface	S18W20	85	B			PDC	Burned				7.5
Biface	S22W10	135	A	1		Burlington	Yes	17	11	5	0.7
Biface	S20W9	161	A	3		PDC	No	46	35	12	18.9
Biface	S20W9	165	A	5		PDC	No	31	22	11	5.7
Biface	S22W10	172	A	2		PDC	Yes	31	13	5	1.6

TABLE C.1: CHIPPED STONE continued

Biface	S22W21	176	CAP	2		PDC	Yes	11	7	6	0.3
Biface	S22W10	183	A	13		Galena	Burned				1.3
Biface	S18W14		D	2	D	PDC	Burned				0.5
Biface	S19W12		D	2	D	PDC	Yes				7.1
Biface	S20W12		D	3	D	PDC	Yes	52	38	9	13.5
Biface	S24W16		D	1	D	PDC	No				7.1
Biface	S18W10		D	5	D & E	PDC	No	51	29	15	18.9
Biface	S18W10		D	6	D & E	PDC	No	42	28	6	7.5
Biface	S19W11		E	1	E	PDC	No				5.1
Biface	S19W11		E	2	E	PDC	No			8	22.3
Biface	S19W17		E	7	E	PDC	Burned				9.3
Biface	S20W10		E	1	E	PDC	Yes	41	30	12	12.3
Biface	S18W14		D	2	G	PDC	Yes	58	31	15	33.5
Biface	S20W16		D	2	G	Galena	No	67	48	30	105.6
Biface	S20W11		H	1	H	PDC	Yes	38	35	25	28.8
Biface	S21W14		H	1	H	PDC	Yes				29.9
Biface	S22W16		E	2	H	PDC	Yes	78	30	12	27.1
Biface	S18W10		E	1	H, I and F32	PDC	Yes				0.4
Biface	S18W14		E	1	H, I, J & K	Burlington	Yes	35	16	15	8.1
Biface	S19W11		I	13	I	PDC	No				6.4
Biface	S19W12		I	10	I	PDC	No				37.1
Biface	S20W10		IE	1	I	Galena	Yes	48	34	11	11
Biface	S20W12		H	8	I	PDC	Yes				17.5
Biface	S21W13		HE	1	I	PDC	Yes	54	39	24	4.1
Biface	S21W13		H	5	I	PDC	Yes	39	29	16	20.5
Biface	S21W9		IEE	1	I	PDC	No				1.8

TABLE C.1: CHIPPED STONE continued

Biface	S22W10		IF	2	I	PDC	No	15	11	4	0.3
Biface	S22W10		IFA	2	I	PDC	No				6.8
Biface	S22W13		IF	2	I	PDC	Yes	12	14	6	0.4
Biface	S22W13		I	5	I	PDC	No	65	52	3	122.5
Biface	S20W12		H	15	J	PDC	Yes				11.9
Biface	S20W9		J	3	J	PDC	Yes	28	24	9	3.7
Biface	S22W12		J	1	J	PDC	Yes	30	42	13	18.1
Biface	S22W12		J	1	J	PDC	Bruned	32	30	10	11.9
Biface	S22W12		JB	2	J	PDC	Yes				2.3
Biface	S23W11		J	2	J	PDC	No				4.4
Biface	S23W12		J	2	J	PDC	Yes	26	24	8	4.8
Biface (Refit)	S23W12		JK	2	J	PDC	Burned				19.5
Biface	S20W11		KH	1	K	PDC	No	97	71	33	213.8
Biface	S22W11		KH	1	K	PDC	Yes			25	58.2
Biface	S22W18		GJA	2	K	PDC	Burned				10.4
Biface	S22W19		EHB	2	K	PDC	Burned				4.6
Biface	S23W13		JB	3	K	PDC	No	24	23	5	2.4
Biface (Refit)	S19W17		N	1	N						
Biface	NVC		Surface		NVC	PDC	Yes	59	33	18	32
Biface	S17W19		NVC		NVC	Galena	No	64	31	16	33.2
Biface	S18W10		XDD	1	NVC	PDC	Yes	42	25	14	14.4
Biface	S19W13		NVC		NVC	PDC	Yes	51	22	8	12.4
Biface	S19W13		NVC		NVC	PDC	Burned				8.8
Biface	S19W9		NVC		NVC	PDC	Yes	49	23	10	12.4
Biface (Refit)	S20W16		B	1	NVC	PDC	Burned				21.3
Biface	S22/23W14		NVC		NVC	PDC	Burned				15.7

TABLE C.1: CHIPPED STONE continued

Biface	S22/23W14		NVC		NVC	PDC	No		42	13	24.5
Blades											
Blade	S18W12	8				Galena	Yes	28	8	4	0.9
Blade	S18W18	8				PDC	Yes	33	13	4	1.4
Blade	S19W11	32				PDC	Yes	27	15	5	2.1
Blade	S20W9	161	A	1		Galena	Yes	52	15	6	4.4
Blade	S18W12		D	1	D	PDC	Yes	25	6	6	0.8
Blade	S18W12		D	1	D	PDC	Burned		19	11	6.6
Blade	S18W14		D	2	D	PDC	Burned	43	15	18	5.1
Blade	S19W10		D	6	D	PDC	Yes	21	11	3	0.6
Blade	S19W12		D	1	D	PDC	Yes	19	17	2	0.3
Blade	S20W16		D	1	D	PDC	Yes	17	5	2	0.2
Blade	S20W16		D	1	D	PDC	No	22	13	4	1
Blade	S21W10		D	5	D	PDC	Yes	21	7	2	0.4
Blade	S21W9		D	1	D	PDC	Yes	48	20	8	7.2
Blade	S22W16		D	1	D & G	Burlington	Yes	23	8	5	0.7
Blade	S22W16		D	2	D & G	Burlington	Yes	60	25	5	7
Blade	S19W12		E	1	E	Burlington	Yes	34	16	7	3.5
Blade	S23W13		EC	1	E	PDC	Yes				0.8
Blade	S20W16		D	2	G	PDC	Yes		18	4	1.7
Blade	S19W13		H	2	H	PDC	Yes		6	2	0.1
Blade	S21W11		HDB	1	H	PDC	Yes	37	14	8	3.1
Blade	S18W14		E	1	H, I, J & K	PDC	No	27	15	3	1.1
Blade	S19W11		I	5	I	PDC	Yes	34	17	4	2.3

TABLE C.1: CHIPPED STONE continued

Blade	S20W16		G	1	I	PDC	Yes		9	4	1.6
Blade	S20W16		G	1	I	PDC	No	27	7	2	0.4
Blade	S21W14		I	1	I	Galena	Yes	28	9	2	0.6
Blade	S22W10		IC	1	I	PDC	Yes	40	27	7	3.9
Blade	S22W11		I	2	I	Galena	Yes	28	9	4	1.4
Blade	S22W11		IC	2	I	PDC	Yes	19	14	4	1.2
Blade	S22W11		I	5	I	PDC	Yes	21	8	2	0.3
Blade	S22W12		IK	1	I	PDC	Yes	15	6	1	0.1
Blade	S24W16		E	1	I	Galena	Yes	21	9	3	0.6
Blade	S24W16		G	1	I	PDC	Yes		16	10	5.2
Blade	S24W16		G	1	I	PDC	No		10	6	1.2
Blade	S22W10		J	1	J	PDC	Yes	27	13	3	1
Blade	S22W12		JDA	1	J	PDC	Yes	47	9	11	6.1
Blade	S22W12		KG	1	J	PDC	Yes	47	25	9	11.7
Blade	S23W11		J	1	J	PDC	Yes		13	4	1.9
Blade	S23W12		J	2	J	PDC	Yes	25	10	2	0.6
Blade	S24W16		H	4	J & K	PDC	Yes		10	2	0.5
Blade	S18W10		L	1	J & L	PDC	Yes	35	13	8	2.5
Blade	S20W16		G	3	J, L & M	PDC	Yes		13	5	2.5
Blade	S21W11		K	1	K	PDC	Yes	30	20	7	3.7
Blade	S21W9		KC	2	K	PDC	No		16	6	2.1
Blade	S22W18		KC	1	K	PDC	Burned		11	5	1.1
Blade	S18W12		J	1	L	Galena	No	21	18	2	0.4
Blade	S20W9		L	1	L	PDC	Yes	26	7	2	0.4
Blade	S21W10		OBA	1	O	Galena	Yes				2.2
Blade	S21W10		O	10	O	PDC	Yes	47	17	8	4.6
Blade	S19W12		P	1	P	PDC	Burned	38	18	5	3.2

TABLE C.1: CHIPPED STONE continued

Blade	S19W12		QA	1	Q	PDC	Burned		13	7	2.6
Blade	S18W16		B	2	NVC	PDC	Yes		13	5	1.3
Blade	S18W16		B	2	NVC	PDC	Yes		16	5	2
Blade	S19W13		NVC		NVC	Burlington	Yes	36	16	7	3.1
Blade	S19W9		NVC		NVC	Burlington	Yes	21	8	2	0.3
Blade	S20W10		NVC		NVC	PDC	No	44	14	8	4
Blade	S20W10		NVC		NVC	PDC	Yes	57	21	13	7.9
Blade	S20W11		NVC		NVC	PDC	Yes	27	7	4	0.7
Blade	S21W10		NVC		NVC	PDC	Yes	50	18	8	5.9
Blade	S21W11		NVC		NVC	PDC	Yes	57	12	18	4.6
Blade	S21W9		NVC		NVC	PDC	Yes		12	5	3.8
Blade	S22/23W14		NVC		NVC	Galena	Yes	26	10	6	2.1
Blade	S23W13		NVC		NVC	Galena	Yes		10	2	0.5
Blade	S24W16		NVC		NVC	PDC	Yes		17	3	1.5
Blade	NVC				NVC	Galena	Yes	43	20	6	4.4
Blade	UW-Test Pit			3	NVC	PDC	Yes		10	7	1.8
Chopper											
Chopper	S22W12		JB	1	J	PDC	No	155	125	66	
Drills											
T-Drill	S24W16		G	1	I	PDC	Yes		14	4	0.4
T-Drill	UW-Test Pit			4	NVC	PDC	Yes	62	16	7	5.5

TABLE C.1: CHIPPED STONE continued

Scrapers											
Scraper	S20W11	25			E	PDC	Yes	48	28	7	9.2
Scraper	S21W12	115	D	1	KF	PDC	Yes	57	37	26	60.5
Scraper	S20W10	118	A	4	L	PDC	Yes	49	47	11	28.3
Scraper	S20W9	187	B	2	O	PDC	Yes	55	40	10	24.7
Scraper	S20W16		G	1	G	PDC	No	64	45	21	61.3
Scraper	S22W11		I	3	I	PDC	No	42	26	14	12.4
Scraper	S23W13		JC	4	J	PDC	Yes	31	32	13	13.6
Scraper	S21W13		K	2	K	PDC	Burned				3.9
Scraper	S20W9		KX	1	K	PDC	Burned	56	51	17	35
Cores											
Multidirectional Core	S18W12	8				PDC	Yes	107	79	51	565.5
Multidirectional Core	S23W17	15				PDC	No	68	57	28	102.6
Multidirectional Core	S23W17	15				PDC	No	73	72	38	171.6
Unidirectional Core	S23W13	81				PDC	No	80	33	22	47.8
Multidirectional Core	S18W14		D	2	D	PDC	Yes	49	48	28	72.4
Multidirectional Core	S20W9		D	6	D	PDC	Yes	66	40	25	69.7
Multidirectional Core	S23W13		EF	4	E	PDC	Burned	53	49	26	70.8
Multidirectional Core	S18W18		G	2	G	PDC	Burned	63	40	21	49
Multidirectional Core	S22W10		HB	2	H	PDC	Yes	45	20	12	12.6
Multidirectional Core	S20W11		I	1	I	PDC	Yes	94	74	34	241.2
Multidirectional Core	S20W9		ICB	1	I	PDC	Yes	47	42	27	43
Multidirectional Core	S20W9		ICA	2	I	PDC	Burned				43.3

TABLE C.1: CHIPPED STONE continued

Multidirectional Core	S21W9		ICC	2	I	PDC	Yes	51	47	38	128.7
Multidirectional Core	S22W10		IB	2	I	PDC	Yes	44	35	23	33.4
Multidirectional Core	S23W13		I	2	I	PDC	Yes	72	41	19	63.1
Multidirectional Core	S18W10		I	2	I & J	PDC	Yes	26	28	17	8.6
Multidirectional Core	S18W12		G	1	J	PDC	No	70	41	42	195.8
Multidirectional Core	S18W8		JXA		J	PDC	Yes	53	47	24	50.9
Multidirectional Core	S20W9		JX	1	J	PDC	Yes	95	64	19	113.9
Multidirectional Core	S20W9		JXB	1	J	PDC	Yes	79	74	33	182.6
Multidirectional Core	S20W9		JXD	1	J	PDC	Burned	109	76	61	406.1
Multidirectional Core	S20W9		JX	7	J	PDC	Burned				27.8
Multidirectional Core	S21W9		J	1	J	PDC	Yes	73	60	31	95.5
Multidirectional Core	S23W13		JK	4	J	Burlington	No	74	46	24	65.7
Multidirectional Core	S23W17		JB	1	J	PDC	Yes	50	51	32	52.5
Multidirectional Core	S24W16		H	6	J & K	PDC	No	9.8	7.9	4	355.1
Multidirectional Core	S20W9		KBA	1	K	Burlington	Yes	57	37	30	46.7
Multidirectional Core	S20W9		KX	1	K	PDC	Yes	67	58	18	75.4
Multidirectional Core	S20W9		KX	6	K	Galena	No	67	54	30	85.3
Tested Cobble	S21W13		K	6	K	Local Cobble	No	70	47	42	158.3
Multidirectional Core	S21W9		KJX	1	K	PDC	Yes	62	58	26	82.1
Multidirectional Core	S21W9		KCC	2	K	PDC	Yes	50	41	26	59.1
Multidirectional Core	S22W10		KCC	1	K	PDC	Yes				6.6
Unidirectional Core	S22W10		KH	1	K	PDC	Burned				10.6
Multidirectional Core	S22W10		KIB	2	K	Galena	No	95	47	24	113.1
Multidirectional Core	S22W13		K	5	K	PDC	Burned	60	51	35	66.6
Bifacial Core	S22W19		EHB	1	K	PDC	Yes	60	50	40	103.5
Multidirectional Core	S22W19		EHB	1	K	Galena	Yes	70	46	24	60.1
Multidirectional Core	S23W11		KH	1	K	PDC	No	63	50	30	109.3

TABLE C.1: CHIPPED STONE continued

Multidirectional Core	S23W13		JB	1	K	PDC	Yes	38	34	15	19.4
Multidirectional Core	S23W13		K	1	K	PDC	Yes	64	52	33	93.6
Multidirectional Core	S23W13		JB	2	K	PDC	Yes	44	39	22	24
Tested Cobble	S22W12		LA	1	L	Local Cobble	Yes	61	57	51	191
Multidirectional Core	S22W19		L	7	L	PDC	Yes	53	51	25	41.7
Multidirectional Core	S21W13		N	6	N	PDC	Yes	56	43	36	95.2
Multidirectional Core	S19W11		IA	10	NVC	PDC	Yes	43	33	23	44.2
Multidirectional Core	S20W9		IA	6	NVC	PDC	Yes	53	38	17	18.6
Multidirectional Core	S22W9		IA	2	NVC	PDC	No	78	70	43	162.4
Multidirectional Core	S18W12		P	1	P	PDC	Yes	38	30	21	20.6
Denticulate											
Denticulate	S24W16		D	1	D & E	PDC	Yes	66	56	20	79.3
Denticulate	S18W14		G	1	H, I, J & K	PDC	Yes	79	64	31	129.5
Denticulate	S22W11		I	3	I	Burlington	Yes	70	49	23	67
Denticulate	S22W13		I	5	I	Galena	No	62	43	33	80.7
Denticulate	S19W11		O	1	O	Galena	Yes	54	39	14	33.2
Denticulate	S22W19		OC	2	O	Galena	No	86	69	35	217.5
Denticulate	S18W8		T	2	T	Galena	No	71	49	28	57.4
Uniface											
Uniface	S22W11		KGA	2	Post-Mold	Siltstone	Yes	118	45	21	165.4

TABLE C.1: CHIPPED STONE continued

Retouched Debitage											
Retouched Shatter	S12W27	4				PDC	No	49	44	13	26.5
Retouched Shatter	S21W9	94	A	1		PDC	No	40	24	15	15.7
Retouched Shatter	S18W10		G	1	I	PDC	Yes	37	24	14	10.2
Retouched Shatter	S18W19		I	5	I	PDC	Yes	21	10	6	1.4
Retouched Shatter	S19W11		D	2	D	PDC	Yes	42	23	17	15.9
Retouched Shatter	S19W11		I	2	I	PDC	Burned	19	15	9	2.2
Retouched Shatter	S19W17		E	3	E	PDC	No	59	47	28	78.6
Retouched Shatter	S20W11		I	9	I	PDC	Yes	56	44	29	68.5
Retouched Shatter	S20W11		I	12	I	PDC	Burned	36	28	26	22.2
Retouched Flake	S20W13		I	1	I	PDC	Burned	23	34	19	12.3
Retouched Flake	S20W9		J	1	J	PDC	Yes	67	45	19	64.4
Retouched Shatter	S20W9		JX	1	J	PDC	Yes	58	48	14	30.9
Retouched Flake	S20W9		JX	1	J	PDC	Yes	62	33	21	45.6
Retouched Core	S20W9		JXD	1	J	PDC	Yes	44	54	41	83.5
Retouched Shatter	S20W9		OB	2	O	PDC	Burned	51	47	26	64.3
Retouched Flake	S21W9		D	2	D	PDC	No	37	15	7	3.9
Retouched Flake	S21W9		IA	1	I	Burlington	Burned	35	32	10	6.8
Retouched Flake	S21W9		ICB	1	I	PDC	Yes	36	36	11	11.2
Retouched Shatter	S21W9		ICC	1	I	Burlington	Yes	32	33	16	15.2
Retouched Shatter	S21W9		JB	3	J	Galena	Yes	47	22	21	20.6
Retouched Shatter	S21W9		KJXA	1	K	PDC	Yes	37	25	24	20.7
Retouched Flake	S22W10		IB	1	I	PDC	Yes	43	31	12	20.5
Retouched Shatter	S22W10		IFA	4	I	PDC	Yes	32	19	11	7.1
Retouched Flake	S22W10		KE	1	K	PDC	Yes	31	11	9	2.2

TABLE C.1: CHIPPED STONE continued

Retouched Flake	S22W10		KZ	1	K	Burlington	Yes	39	37	10	11.6
Retouched Flake	S22W11		HE	1	H	PDC	Yes	49	34	14	24
Retouched Shatter	S22W12		JB	2	J	PDC	No	76	59	55	341.9
Retouched Flake	S22W12		KF	1	K	PDC	Yes	17	33	7	4.1
Retouched Shatter	S22W13		K	3	K	PDC	Yes	64	38	13	43.1
Retouched Flake	S22W16		D	1	D & G	Galena	Yes	39	29	8	7.9
Retouched Flake	S22W16		D	2	D & G	PDC	Yes	39	34	8	8.3
Retouched Shatter	S22W9		IEE	3	I	PDC	Burned	41	26	16	12.6
Retouched Shatter	S23W13		E	1	E	Burlington	Yes	51	34	18	23.6
Retouched Shatter	S23W13		JB	9	K	PDC	Yes	52	24	20	20.2
Retouched Flake	S23W13		JC	12	J	PDC	Yes	49	42	18	27
Retouched Flake	S24W16		G	1	I	Burlington	Yes	60	37	10	25.1
Retouched Flake	S21W10		NVC		NVC	PDC	Yes	19	10	3	0.5
Retouched Shatter	S23W13		NVC		NVC	PDC	Yes	68	38	20	38.4
Retouched Flake			NVC		NVC	PDC	Yes	27	42	4	3.6

NVC* = no vertical control or non-provenienced artifacts

* = denotes artifacts composing spatial analysis sample

APPENDIX D: DEBITAGE

Debitage

Debitage refers to the debris resulting from lithic reduction practices lacking secondary retouch; it usually takes the form of a flake, which must exhibit a platform and a bulb of percussion. If the artifact lacks any of these distinguishing characteristics then it is categorized as shatter, which refers to artifacts that may or may not be the direct result of human behavior. The analysis that was conducted for this thesis was not particularly focused on classifying the individual flake for the purpose of identifying differing lithic reduction technologies or chipped stone trajectories. Rather, the focus was on identifying the general class of flake for the ultimate end of investigating the spatial distribution of general artifact classes.

Thus, the debitage was classified in accordance with a slightly altered classification scheme predicated on the commonly utilized Sullivan and Rozen (1985) method of classification. The major difference between the two systems is that this study aggregates the categories of broken and fragment into one called broken. Thus, only three categories were used in this study: complete, broken and shatter.

A total of 2,807 pieces of unmodified debitage was analyzed during this study (Table D.1). The full results of the observations made on a case by case basis are presented here in table form and provide the classification, spatial data (unit, feature, stratigraphic unit, level, artifact number, stratigraphic correlation) raw material, heat treatment, and metrics (length, width, thickness and weight). Those cells that are blank were done so purposely, because that data was unavailable for that specific artifact. The highlighted artifacts indicate those used in the spatial analysis (see Appendix F).

Complete

The category of complete flake is defined in accordance with the Sullivan and Rozen (1985) classification. In that they consist of those flakes that retain a single ventral surface, a point of applied force, intact lateral margins, and a distal end reflecting a feathered, hinge or stepped terminus (Crabtree 1972). There were a total of 949 complete flakes identified during this study.

Broken

The category of broken flake is an aggregation of the Sullivan and Rozen (1985) categories broken and fragment. These flakes may or may not retain a point of applied force, will possess a single identifiable ventral surface, lack one or both lateral margins, may or may not retain a discernable termination point similar to the complete category. A total of 445 pieces of unmodified debitage was classified as broken during this study.

Shatter

The category of shatter used in this study supplants the terminology of debris used by Sullivan and Rozen (1985). This category is also seen in other studies as being referred to as block flakes or angular waste, regardless this category refers to the unmodified debitage that have neither a point of applied force nor a single interior surface. A total of 1,413 pieces of unmodified debitage was classified during this study.

TABLE D.1: Debitage

Debitage Classification	Unit	Fea.	Strat	Level	Artifact #	Stratigraphic Correlation	Raw Material	Treatment	L (mm)	W (mm)	T (mm)	Wt (g)
Complete*	S18W16	1	AB	3	Lithic 1	L	Burlington	Heat Treated	24	14	2	0.9
Broken*	S18W16	1	AB	3	Lithic 2	L	PDC	Heat Treated		10	2	
Broken*	S18W16	1	AB		Lithic 1	L	PDC	Burned		37	5	
Shattter*	S19W13	2			Lithic 1	L	PDC	Heat Treated				0.2
Broken*	S19W13	2			Lithic 2	L	PDC	Heat Treated			1	0.1
Broken*	S19W17	2			Lithic 1	L	PDC	Heat Treated		16	3	0.3
Complete*	S19W17	2			Lithic 2	L	PDC	Burned	19	23	2	0.7
Shattter*	S19W17	2			Lithic 3	L	PDC	Burned				0.2
Shattter*	S19W17	2			Lithic 4	L	PDC	Heat Treated				0.4
Complete	S22W13	3			Lithic 1	C	PDC	Burned	11	13	2	0.2
Complete	S22W16	3			Lithic 1	C	PDC	Untreated	12	14	2	0.4
Complete	S22W16	3			Lithic 2	C	PDC	Heat Treated	16	15	2	0.6
Complete	S22W16	3			Lithic 3	C	PDC	Heat Treated	16	11	2	0.4
Complete	S22W16	3			Lithic 4	C	PDC	Untreated	21	15	6	1.8
Shatter	S24W16	3			Lithic 1	C	LRC	Untreated				12.1
Complete	S24W16	3			Lithic 1	C	PDC	Heat Treated	26	21	4	2.9
Complete	S24W16	3			Lithic 2	C	Burlington	Untreated	11	8	1	0.1
Shatter	S24W16	3			Lithic 3	C	PDC	Burned				1.1
Shatter	S24W16	3			Lithic 4	C	PDC	Burned				0.8
Shatter	S24W16	3			Lithic 5	C	PDC	Untreated				0.3
Shatter	S24W16	3			Lithic 6	C	LRC	Burned				0.1
Shattter*	S18W12	8			Lithic 1	L	PDC	Untreated				3.4
Shattter*	S18W12	8			Lithic 2	L	PDC	Burned				4.2
Complete*	S18W12	8			Lithic 3	L	PDC	Burned	22	19	3	1.1

TABLE D.1: DEBITAGE continued

Complete*	S18W12	8			Lithic 4	L	PDC	Burned	40	23	25	6.4
Shattter*	S18W12	8			Lithic 5	L	PDC	Burned				1.2
Shattter*	S18W12	8			Lithic 6	L	PDC	Untreated				2
Complete*	S18W12	8			Lithic 7	L	PDC	Untreated			8	
Complete*	S18W12	8			Lithic 9	L	PDC	Burned	21	3	3	2.3
Complete*	S18W12	8			Lithic 10	L	Burlington	Untreated	15	11	3	0.5
Complete*	S18W12	8			Lithic 11	L	Galena	Heat Treated	16	16	3	0.9
Complete*	S18W12	8			Lithic 12	L	PDC	Untreated	27	30	3	3
Shattter*	S18W12	8			Lithic 13	L	PDC	Burned				2.9
Complete*	S18W12	8			Lithic 14	L	PDC	Heat Treated	20	34	9	4.5
Complete*	S18W12	8			Lithic 15	L	Galena	Untreated	17	21	8	3.2
Complete*	S18W12	8			Lithic 16	L	Galena	Heat Treated	18	14	2	0.7
Complete*	S18W12	8			Lithic 17	L	PDC	Untreated	30	15	3	1.6
Complete*	S18W12	8			Lithic 18	L	Galena	Untreated	18	18	5	1.3
Shattter*	S18W12	8			Lithic 19	L	PDC	Untreated				1.3
Shattter*	S18W12	8			Lithic 20	L	PDC	Untreated				2
Shattter*	S18W12	8			Lithic 21	L	PDC	Untreated				0.4
Shattter*	S18W12	8			Lithic 22	L	PDC	Burned				0.6
Shattter*	S18W12	8			Lithic 23	L	PDC	Burned				2.4
Complete*	S18W12	8			Lithic 24	L	PDC	Untreated	28	19	10	7.5
Shattter*	S18W12	8			Lithic 25	L	LRC	Burned				1.3
Complete*	S18W12	8			Lithic 27	L	PDC	Heat Treated	30	20	8	3.2
Complete*	S18W12	8			Lithic 28	L	Galena	Untreated	16	2	4	0.8
Broken*	S18W12	8			Lithic 29	L	PDC	Burned		22	3	
Shattter*	S18W12	8			Lithic 30	L	PDC	Heat Treated				0.3
Shattter*	S18W12	8			Lithic 31	L	PDC	Burned				0.9
Complete*	S18W12	8			Lithic 32	L	PDC	Untreated	6	10	2	0.1

TABLE D.1: DEBITAGE continued

Complete*	S18W12	8			Lithic 33	L	PDC	Burned	22	14	5	1.4
Shattter*	S18W12	8			Lithic 34	L	Galena	Untreated				0.2
Complete*	S18W12	8			Lithic 35	L	PDC	Untreated	12	14	3	0.5
Shattter*	S18W12	8			Lithic 36	L	PDC	Burned				0.2
Shattter*	S18W12	8			Lithic 37	L	PDC	Burned				0.4
Shattter*	S18W12	8			Lithic 39	L	PDC	Burned				0.6
Broken*	S18W12	8			Lithic 40	L	PDC	Burned		16	3	
Shattter*	S18W12	8			Lithic 41	L	LRC	Untreated				0.2
Shattter*	S18W12	8			Lithic 42	L	PDC	Untreated				0.5
Shattter*	S18W12	8			Lithic 43	L	PDC	Burned				0.3
Complete*	S18W12	8			Lithic 44	L	PDC	Burned	11	10	4	0.6
Shattter*	S18W12	8			Lithic 45	L	PDC	Burned				0.1
Shattter*	S18W12	8			Lithic 46	L	PDC	Burned				0.2
Complete*	S18W12	8			Lithic 47	L	PDC	Heat Treated	20	9	4	0.7
Complete*	S18W12	8			Lithic 48	L	PDC	Heat Treated	19	16	6	1.8
Shattter*	S18W12	8			Lithic 49	L	PDC	Burned				2.3
Shattter*	S18W12	8			Lithic 50	L	PDC	Heat Treated				2.6
Shattter*	S18W12	8			Lithic 51	L	PDC	Untreated				1
Shattter*	S18W12	8			Lithic 53	L	PDC	Untreated				0.8
Shattter*	S18W12	8			Lithic 54	L	PDC	Heat Treated				2.7
Complete*	S18W12	8			Lithic 55	L	Galena	Untreated	16	18	4	1.4
Complete*	S18W12	8			Lithic 56	L	Galena	Untreated	20	15	2	0.6
Shattter*	S18W12	8			Lithic 57	L	PDC	Untreated				0.6
Shattter*	S18W12	8			Lithic 58	L	PDC	Burned				0.8
Shattter*	S18W12	8			Lithic 59	L	PDC	Heat Treated				1
Shattter*	S18W12	8			Lithic 60	L	PDC	Burned				0.4
Broken*	S18W12	8			Lithic 61	L	PDC	Untreated		7	2	

TABLE D.1: DEBITAGE continued

Complete*	S18W12	8			Lithic 62	L	PDC	Burned	10	12	3	0.4
Shattter*	S18W12	8			Lithic 63	L	PDC	Burned				0.1
Shattter*	S18W12	8			Lithic 64	L	PDC	Burned				0.1
Complete*	S18W12	8			Lithic 65	L	PDC	Heat Treated	7	11	1	0.1
Shattter*	S18W12	8			Lithic 66	L	PDC	Burned				1.2
Shattter*	S18W12	8			Lithic 67	L	PDC	Untreated				0.2
Complete*	S18W12	8			Lithic 69	L	PDC	Untreated	23	13	2	0.6
Broken*	S18W12	8			Lithic 70	L	PDC	Heat Treated			3	
Complete*	S18W12	8			Lithic 71	L	Galena	Heat Treated	8	12	2	0.3
Shattter*	S18W12	8			Lithic 72	L	Galena	Heat Treated				4.8
Broken*	S18W12	8			Lithic 73	L	Galena	Untreated		11	2	
Complete*	S18W12	8			Lithic 74	L	Galena	Heat Treated	20	16	3	0.8
Complete*	S18W12	8			Lithic 75	L	PDC	Heat Treated	19	13	7	1.8
Shattter*	S18W12	8			Lithic 76	L	PDC	Burned				0.2
Shattter*	S18W12	8			Lithic 77	L	PDC	Untreated				1.8
Complete*	S18W12	8			Lithic 78	L	PDC	Untreated	11	9	3	0.2
Complete*	S18W12	8			Lithic 79	L	PDC	Heat Treated	9	10	2	0.2
Shattter*	S18W12	8			Lithic 80	L	PDC	Burned				1
Shattter*	S18W12	8			Lithic 81	L	PDC	Untreated				1.9
Broken*	S18W12	8			Lithic 82	L	PDC	Heat Treated			2	
Shattter*	S18W12	8			Lithic 83	L	PDC	Burned				1.7
Shattter*	S18W12	8			Lithic 84	L	LRC	Untreated				0.5
Complete*	S18W12	8			Lithic 85	L	PDC	Heat Treated	17	20	2	0.8
Broken*	S18W12	8			Lithic 86	L	PDC	Heat Treated		11	3	
Complete*	S18W12	8			Lithic 87	L	PDC	Heat Treated	15	17	3	0.5
Complete*	S18W12	8			Lithic 88	L	Galena	Burned	14	11	2	0.2
Shattter*	S18W12	8			Lithic 89	L	PDC	Untreated				0.3

TABLE D.1: DEBITAGE continued

Complete*	S18W12	8			Lithic 90	L	PDC	Untreated	12	17	3	0.7
Shattter*	S18W12	8			Lithic 91	L	PDC	Untreated				1
Complete*	S18W12	8			Lithic 92	L	PDC	Heat Treated	12	18	2	0.4
Broken*	S18W12	8			Lithic 93	L	PDC	Untreated			2	
Shattter*	S18W12	8			Lithic 94	L	Burlington	Untreated				0.2
Shattter*	S18W12	8			Lithic 95	L	PDC	Untreated				0.3
Complete*	S18W12	8			Lithic 96	L	PDC	Untreated	9	8	1	0.1
Shattter*	S18W12	8			Lithic 97	L	Burlington	Burned				0.6
Shattter*	S18W12	8			Lithic 98	L	PDC	Untreated				0.3
Shattter*	S18W12	8			Lithic 99	L	PDC	Burned				0.3
Shattter*	S18W12	8			Lithic 100	L	Burlington	Burned				0.2
Shattter*	S18W12	8			Lithic 101	L	PDC	Burned				0.2
Shattter*	S18W12	8			Lithic 102	L	PDC	Burned				0.3
Complete*	S18W12	8			Lithic 103	L	PDC	Heat Treated	14	7	3	0.2
Complete*	S18W12	8			Lithic 104	L	PDC	Heat Treated	9	14	2	0.3
Complete*	S18W12	8			Lithic 105	L	PDC	Heat Treated	15	12	3	0.4
Complete*	S18W12	8			Lithic 106	L	PDC	Heat Treated	11	12	2	0.3
Complete*	S18W12	8			Lithic 107	L	PDC	Untreated	12	17	3	0.4
Shattter*	S18W12	8			Lithic 108	L	Galena	Burned				0.5
Broken*	S18W12	8			Lithic 109	L	PDC	Untreated			2	
Complete*	S18W12	8			Lithic 111	L	PDC	Heat Treated	8	9	2	0.2
Broken*	S18W12	8			Lithic 112	L	PDC	Heat Treated		11	3	0.3
Complete*	S18W12	8			Lithic 113	L	PDC	Heat Treated	7	10	2	0.2
Shattter*	S18W12	8			Lithic 114	L	PDC	Heat Treated				0.3
Shattter*	S18W12	8			Lithic 115	L	PDC	Burned				0.2
Shattter*	S18W12	8			Lithic 116	L	PDC	Burned				0.1
Shattter*	S18W12	8			Lithic 117	L	PDC	Heat Treated				0.2

TABLE D.1: DEBITAGE continued

Complete*	S18W12	8			Lithic 118	L	PDC	Heat Treated	11	11	2	0.1
Shattter*	S18W12	8			Lithic 119	L	PDC	Untreated				0.5
Shattter*	S18W12	8			Lithic 120	L	PDC	Heat Treated				0.4
Shattter*	S18W12	8			Lithic 121	L	PDC	Burned				0.2
Shattter*	S18W12	8			Lithic 122	L	LRC	Burned				0.3
Shattter*	S18W12	8			Lithic 123	L	PDC	Untreated				0.1
Shattter*	S18W12	8			Lithic 124	L	LRC	Burned				0.2
Shattter*	S18W12	8			Lithic 125	L	PDC	Untreated				0.2
Complete*	S18W12	8			Lithic 126	L	PDC	Heat Treated		7	3	
Shattter*	S18W12	8			Lithic 127	L	PDC	Burned				0.1
Complete*	S18W12	8			Litihic 128	L	PDC	Heat Treated	9	9	4	0.2
Shattter*	S18W12	8			Lithic 129	L	PDC	Untreated				0.2
Broken*	S18W12	8			Lithic 130	L	Burlington	Burned	10	12	2	
Complete*	S18W12	8			Lithic 131	L	PDC	Heat Treated	10	9	2	0.2
Broken*	S18W12	8			Lithic 132	L	PDC	Heat Treated		10	2	
Complete*	S18W12	8			Lithic 133	L	PDC	Heat Treated	15	30	5	2.8
Complete*	S18W12	8			Lithic 134	L	PDC	Heat Treated				0.2
Shattter*	S18W18	8			Lithic 8	L	PDC	Burned				5.1
Complete*	S20W16	10			Lithic 1	D	Burlington	Heat Treated	20	13	3	0.7
Shattter*	S20W16	10			Lithic 2	D	PDC	Burned				1.2
Shattter*	S20W16	10			Lithic 3	D	PDC	Burned				0.9
Shattter*	S20W16	10			Lithic 5	D	Galena	Burned				0.1
Shattter*	S20W16	10			Lithic 6	D	PDC	Heat Treated				0.3
Shattter*	S20W16	10			Lithic 7	D	Galena	Burned				0.2
Shattter*	S20W16	10			Lithic 8	D	PDC	Burned				0.3
Shattter*	S20W16	10			Lithic 10	D	PDC	Burned				0.2
Shattter*	S20W16	10			Lithic 11	D	PDC	Heat Treated				0.3

TABLE D.1: DEBITAGE continued

Complete*	S20W16	10			Lithic 12	D	PDC	Heat Treated	11	20	3	0.5
Complete*	S20W16	10			Lithic 13	D	Galena	Heat Treated	14	14	3	0.5
Broken*	S20W16	10			Lithic 14	D	PDC	Burned				
Shattter*	S20W16	10			Lithic 15	D	PDC	Burned				0.1
Complete*	S20W16	10			Lithic 16	D	Burlington	Heat Treated	13	6	2	0.2
Broken*	S20W16	10			Lithic 17	D	PDC	Burned	7	8		
Shattter*	S20W16	11			Lithic 1	D	PDC	Heat Treated				81.8
Broken*	S20W16	12			Lithic 1	I	PDC	Heat Treated		15	3	0.5
Shattter*	S20W16	12			Lithic 2	I	PDC	Burned				0.2
Shattter*	S20W16	12			Lithic 3	I	PDC	Heat Treated				0.1
Shattter	S24W16	13			Lithic 1	NVC*	PDC	Untreated				0.8
Broken*	S23W17	15		10	Lithic 1	E	PDC	Burned	14		2	
Shattter*	S23W17	15		10	Lithic 2	E	PDC	Untreated				0.1
Broken*	S23W17	15		10	Lithic 3	E	PDC	Untreated		7	1	
Shattter*	S23W17	15		12	Lithic 1	E	PDC	Untreated				0.3
Complete*	S23W17	15		13	Lithic 1	E	PDC	Untreated	6	9	1	0.1
Complete*	S23W17	15		13	292	E	LRC	Untreated	9	9	2	0.1
Shattter*	S23W17	15			Lithic 1	E	LRC	Untreated				0.4
Shattter*	S18W14	17			Lithic 1	L & N	LRC	Burned				46.6
Shattter*	S18W14	17			Lithic 2	L & N	LRC	Burned				25.7
Complete	S18W14	18			Lithic 1	Q	PDC	Heat Treated	18	32	9	5.6
Complete	S18W14	18			Lithic 2	Q	PDC	Heat Treated	7	8	1	0.1
Complete*	S18W12	19			Lithic 1	L	PDC	Heat Treated	12	8	4	0.3
Shattter*	S18W12	19			Lithic 2	L	LRC	Burned				10.9
Shattter*	S18W12	19			Lithic 3	L	PDC	Untreated				0.7
Shattter*	S18W12	19			Lithic 4	L	PDC	Burned				0.7
Complete*	S18W12	19			Lithic 5	L	PDC	Untreated	9	10	1	0.2

TABLE D.1: DEBITAGE continued

Complete*	S18W12	19			Lithic 6	L	PDC	Untreated	16	10	1	0.3
Complete*	S18W12	19			Lithic 7	L	PDC	Untreated	11	20	3	1
Broken*	S22W13	19			7	L	PDC	Heat Treated	11		2	0.2
Shattter	S19W11	23			253	NVC*	PDC	Burned				10.1
Shattter	S22W13	23			2	NVC*	PDC	Heat Treated				2.2
Complete	S23W13	23			1	NVC*	PDC	Heat Treated	17	14	6	1.2
Complete*	S20W11	25			1	E & G	PDC	Heat Treated	27	31	6	5.4
Broken*	S20W11	25			90	E & G	PDC	Untreated			3	0.6
Complete*	S20W11	25			121	E & G	PDC	Heat Treated	19	21	5	2.2
Complete*	S20W11	25			27	E & G	PDC	Heat Treated	30	27	5	5.6
Complete*	S20W11	25			91	E & G	Burlington	Heat Treated	27	33	9	8.3
Complete*	S20W11	25			19	E & G	PDC	Heat Treated	41	55	15	24.9
Complete*	S20W12	25			70	E & G	PDC	Burned		10	1	
Shattter	S20W11	26			116	NVC*	PDC	Heat Treated				103.2
Shattter*	S19W20	29			3	G	PDC	Heat Treated	14	16	3	0.5
Shattter*	S21W11	29			Lithic 1	G	PDC	Burned				0.7
Complete*	S19W11	32			206 Lithic 1	I	PDC	Untreated	12	11	1	0.2
Complete*	S19W11	32			206 Lithic 2	I	PDC	Untreated	15	15	2	0.5
Broken*	S19W11	32			65	I	PDC	Heat Treated	28		5	
Complete*	S19W11	32			191	I	PDC	Untreated	17	9	2	0.2
Shattter*	S19W11	32			Lithic 1	I	PDC	Burned				0.7
Shattter*	S19W11	32			126	I	PDC	Heat Treated				0.2
Shattter*	S19W11	32			253	I	PDC	Heat Treated				2.7
Shattter*	S19W11	32			246	I	LRC	Burned				27.1
Shattter*	S19W11	32			232	I	PDC	Burned				0.9
Shattter*	S19W20	32			255	I	PDC	Heat Treated				2.7
Complete	S20W12	33			Lithic 1	NVC*	Orthoquartzite	Heat Treated	7	9	1	0.1

TABLE D.1: DEBITAGE continued

Complete*	S18W10	37	A		Lithic 1	J & L	PDC	Untreated	9	14	2	0.3
Broken*	S18W10	37	A		Lithic 2	J & L	Galena	Heat Treated				
Shattter*	S18W10	37	A		Lithic 3	J & L	PDC	Burned				1.2
Shattter*	S18W10	37	A		Lithic 4	J & L	LRC	Burned				0.4
Shattter*	S18W10	37	B		Lithic 1	J & L	LRC	Burned				0.1
Shattter*	S18W10	37	B		Lithic 2	J & L	LRC	Untreated				0.2
Shattter*	S18W10	37	B		Lithic 3	J & L	LRC	Heat Treated				0.1
Shattter*	S18W10	37	D		Lithic 1	J & L	LRC	Untreated				0.1
Shattter*	S18W10	37	D		Lithic 2	J & L	LRC	Heat Treated				0.1
Shattter*	S18W10	37	D		Lithic 3	J & L	Galena	Heat Treated				0.3
Shattter*	S18W10	37	D		Lithic 4	J & L	LRC	Heat Treated				>0.1
Shattter*	S18W10	37	D		Lithic 7	J & L	LRC	Untreated				0.1
Shattter*	S18W10	38	C		Lithic 1	J & L	PDC	Burned				27.3
Shattter*	S18W10	38	C		Lithic 2	J & L	LRC	Untreated				31.8
Shattter*	S18W10	38	C		Lithic 3	J & L	PDC	Burned				13.3
Shattter*	S18W10	38	C		Lithic 4	J & L	PDC	Burned				1.8
Shattter*	S19W13	38		8	Lithic 1	L	LRC	Heat Treated				0.4
Shattter*	S19W13	38		8	Lithic 2	L	LRC	Untreated				0.3
Shattter*	S19W13	38		8	Lithic 3	L	PDC	Heat Treated				0.3
Complete*	S18W10	46			Lithic 1	J & L	PDC	Untreated	10	10	2	0.3
Shattter*	S18W10	46			Lithic 2	J & L	PDC	Untreated				0.4
Shattter*	S22W13	48	G		Lithic 1	O	PDC	Burned				2.5
Complete	S22W13	49	C		Lithic 1	NVC*	PDC	Heat Treated	37	23	12	8.1
Broken	S22W13	49	D		Lithic 1	NVC*	PDC	Heat Treated		18	4	1.2
Shattter	S22W13	49	D		Lithic 2	NVC*	Burlington	Untreated				3
Shattter	S22W13	49	L	3	Lithic 2	NVC*	LRC	Burned				0.5
Shattter	S22W13	49	L	3	Lithic 3	NVC*	LRC	Burned				0.1

TABLE D.1: DEBITAGE continued

Shattter	S22W13	49			48	NVC*	PDC	Burned				22
Broken*	S19W13	53	A	11	Lithic 1	N	PDC	Untreated		13	2	
Complete*	S19W13	53	A	11	Lithic 2	N	PDC	Heat Treated	11	17	3	0.6
Broken*	S19W13	53	A	11	Lithic 3	N	PDC	Untreated			1	
Shattter*	S19W13	53	A	11	Lithic 4	N	PDC	Burned				0.5
Shattter	S19W13	58	A		Lithic 1	NVC*	PDC	Heat Treated				0.3
Shattter	S19W13	58	A		Lithic 2	NVC*	PDC	Burned				2
Shattter	S19W13	58	A		Lithic 3	NVC*	LRC	Untreated				0.3
Shattter	S19W13	58	A		Lithic 4	NVC*	PDC	Heat Treated				0.5
Shattter	S19W13	58	A		Lithic 5	NVC*	PDC	Burned				0.3
Shattter	S19W13	58	A		Lithic 8	NVC*	PDC	Untreated				0.2
Shattter	S19W13	58	B		Lithic 1	NVC*	PDC	Burned				0.3
Broken	S19W13	58	B		Lithic 2	NVC*	PDC	Heat Treated		12	2	0.2
Broken	S19W13	58	B		Lithic 3	NVC*	PDC	Heat Treated	12		2	0.3
Broken*	S19W13	58		3	Lithic 1	NVC*	PDC	Heat Treated	9		2	0.1
Shattter*	S19W13	58		3	Lithic 2	NVC*	PDC	Heat Treated				0.6
Shattter*	S19W13	58		3	Lithic 3	NVC*	PDC	Burned				0.2
Shattter*	S19W13	58		3	Lithic 4	NVC*	PDC	Heat Treated				0.3
Shattter	S19W13	58			Lithic 1	NVC*	PDC	Untreated				0.3
Complete	S19W13	58			Lithic 2	NVC*	PDC	Untreated	8	11	3	0.1
Shattter	S19W13	58			Lithic 3	NVC*	PDC	Untreated				0.3
Shattter	S19W13	58			Lithic 6	NVC*	PDC	Untreated				0.4
Complete	S19W13	58			Lithic 7	NVC*	PDC	Heat Treated	9	11	2	0.1
Broken	S19W13	58			Lithic 8	NVC*	PDC	Heat Treated		11	2	0.1
Broken	S19W13	58			Lithic 9	NVC*	PDC	Heat Treated		7	1	0.1
Broken	S19W13	58			Lithic 10	NVC*	PDC	Heat Treated		12	2	0.2
Shattter	S19W13	58			Lithic 11	NVC*	PDC	Heat Treated				0.3

TABLE D.1: DEBITAGE continued

Shattter	S19W13	58			Lithic 12	NVC*	PDC	Burned				0.1
Complete	S19W13	58			Lithic 13	NVC*	Galena	Heat Treated	12	15	2	0.2
Complete	S19W13	58			Lithic 14	NVC*	PDC	Heat Treated	8	10	3	0.2
Shattter	S19W13	58			Lithic 15	NVC*	PDC	Heat Treated				10.2
Broken	S19W13	58			Lithic 16	NVC*	PDC	Burned	16	16	3	0.4
Complete	S19W13	58			Lithic 17	NVC*	PDC	Heat Treated	12	16	3	0.4
Shattter	S19W13	58			Lithic 18	NVC*	PDC	Heat Treated				4.7
Shattter	S19W13	58			Lithic 19	NVC*	PDC	Untreated				0.4
Shattter	S19W13	58			Lithic 20	NVC*	PDC	Heat Treated				0.2
Shattter	S19W13	58			Lithic 21	NVC*	PDC	Burned				0.2
Shattter	S19W13	58			Lithic 22	NVC*	PDC	Burned				1.9
Shattter	S19W13	58			Lithic 23	NVC*	PDC	Burned				1.8
Shattter	S19W13	58			Lithic 24	NVC*	PDC	Heat Treated				1.2
Shattter	S19W13	58			Lithic 25	NVC*	PDC	Heat Treated				1.5
Shattter	S19W13	58			Lithic 26	NVC*	PDC	Burned				0.4
Shattter	S19W13	58			Lithic 27	NVC*	PDC	Untreated				0.3
Shattter	S19W13	58			Lithic 28	NVC*	PDC	Burned				0.9
Complete	S19W13	58			Lithic 29	NVC*	PDC	Untreated	16	15	3	0.8
Complete	S19W13	58			Lithic 30	NVC*	PDC	Heat Treated	22	13	6	1.7
Shattter	S19W13	58			Lithic 31	NVC*	PDC	Burned				1.9
Complete	S19W13	58			Lithic 32	NVC*	PDC	Heat Treated	15	11	4	0.6
Complete	S19W13	58			Lithic 33	NVC*	PDC	Untreated	14	9	2	0.3
Shattter	S19W13	58			Lithic 34	NVC*	PDC	Untreated				0.3
Shattter	S19W13	58			Lithic 35	NVC*	PDC	Burned				0.2
Broken	S19W17	60		3	Lithic 1	O	PDC	Heat Treated			2	
Shattter	S19W17	60		3	Lithic 2	O	PDC	Heat Treated				0.6
Shattter	S19W17	60		3	Lithic 3	O	PDC	Heat Treated				0.3

TABLE D.1: DEBITAGE continued

Complete*	S21W11	61		A	Lithic 1	H	PDC	Heat Treated	18	16	5	0.6
Shattter*	S21W11	61		A	Lithic 2	H	PDC	Burned				0.2
Shattter*	S21W11	61		A	11	H	PDC	Heat Treated				8.1
Shattter*	S21W11	73	A	1	1	H	PDC	Burned				0.6
Shattter*	S18W18	82			Lithic 1	I	PDC	Untreated				
Complete*	S18W18	84	C		Lithic 1	I	PDC	Burned	37	32	13	14.2
Shattter*	S18W18	85		1	Lithic 1	I	PDC	Untreated				1.5
Shattter*	S18W18	85		2	Lithic 1	I	Burlington	Untreated	21	10	3	0.7
Complete*	S18W18	85		2	15	I	Burlington	Heat Treated	17	11	4	0.6
Complete*	S18W18	85		4	Lithic 1	I	Galena	Burned		23	4	
Shattter*	S18W18	85		5	Lithic 1	I	PDC	Untreated				0.3
Shattter*	S18W18	85		8	31	I	PDC	Burned				0.3
Shattter*	S18W18	85		14	Lithic 1	I	PDC	Untreated				0.7
Shattter*	S18W18	85		14	Lithic 2	I	PDC	Burned				0.1
Broken*	S18W18	85			Lithic 1	I	PDC	Heat Treated			11	2.9
Complete*	S18W18	85			Lithic 1	I	PDC	Burned		7	1	
Complete*	S18W10	86	B		Lithic 1	I	PDC	Heat Treated	21	32	10	6.5
Shattter*	S18W10	86	B		Lithic 2	I	Galena	Burned				0.4
Shattter*	S18W18	86		4	Lithic 1	I	PDC	Heat Treated				9.1
Complete*	S18W18	86			Lithic 1	I	PDC	Untreated	15	34	7	3.3
Complete	S19W20	92	B	1	Lithic 1	NVC*	PDC	Untreated	12	14	2	0.3
Complete	S19W20	92	B	1	Lithic 2	NVC*	PDC	Untreated	12	13	1	0.3
Shatter	S19W20	92	B	2	Lithic 1	NVC*	PDC	Untreated				1.3
Complete*	S21W9	94	A	1	1	K	PDC	Heat Treated	37	18	10	5.4
Shattter*	S21W9	94	A	1	4	K	PDC	Heat Treated				8.8
Complete*	S21W9	94	A	1	9	K	PDC	Untreated	13	35	8	4.1
Shattter*	S21W9	94	A	1	8	K	PDC	Untreated				3.2

TABLE D.1: DEBITAGE continued

Broken*	S21W9	94	A	1	5	K	PDC	Untreated	22		5	3
Complete*	S21W9	94	A	1	6	K	LRC	Untreated	12	30	12	
Shattter*	S21W11	100	A	2	2	L	LRC	Burned				0.3
Complete*	S22W12	106	A	1	3	E	Galena	Heat Treated	16	8	8	0.3
Complete*	S22W12	106	A		3	E	Galena	Burned	20	11	8	0.4
Complete*	S22W12	106	B	1	4	E	PDC	Burned	13	12	8	0.4
Complete*	S22W12	106	B	1	7	E	PDC	Untreated	36	11	11	2.8
Shattter*	S20W10	109	C	B	1	I	PDC	Burned				3.3
Shattter*	S23W13	111	A	1	4	L	LRC	Untreated				10.9
Complete*	S23W13	111	B	1	15	L	PDC	Burned	41	46	9	10
Complete*	S21W12	113	A	2	8	I & J	PDC	Untreated	15	21	1	0.8
Complete*	S21W12	113	A	3	Lithic 1	I & J	PDC	Heat Treated	17	14	2	0.5
Complete*	S21W12	113	A	6	2	I & J	PDC	Heat Treated	23	18	2	0.9
Shattter*	S21W12	113	A	7	6	I & J	PDC	Burned				8.8
Complete*	S21W12	113	A	10	Lithic 1	I & J	PDC	Untreated	25	28	5	2.3
Shattter*	S21W12	113	A	10	7	I & J	PDC	Heat Treated				33.6
Shattter*	S21W12	113	A	10	Lithic 2	I & J	PDC	Burned				0.1
Complete*	S21W12	113	A		Lithic 1	I & J	PDC	Burned	9	8	8	0.2
Complete*	S22W18	116	A	1	14	E	PDC	Heat Treated	15	13	5	0.6
Complete*	S22W18	116	A	1	10	E	PDC	Heat Treated	25	21	2	1.9
Shattter*	S22W18	116	A	1	13	E	PDC	Burned				0.9
Complete*	S20W10	118	A	5	4	L	PDC	Untreated	22	12	2	0.6
Shattter*	S20W10	118	A		2	L	PDC	Burned				284.5
Complete*	S22W12	121	AA	1	4	K	PDC	Heat Treated	10	16	3	0.4
Shattter*	S22W12	121	AA	1	11	K	PDC	Heat Treated				1.1
Shattter*	S21W11	126	A	3	11	K	PDC	Heat Treated				27.4
Complete*	S22W11	126	A	2	12	K	PDC	Untreated	21	21	4	2.4

TABLE D.1: DEBITAGE continued

Shattter*	S22W11	126	A	2	15	K	PDC	Untreated				5.1
Shattter*	S21W9	129	CAP B	1	24	K	LRC	Heat Treated				1
Complete*	S20W9	132	A	1	Lithic 1	O	PDC	Untreated	12	8	2	0.1
Complete*	S20W9	132	A	1	Lithic 2	O	PDC	Untreated	15	12	1	0.3
Shattter*	S20W9	132	A	1	Lithic 3	O	PDC	Heat Treated				0.2
Shattter*	S20W9	132	A	1	Lithic 4	O	PDC	Untreated				0.5
Shattter*	S20W9	132	A	1	Lithic 5	O	PDC	Burned				0.3
Shattter*	S20W9	132	A	1	Lithic 7	O	PDC	Heat Treated				5.6
Shattter*	S22W10	135	A	1	1	K	PDC	Untreated				23.1
Complete*	S22W10	135	A	1	7	K	Burlington	Heat Treated	19	15	3	0.7
Complete*	S22W10	135	A	1	9	K	Galena	Untreated	7	9	1	0.1
Shattter*	S22W12	144	A	3	Lithic 1	L	PDC	Untreated				13.6
Shattter*	S21W10	145	A	2	5	L	PDC	Burned				0.1
Complete*	S22W11	146	A	1	2	K	PDC	Untreated	16	25	4	1.6
Shattter*	S22W11	147	A		9	K	PDC	Untreated				0.3
Shattter*	S23W11	159	A	1	34	I	PDC	Burned				22.3
Complete*	S22W10	160	A	2	28	H	PDC	Burned	12	11	2	0.2
Complete*	S20W9	161	A	1	34	I	PDC	Untreated	13	18	3	0.9
Shattter*	S20W9	161	A	1	56	I	PDC	Untreated				0.2
Complete*	S20W9	161	A	1	61	I	PDC	Burned	43	33	6	6.5
Complete*	S20W9	161	A	1	Lithic 1	I	PDC	Untreated	11	13	2	0.4
Shattter*	S20W9	161	A	1	Lithic 2	I	PDC	Untreated				2.5
Complete*	S20W9	161	A	1	Lithic 3	I	PDC	Burned	22	12	4	0.9
Shattter*	S20W9	161	A	2	13	I	PDC	Burned				0.7
Broken*	S20W9	161	A	2	50	I	PDC	Heat Treated		15	2	
Complete*	S20W9	161	A	2	51	I	PDC	Burned	20	18	2	1
Complete*	S20W9	161	A	2	52	I	PDC	Heat Treated	14	18	2	0.3

TABLE D.1: DEBITAGE continued

Complete*	S20W9	161	A	3	4	I	PDC	Untreated	10	13	3	0.4
Shattter*	S20W9	161	A	3	7	I	PDC	Burned				10.8
Shattter*	S20W9	161	A	3	19	I	PDC	Untreated				7
Shattter*	S23W11	162	A	1	Lithic 1	I	PDC	Burned				0.2
Shattter*	S23W11	162	A	1	Lithic 2	I	PDC	Burned				0.2
Shattter*	S23W11	162	A	1	Lithic 3	I	PDC	Burned				0.1
Shattter*	S23W11	162	A	1	Lithic 4	I	PDC	Burned				0.1
Shattter*	S23W11	162	A	1	Lithic 5	I	PDC	Burned				>0.1
Shattter*	S23W11	162	A	1	Lithic 6	I	PDC	Burned				>0.1
Shattter*	S23W11	162	A	1	Lithic 7	I	PDC	Burned				>0.1
Shattter*	S23W11	162	A	1	Lithic 8	I	PDC	Burned				>0.1
Complete*	S23W11	162	A	2	Lithic 1	I	PDC	Heat Treated	47	36	7	17.6
Complete*	S20W9	165	A	2	3	J	PDC	Untreated	11	12	2	0.3
Complete*	S20W9	165	A	2	16	J	PDC	Untreated	16	20	3	0.7
Complete*	S20W9	165	A	3	1	J	PDC	Heat Treated	25	8	6	1.2
Complete*	S20W9	165	A	4	3	J	PDC	Untreated	35	53	9	19.6
Complete*	S20W9	165	A	5	5	J	PDC	Untreated	37	33	6	6.2
Shattter*	S20W9	165	A		Lithic 1	J	PDC	Heat Treated				22
Complete*	S20W9	167	A	1	1	J	PDC	Untreated	33	37	11	12.7
Shattter*	S20W9	167	A	1	Lithic 1	J	PDC	Burned				0.5
Shattter*	S20W9	167	B	1	3	J	PDC	Heat Treated				1.2
Shattter*	S22W10	170	B	2	3	I	PDC	Heat Treated				18.9
Shattter*	S22W10	172	A	2	4	K	Galena	Untreated				1.6
Shattter*	S22W10	172	A	2	10	K	PDC	Burned				1.4
Shattter*	S22W21	174	A	1	4	E	LRC	Heat Treated				1.2
Shattter*	S22W21	175	A	1	28	H	PDC	Untreated				>0.1
Shattter*	S22W21	175	A	1	Lithic 1	H	PDC	Heat Treated				>0.1

TABLE D.1: DEBITAGE continued

Shattter*	S22W21	175	A	1	Lithic 2	H	PDC	Burned				0.1
Shattter*	S22W21	175	A	1	Lithic 3	H	PDC	Burned				0.6
Shattter*	S22W21	175	A	1	Lithic 4	H	PDC	Burned				0.6
Shattter*	S22W21	176	A	1	7	H	LRC	Burned				0.3
Complete*	S22W21	176	A	1	22	H	PDC	Heat Treated	17	10	2	0.3
Shattter*	S22W21	176	A	1	25	H	PDC	Burned				0.1
Broken*	S22W21	176	A	1	29	H	PDC	Burned		12	3	0.4
Shattter*	S22W21	176	CAP	1	29	H	PDC	Burned				0.2
Shattter*	S22W21	176	CAP	1	Lithic 1	H	LRC	Untreated				0.1
Complete*	S22W21	176	CAP	2	10	H	Galena	Heat Treated	25	17	4	1.4
Shattter*	S22W21	176	CAP	2	14	H	PDC	Burned				0.4
Complete*	S22W21	176	CAP	2	43	H	Galena	Heat Treated	16	15	2	0.5
Complete*	S22W21	176	CAP	2	Lithic 1	H	PDC	Heat Treated	13	20	4	0.7
Shattter*	S22W21	176		2	5	H	PDC	Heat Treated				6.3
Shattter*	S20W9	178	A	2	4	L	PDC	Heat Treated				7.7
Shattter*	S20W9	179	A	1	6	L	PDC	Heat Treated				4
Shattter*	S22W21	182	CAP	1	9	H	PDC	Heat Treated				0.4
Complete*	S22W21	182	CAP	1	Lithic 1	H	PDC	Untreated	14	10	4	0.6
Shattter*	S22W21	182	CAP	1	Lithic 2	H	PDC	Burned				0.1
Shattter*	S22W21	182	CAP	1	Lithic 3	H	PDC	Burned				0.1
Shattter*	S22W21	182	CAP	2	2	H	PDC	Burned				0.4
Shattter*	S22W21	182	CAP	2	4	H	PDC	Burned				0.9
Complete*	S22W10	183	A	7	Lithic 1	K	PDC	Heat Treated	17	16	4	0.7
Shattter*	S22W10	183	A	8	5	K	PDC	Untreated				0.2
Shattter*	S22W10	183	A	8	7	K	PDC	Heat Treated				1
Shattter*	S22W10	183	A	13	Lithic 1	K	PDC	Heat Treated				0.1
Shattter*	S22W10	183	Post	2	4	K	PDC	Heat Treated				0.2

TABLE D.1: DEBITAGE continued

Shattter*	S22W10	183	Post	2	5	K	PDC	Heat Treated				0.5
Shattter*	S22W10	183	Post	3	4	K	PDC	Heat Treated				0.3
Shattter*	S22W10	184	A	1	8	K	PDC	Heat Treated				5.3
Complete*	S21W9	185	A	1	3	J	PDC	Untreated	9	14	2	0.3
Broken*	S20W9	187	B	1	20	O	PDC	Heat Treated		6	1	>0.1
Shattter*	S22W10	194	C	2	1	O	LRC	Heat Treated				1.4
Complete*	S21W11		6KA	1	Lithic 1	K	PDC	Untreated	10	10	1	0.3
Shattter*	S21W11		GKA	1	Lithic 1	K	PDC	Untreated				11.9
Shattter	S21W13		A	1	Lithic 1	A	Galena	Heat Treated				3.8
Shattter	S18W16		B	1	Lithic 1	B	PDC	Heat Treated				0.7
Broken	S18W16		B	1	Lithic 2	B	PDC	Heat Treated				0.6
Complete	S18W20		B	3	1	B	PDC	Untreated	14	13	1.5	0.5
Shattter	S18W8		B	4	Lithic 1	B	PDC	Heat Treated				0.4
Shattter	S18W8		B	4	Lithic 2	B	PDC	Heat Treated				0.8
Shattter	S18W8		B	4	Lithic 3	B	PDC	Heat Treated				0.3
Shattter	S18W8		B	4	Lithic 4	B	PDC	Untreated				0.2
Shattter	S24W16		B	1	Lithic 1	B	PDC	Burned				0.3
Shattter	S24W16		B	1	Lithic 2	B	PDC	Burned				0.4
Shattter	S18W8		C	1	Lithic 1	C	PDC	Heat Treated				2.2
Broken	S20W16		C	2	Lithic 1	C	Galena	Heat Treated				0.6
Shattter	S24W16		C	1	Lithic 1	C	PDC	Burned				1
Shattter	S24W16		C	1	Lithic 2	C	LRC	Burned				0.2
Shattter	S24W16		C	1	Lithic 3	C	LRC	Burned				0.2
Shattter	S24W16		C	1	Lithic 4	C	LRC	Untreated				0.2
Shattter	S24W16		C	1	Lithic 5	C	LRC	Untreated				0.3
Shattter	S24W16		C	1	Lithic 6	C	LRC	Untreated				0.1

TABLE D.1: DEBITAGE continued

Shattter	S24W16	C	1	Lithic 7	C	LRC	Untreated				0.2
Shattter	S24W16	C	1	Lithic 8	C	LRC	Untreated				0.1
Shattter	S24W16	C	1	Lithic 9	C	LRC	Untreated				0.1
Complete	S22W10	CD		Lithic 1	CD	Burlington	Untreated	11	21	3	0.5
Complete	S23W13	CD		Lithic 1	CD	PDC	Untreated	22	18	3	1.7
Broken	S23W13	CD		Lithic 2	CD	Galena	Burned			4	
Shattter*	S16W10	D	4	Lithic 1	D	PDC	Untreated				0.3
Complete*	S17W19	D	1	1	D	PDC	Untreated	8	13	2	0.2
Shattter*	S17W19	D	2	11	D	LRC	Untreated	5	3	2	0.1
Complete*	S17W19	D	2	12	D	PDC	Burned	10	12	2	0.3
Broken*	S17W19	D	2	14	D	PDC	Untreated		12	2	0.2
Complete*	S17W19	D	2	14	D	PDC	Untreated	17	16	3	0.8
Shattter*	S17W19	D	2	6	D	Galena	Heat Treated				5.7
Shattter*	S18W10	D	1	Lithic 1	D & E	PDC	Burned				0.9
Shattter*	S18W10	D	1	Lithic 2	D & E	PDC	Burned				0.5
Shattter*	S18W10	D	1	Lithic 3	D & E	PDC	Burned				0.2
Shattter*	S18W10	D	1	Lithic 4	D & E	PDC	Burned				0.1
Shattter*	S18W10	D	1	Lithic 5	D & E	PDC	Burned				0.2
Complete*	S18W10	D	2	Lithic 1	D & E	PDC	Untreated	10	14	2	0.4
Complete*	S18W10	D	2	Lithic 2	D & E	PDC	Heat Treated	11	14	3	0.3
Complete*	S18W10	D	2	Lithic 3	D & E	PDC	Heat Treated	13	11	1	0.2
Shattter*	S18W10	D	2	Lithic 4	D & E	PDC	Untreated				0.3
Shattter*	S18W10	D	2	Lithic 5	D & E	PDC	Heat Treated				0.2
Shattter*	S18W10	D	2	Lithic 6	D & E	PDC	Untreated				0.1
Shattter*	S18W10	D	2	Lithic 7	D & E	PDC	Heat Treated				0.3
Shattter*	S18W10	D	2	Lithic 8	D & E	PDC	Heat Treated				0.05
Shattter*	S18W10	D	2	Lithic 9	D & E	Burlington	Burned				0.5

TABLE D.1: DEBITAGE continued

Broken*	S18W10		D	2	Lithic 10	D & E	Burlington	Heat Treated				0.5
Broken*	S18W10		D	2	Lithic 11	D & E	PDC	Heat Treated				1
Shattter*	S18W10		D	2	Lithic 12	D & E	PDC	Burned				0.6
Shattter*	S18W10		D	2	Lithic 13	D & E	PDC	Untreated				0.2
Shattter*	S18W10		D	2	Lithic 14	D & E	PDC	Untreated				0.2
Complete*	S18W10		D	2	Lithic 15	D & E	Burlington	Heat Treated	15	11	2	0.4
Broken*	S18W10		D	2	Lithic 16	D & E	PDC	Heat Treated				0.7
Shattter*	S18W10		D	2	Lithic 17	D & E	PDC	Burned				0.3
Shattter*	S18W10		D	2	Lithic 18	D & E	PDC	Burned				0.4
Shattter*	S18W10		D	2	Lithic 19	D & E	PDC	Burned				0.2
Shattter*	S18W10		D	2	Lithic 20	D & E	Galena	Burned				0.2
Shattter*	S18W10		D	2	Lithic 21	D & E	PDC	Untreated				0.5
Shattter*	S18W10		D	2	Lithic 22	D & E	PDC	Heat Treated				0.7
Shattter*	S18W10		D	2	Lithic 23	D & E	PDC	Heat Treated				0.7
Shattter*	S18W10		D	2	Lithic 24	D & E	PDC	Heat Treated				3.1
Shattter* 2pcs	S18W10		D	2	Lithic 25	D & E	Galena	Burned				84.1
Complete*	S18W10		D	3	Lithic 1	D & E	Burlington	Untreated	11	11	2	0.5
Complete*	S18W10		D	3	Lithic 2	D & E	PDC	Heat Treated	25	6	3	0.6
Complete*	S18W10		D	3	Lithic 3	D & E	PDC	Untreated	20	8	3	0.5
Shattter*	S18W10		D	3	Lithic 4	D & E	Burlington	Untreated				0.7
Shattter*	S18W10		D	3	Lithic 5	D & E	PDC	Untreated				0.1
Shattter*	S18W10		D	3	Lithic 6	D & E	PDC	Untreated				0.1
Shattter*	S18W10		D	3	Lithic 7	D & E	PDC	Untreated				0.1
Shattter*	S18W10		D	3	Lithic 8	D & E	PDC	Untreated				0.05
Complete*	S18W10		D	3	Lithic 9	D & E	PDC	Untreated	10	18	2	0.5
Complete*	S18W10		D	3	Lithic 10	D & E	Galena	Untreated	11	24	2	0.8
Complete*	S18W10		D	3	Lithic 11	D & E	PDC	Burned	8	10	1	0.1

TABLE D.1: DEBITAGE continued

Broken*	S18W10	D	3	Lithic 12	D & E	PDC	Untreated		10	2	
Complete*	S18W10	D	3	Lithic 13	D & E	PDC	Untreated	12	7	2	0.3
Complete*	S18W10	D	3	Lithic 14	D & E	Burlington	Untreated	13	17	3	0.5
Shattter*	S18W10	D	3	Lithic 15	D & E	PDC	Untreated				0.1
Shattter*	S18W10	D	3	Lithic 16	D & E	PDC	Burned				0.8
Shattter*	S18W10	D	3	Lithic 17	D & E	PDC	Untreated				0.5
Shattter*	S18W10	D	3	Lithic 18	D & E	PDC	Burned				0.6
Shattter*	S18W10	D	3	Lithic 19	D & E	PDC	Heat Treated				0.6
Shattter*	S18W10	D	3	Lithic 20	D & E	PDC	Heat Treated				0.8
Shattter*	S18W10	D	3	Lithic 21	D & E	PDC	Burned				0.4
Complete*	S18W10	D	3	Lithic 22	D & E	PDC	Untreated	15	10	3	0.4
Shattter*	S18W10	D	3	Lithic 23	D & E	PDC	Untreated				0.2
Shattter*	S18W10	D	3	Lithic 24	D & E	PDC	Untreated				0.2
Shattter*	S18W10	D	3	Lithic 25	D & E	Galena	Burned				0.2
Shattter*	S18W10	D	3	Lithic 26	D & E	PDC	Burned				0.1
Shattter*	S18W10	D	3	Lithic 27	D & E	PDC	Burned				0.2
Shattter*	S18W10	D	3	Lithic 28	D & E	PDC	Untreated				0.1
Shattter*	S18W10	D	3	Lithic 29	D & E	PDC	Heat Treated				0.4
Shattter*	S18W10	D	3	Lithic 30	D & E	PDC	Burned				0.3
Shattter*	S18W10	D	3	Lithic 31	D & E	PDC	Untreated				0.4
Shattter*	S18W10	D	3	Lithic 32	D & E	PDC	Burned				0.1
Shattter*	S18W10	D	3	Lithic 33	D & E	PDC	Burned				0.4
Shattter*	S18W10	D	3	Lithic 34	D & E	PDC	Burned				0.2
Shattter*	S18W10	D	3	Lithic 35	D & E	Galena	Burned				0.2
Shattter*	S18W10	D	3	Lithic 36	D & E	PDC	Burned				4
Shattter*	S18W10	D	3	Lithic 37	D & E	PDC	Burned				10.8
Shattter*	S18W10	D	4	Lithic 1	D & E	Burlington	Burned				0.3

TABLE D.1: DEBITAGE continued

Shattter*	S18W10	D	4	Lithic 2	D & E	LRC	Untreated				1.2
Shattter*	S18W10	D	4	Lithic 3	D & E	PDC	Burned				0.05
Shattter*	S18W10	D	4	Lithic 4	D & E	Galena	Burned				0.2
Shattter*	S18W10	D	4	Lithic 5	D & E	Galena	Heat Treated				0.9
Shattter*	S18W11	D	3	Lithic 1	D	PDC	Burned				7.5
Shattter*	S18W14	D	1	Lithic 1	D	PDC	Untreated				0.2
Complete*	S18W14	D	2	Lithic 1	D	PDC	Heat Treated	8	8	2	0.1
Complete*	S18W14	D	2	Lithic 2	D	Burlington	Heat Treated	13	7	3	0.3
Complete*	S18W14	D	2	Lithic 3	D	PDC	Heat Treated	7	11	4	0.2
Complete*	S18W14	D	2	Lithic 4	D	Galena	Untreated	8	6	1	0.1
Broken*	S18W14	D	2	Lithic 5	D	PDC	Heat Treated				0.5
Broken*	S18W14	D	2	Lithic 6	D	PDC	Untreated				0.5
Broken*	S18W14	D	2	Lithic 7	D	PDC	Heat Treated				0.3
Broken*	S18W14	D	2	Lithic 8	D	PDC	Untreated				0.3
Broken*	S18W14	D	2	Lithic 9	D	Burlington	Untreated				0.2
Broken*	S18W14	D	2	Lithic 10	D	Galena	Heat Treated				0.3
Broken*	S18W14	D	2	Lithic 11	D	PDC	Untreated				0.2
Broken*	S18W14	D	2	Lithic 12	D	Burlington	Heat Treated				0.2
Broken*	S18W14	D	2	Lithic 13	D	PDC	Untreated				0.1
Broken*	S18W14	D	2	Lithic 14	D	PDC	Untreated				0.2
Broken*	S18W14	D	2	Lithic 15	D	PDC	Heat Treated				0.1
Broken*	S18W14	D	2	Lithic 16	D	PDC	Heat Treated				0.1
Broken*	S18W14	D	2	Lithic 17	D	PDC	Untreated				0.1
Shattter*	S18W14	D	2	Lithic 18	D	PDC	Heat Treated				1.2
Shattter*	S18W14	D	2	Lithic 19	D	PDC	Heat Treated				1.1
Shattter*	S18W14	D	2	Lithic 20	D	PDC	Burned				1.1
Shattter*	S18W14	D	2	Lithic 21	D	PDC	Heat Treated				0.5

TABLE D.1: DEBITAGE continued

Shattter*	S18W14	D	2	Lithic 22	D	PDC	Burned				0.6
Shattter*	S18W14	D	2	Lithic 23	D	Burlington	Untreated				0.5
Shattter*	S18W14	D	2	Lithic 24	D	PDC	Heat Treated				0.4
Shattter*	S18W14	D	2	Lithic 25	D	PDC	Heat Treated				0.3
Shattter*	S18W14	D	2	Lithic 26	D	PDC	Heat Treated				0.4
Shattter*	S18W14	D	2	Lithic 27	D	PDC	Heat Treated				0.4
Shattter*	S18W14	D	2	Lithic 28	D	Burlington	Untreated				0.2
Shattter*	S18W14	D	2	Lithic 29	D	PDC	Burned				0.2
Shattter*	S18W14	D	2	Lithic 30	D	PDC	Burned				0.1
Shattter*	S18W14	D	2	Lithic 31	D	PDC	Heat Treated				0.2
Shattter*	S18W14	D	2	Lithic 32	D	PDC	Heat Treated				0.2
Shattter*	S18W14	D	2	Lithic 37	D	PDC	Heat Treated				0.3
Shattter*	S18W14	D	2	Lithic 39	D	PDC	Untreated				<0.1
Complete*	S18W14	D	2	Lithic 40	D	PDC	Heat Treated	16	14	6	1.2
Complete*	S18W14	D	2	Lithic 41	D	PDC	Untreated	17	11	2	0.5
Complete*	S18W14	D	2	Lithic 42	D	PDC	Untreated	14	12	4	0.5
Complete*	S18W14	D	2	Lithic 43	D	PDC	Untreated	12	8	1	0.1
Complete*	S18W14	D	2	Lithic 44	D	PDC	Heat Treated	12	9	3	0.1
Broken*	S18W14	D	2	Lithic 45	D	PDC	Heat Treated				0.5
Broken*	S18W14	D	2	Lithic 46	D	PDC	Heat Treated				0.6
Broken*	S18W14	D	2	Lithic 47	D	PDC	Heat Treated				0.2
Broken*	S18W14	D	2	Lithic 48	D	PDC	Untreated				0.2
Broken*	S18W14	D	2	Lithic 49	D	PDC	Untreated				0.2
Broken*	S18W14	D	2	Lithic 50	D	PDC	Heat Treated				0.2
Broken*	S18W14	D	2	Lithic 51	D	PDC	Burned				0.2
Broken*	S18W14	D	2	Lithic 52	D	PDC	Heat Treated				0.1
Shattter*	S18W14	D	2	Lithic 53	D	PDC	Burned				2.5

TABLE D.1: DEBITAGE continued

Shattter*	S18W14	D	2	Lithic 54	D	PDC	Burned			1.4
Shattter*	S18W14	D	2	Lithic 55	D	PDC	Burned			0.5
Shattter*	S18W14	D	2	Lithic 56	D	PDC	Burned			0.4
Shattter*	S18W14	D	2	Lithic 57	D	PDC	Burned			0.2
Shattter*	S18W14	D	2	Lithic 58	D	PDC	Burned			0.3
Shattter*	S18W14	D	2	Lithic 59	D	PDC	Heat Treated			0.2
Shattter*	S18W14	D	2	Lithic 60	D	Galena	Heat Treated			1.2
Shattter*	S18W14	D	2	Lithic 61	D	PDC	Heat Treated			0.5
Shattter*	S18W14	D	2	Lithic 62	D	PDC	Untreated			0.8
Shattter*	S18W14	D	2	Lithic 63	D	PDC	Burned			1
Shattter*	S18W14	D	2	Lithic 64	D	LRC	Heat Treated			0.4
Shattter*	S18W14	D	2	Lithic 65	D	PDC	Untreated			0.2
Shattter*	S18W14	D	2	Lithic 66	D	PDC	Heat Treated			0.2
Shattter*	S18W14	D	2	Lithic 67	D	PDC	Untreated			0.3
Shattter*	S18W14	D	2	Lithic 68	D	PDC	Untreated			0.1
Shattter*	S18W14	D	2	Lithic 69	D	LRC	Untreated			0.9
Shattter*	S18W14	D	2	Lithic 70	D	PDC	Heat Treated			0.2
Shattter*	S18W14	D	2	Lithic 71	D	LRC	Untreated			0.3
Shattter*	S18W14	D	2	Lithic 72	D	LRC	Untreated			0.4
Shattter*	S18W14	D	2	Lithic 73	D	Galena	Untreated			0.2
Shattter*	S18W14	D	2	Lithic 74	D	PDC	Untreated			0.4
Shattter*	S18W14	D	2	Lithic 77	D	LRC	Heat Treated			0.2
Broken*	S18W14	D	2	Lithic 79	D	PDC	Heat Treated			0.2
Broken*	S18W14	D	2	Lithic 80	D	PDC	Heat Treated			0.1
Shattter*	S18W14	D	2	Lithic 81	D	PDC	Burned			1.1
Shattter*	S18W14	D	2	Lithic 82	D	Burlington	Burned			0.4
Shattter*	S18W14	D	2	Lithic 83	D	PDC	Burned			0.4

TABLE D.1: DEBITAGE continued

Shattter*	S18W14	D	2	Lithic 84	D	PDC	Burned				0.4
Shattter*	S18W14	D	2	Lithic 85	D	PDC	Burned				<0.1
Shattter*	S18W14	D	2	Lithic 86	D	PDC	Heat Treated				0.2
Shattter*	S18W14	D	2	Lithic 87	D	PDC	Untreated				0.3
Shattter*	S18W14	D	2	Lithic 88	D	PDC	Burned				0.1
Shattter*	S18W16	D	1	Lithic 1	I	PDC	Heat Treated				2.4
Shattter*	S18W18	D	1	1	D	PDC	Untreated				0.3
Shattter*	S18W18	D	1	2	D	PDC	Untreated				0.3
Complete*	S19W10	D	2	4	D	PDC	Burned	37	35	12	19.5
Complete*	S19W10	D	5	1	D	PDC	Untreated	44	35	21	28
Broken*	S19W10	D	5	2	D	PDC	Untreated	18	12	4	0.8
Complete*	S19W10	D	6	3	D	PDC	Heat Treated	22	28	5	3
Complete*	S19W10	D	7	2	D	PDC	Untreated	11	9	1	0.2
Shattter*	S19W11	D	1	5	D	PDC	Burned				13.9
Broken*	S19W11	D	2	20	D	PDC	Untreated		13	3	0.5
Shattter*	S19W11	D	4	4	D	PDC	Untreated				0.7
Shattter*	S19W11	D	4	7	D	PDC	Untreated				15
Broken*	S19W11	D	4	55	D	PDC	Untreated		56	10	13
Broken*	S19W12	D	1	2	D	PDC	Untreated		12	2	0.3
Complete*	S19W12	D	1	7	D	PDC	Untreated	17	27	9	3.9
Shattter*	S19W12	D	1	12	D	LRC	Untreated	27	19	6	2.6
Shattter*	S19W12	D	2	3	D	PDC	Untreated	8	6	1	0.1
Complete*	S19W12	D	2	23	D	PDC	Untreated	10	9	2	0.2
Broken*	S19W12	D	2	23	D	PDC	Untreated	15	17	3	0.5
Complete*	S19W12	D	2	25	D	PDC	Untreated	12	13	4	1
Complete*	S19W12	D	2	26	D	PDC	Untreated	24	17	7	2.4
Complete*	S19W12	D	2	27	D	PDC	Untreated	19	16	4	1.4

TABLE D.1: DEBITAGE continued

Complete*	S19W12	D	2	27	D	PDC	Untreated	32	15	6	3.3
Broken*	S19W12	D	2	29	D	PDC	Burned		14	2	0.3
Broken*	S19W12	D	2	36	D	PDC	Untreated		6	1	0.1
Broken*	S19W12	D	2	37	D	PDC	Untreated		8	1	0.1
Complete*	S19W12	D	2	Lithic 1	D	PDC	Heat Treated	18	21	4	1.4
Broken*	S19W12	D	3	8	D	PDC	Untreated	14	19	3	0.9
Complete*	S19W12	D	3	8	D	PDC	Untreated	18	12	2	0.5
Shattter*	S19W12	D	4	1	D	PDC	Untreated	36	34	10	11.8
Shattter*	S19W12	D	5	8	D	PDC	Untreated	23	18	5	2.4
Shattter*	S19W12	D	5	13	D	PDC	Untreated	32	19	9	5.9
Shattter*	S19W13	D	4	Lithic 1	D	PDC	Heat Treated				0.4
Shattter*	S19W13	D	6	8	D	PDC	Untreated	29	24	4	2.8
Shattter*	S19W13	D	6	12	D	PDC	Untreated	32	15	10	4.5
Shattter*	S19W17	D	2	33	D	PDC	Untreated				0.7
Shattter*	S19W17	D	2	34	D	PDC	Untreated				0.2
Complete*	S20W10	D	2	Lithic 1	D	PDC	Heat Treated	12	27	5	1.7
Complete*	S20W10	D	3	6	D	PDC	Untreated	20	14	8	2.2
Complete*	S20W10	D	4	14	D	PDC	Untreated	5	12	3	0.3
Shattter*	S20W10	D	4	14	D	PDC	Untreated				1
Shattter*	S20W10	D	4	16	D	LRC	Untreated				0.5
Complete*	S20W10	D	4	35	D	PDC	Untreated	15	17	5	1.3
Complete*	S20W10	D	4	36	D	PDC	Untreated	7	12	1	0.1
Shattter*	S20W10	D	4	48	D	PDC	Untreated				2.4
Complete*	S20W10	D	5	11	D	Galena	Untreated	26	14	7	2.6
Shattter*	S20W11	D	1	1	D	PDC	Burned				0.1
Complete*	S20W12	D	2	Lithic 1	D	PDC	Untreated	39	33	6	12.7
Complete*	S20W12	D	2	1	D	PDC	Heat Treated	38	20	13	7.7

TABLE D.1: DEBITAGE continued

Complete*	S20W13	D	1	Lithic 1	D	PDC	Heat Treated	15	20	4	1.3
Complete*	S20W13	D	1	Lithic 2	D	Prairie du Chien	Heat Treated	15	15	4	1
Complete*	S20W16	D	1	Lithic 1	D	LRC	Untreated	15	12	6	0.7
Broken*	S20W16	D	1	Lithic 2	D	PDC	Untreated		8	2	
Complete*	S20W16	D	1	Lithic 3	D	PDC	Untreated	15	12	3	0.5
Complete*	S20W16	D	1	Lithic 4	D	Galena	Untreated	9	7	3	0.3
Complete*	S20W16	D	1	Lithic 5	D	Galena	Untreated	12	13	2	0.4
Complete*	S20W16	D	1	Lithic 6	D	PDC	Heat Treated	11	8	1	0.2
Complete*	S20W16	D	1	Lithic 7	D	PDC	Untreated	6	13	2	0.2
Complete*	S20W16	D	1	Lithic 8	D	Burlington	Heat Treated	8	8	1	0.1
Complete*	S20W16	D	1	Lithic 9	D	PDC	Untreated	11	11	1	0.2
Complete*	S20W16	D	1	Lithic 10	D	PDC	Heat Treated	15	14	6	0.9
Complete*	S20W16	D	1	Lithic 11	D	PDC	Untreated	13	7	3	0.3
Complete*	S20W16	D	1	Lithic 12	D	PDC	Heat Treated	11	15	3	0.4
Complete*	S20W16	D	1	Lithic 13	D	PDC	Burned	11	12	2	0.2
Complete*	S20W16	D	1	Lithic 14	D	PDC	Untreated	14	10	3	0.3
Complete*	S20W16	D	1	Lithic 15	D	PDC	Heat Treated	9	10	2	0.1
Complete*	S20W16	D	1	Lithic 16	D	PDC	Untreated	18	10	3	0.6
Complete*	S20W16	D	1	Lithic 17	D	Burlington	Heat Treated	13	11	1	0.2
Complete*	S20W16	D	1	Lithic 18	D	LRC	Untreated	11	10	2	0.3
Complete*	S20W16	D	1	Lithic 19	D	Burlington	Untreated	9	10	1	0.1
Complete*	S20W16	D	1	Lithic 20	D	PDC	Untreated	10	12	1	0.2
Complete*	S20W16	D	1	Lithic 21	D	PDC	Burned	16	8	3	0.4
Complete*	S20W16	D	1	Lithic 22	D	Burlington	Heat Treated	12	10	1	0.3
Complete*	S20W16	D	1	Lithic 23	D	Galena	Untreated	13	10	2	0.2
Complete*	S20W16	D	1	Lithic 24	D	PDC	Untreated	8	11	3	0.2
Complete*	S20W16	D	1	Lithic 25	D	PDC	Untreated	11	13	3	0.2

TABLE D.1: DEBITAGE continued

Broken*	S20W16	D	1	Lithic 26	D	Galena	Untreated		15	2	
Complete*	S20W16	D	1	Lithic 27	D	PDC	Untreated	11	13	2	0.3
Complete*	S20W16	D	1	Lithic 28	D	Galena	Heat Treated	15	12	1	0.2
Complete*	S20W16	D	1	Lithic 29	D	PDC	Heat Treated	15	10	1	0.2
Complete*	S20W16	D	1	Lithic 30	D	Burlington	Untreated	7	8	1	0.1
Complete*	S20W16	D	1	Lithic 31	D	Burlington	Untreated	9	9	1	0.2
Complete*	S20W16	D	1	Lithic 32	D	Burlington	Untreated	14	10	2	0.3
Broken*	S20W16	D	1	Lithic 33	D	PDC	Untreated		9	2	
Broken*	S20W16	D	1	Lithic 34	D	PDC	Untreated		10	2	
Complete*	S20W16	D	1	Lithic 35	D	PDC	Untreated	9	7	1	0.1
Complete*	S20W16	D	1	Lithic 36	D	Galena	Heat Treated	14	17	2	0.4
Complete*	S20W16	D	1	Lithic 37	D	PDC	Untreated	8	9	1	0.1
Complete*	S20W16	D	1	Lithic 38	D	PDC	Untreated	12	8	2	0.3
Broken*	S20W16	D	1	Lithic 39	D	Burlington	Heat Treated		9	1	
Complete*	S20W16	D	1	Lithic 40	D	PDC	Untreated	8	7	1	0.1
Broken*	S20W16	D	1	Lithic 41	D	PDC	Untreated		10	2	
Complete*	S20W16	D	1	Lithic 42	D	Galena	Untreated	10	8	2	0.1
Complete*	S20W16	D	1	Lithic 43	D	PDC	Untreated	19	10	2	0.5
Complete*	S20W16	D	1	Lithic 44	D	PDC	Heat Treated	14	12	1	0.3
Complete*	S20W16	D	1	Lithic 45	D	PDC	Untreated	8	10	3	0.3
Complete*	S20W16	D	1	Lithic 46	D	PDC	Untreated	11	9	2	0.3
Broken*	S20W16	D	1	Lithic 47	D	PDC	Untreated		10	2	
Complete*	S20W16	D	1	Lithic 48	D	Burlington	Untreated	10	11	3	0.3
Complete*	S20W16	D	1	Lithic 49	D	PDC	Untreated	13	11	1	0.1
Complete*	S20W16	D	1	Lithic 50	D	PDC	Untreated	9	8	2	0.1
Broken*	S20W16	D	1	Lithic 51	D	PDC	Heat Treated		8	1	
Complete*	S20W16	D	1	Lithic 52	D	Burlington	Heat Treated	8	11	3	0.3

TABLE D.1: DEBITAGE continued

Broken*	S20W16	D	1	Lithic 53	D	PDC	Untreated		9	1	
Complete*	S20W16	D	1	Lithic 54	D	PDC	Untreated	7	12	2	0.2
Complete*	S20W16	D	1	Lithic 55	D	PDC	Untreated	15	11	3	0.6
Complete*	S20W16	D	1	Lithic 56	D	Galena	Heat Treated	12	10	2	0.3
Complete*	S20W16	D	1	Lithic 57	D	PDC	Untreated	10	10	5	0.5
Complete*	S20W16	D	1	Lithic 58	D	PDC	Untreated	9	7	2	0.2
Broken*	S20W16	D	1	Lithic 59	D	PDC	Untreated		12	4	
Broken*	S20W16	D	1	Lithic 60	D	Galena	Heat Treated		13	3	
Complete*	S20W16	D	1	Lithic 61	D	PDC	Untreated	8	8	2	0.2
Complete*	S20W16	D	1	Lithic 62	D	Galena	Heat Treated	13	7	2	0.1
Broken*	S20W16	D	1	Lithic 63	D	PDC	Heat Treated			1	
Complete*	S20W16	D	1	Lithic 64	D	PDC	Burned	10	9	3	0.3
Complete*	S20W16	D	1	Lithic 65	D	Galena	Untreated	6	15	2	0.2
Complete*	S20W16	D	1	Lithic 66	D	PDC	Untreated	15	17	4	1
Shattter*	S20W9	D	1	12	D	PDC	Untreated				0.1
Complete*	S20W9	D	2	26	D	PDC	Untreated	11	16	3	0.5
Complete*	S20W9	D	2	27	D	PDC	Untreated	11	28	3	0.9
Complete*	S20W9	D	2	32	D	Galena	Untreated	26	13	1	3.2
Complete*	S20W9	D	2	33	D	Galena	Untreated	20	14	4	0.9
Shattter*	S20W9	D	2	35	D	LRC	Untreated				0.2
Shattter*	S20W9	D	3	12	D	LRC	Untreated				0.4
Complete*	S20W9	D	3	13	D	PDC	Untreated	12	12	5	0.5
Complete*	S20W9	D	3	15	D	PDC	Untreated	9	6	3	0.1
Shattter*	S20W9	D	3	23	D	PDC	Burned				15.5
Shattter*	S20W9	D	3	40	D	PDC	Untreated				7.5
Complete*	S20W9	D	4	9	D	PDC	Untreated	41	36	5	12.6
Complete*	S20W9	D	4	16	D	LRC	Untreated	5	4	1	0.05

TABLE D.1: DEBITAGE continued

Shattter*	S20W9		D	4	19	D	PDC	Untreated				0.4
Shattter*	S21W10		D	1	5	D	Galena	Untreated				7.5
Shattter*	S21W10		D	2	1	D	PDC	Burned				5.7
Complete*	S21W10		D	2	2	D	Galena	Burned	8	6	3	0.2
Shattter*	S21W10		D	2	10	D	Galena	Untreated				8.4
Shattter*	S21W10		D	2	10	D	PDC	Untreated				9.2
Broken*	S21W10		D	2	16	D	Galena	Untreated		13	3	
Complete*	S21W10		D	2	21	D	Galena	Untreated	16	7	1	0.2
Complete*	S21W10		D	2	24	D	Galena	Burned	12	15	4	0.6
Shattter*	S21W10		D	2	6	D	PDC	Heat Treated				4.5
Shattter*	S21W10		D	3	3	D	LRC	Untreated				0.3
Shattter*	S21W9		D	1	4	D	PDC	Burned				75.4
Complete*	S21W9		D	1	9	D	PDC	Untreated	12	10	2	0.3
Complete*	S21W9		D	2	2	D	PDC	Burned	36	16	8	4.1
Complete*	S22W13		D	1	29	D	Galena	Untreated	15	11	3	0.5
Complete*	S22W16		D	2	Lithic 1	D & G	Burlington	Heat Treated	20	24	4	1.6
Shattter*	S22W19		D	1	2	D	PDC	Burned	17	16	8	1.8
Shattter*	S22W19		D	1	4	D	PDC	Untreated	32	18	4	3.1
Shattter*	S22W21		D	2	54	D	LRC	Untreated	20	12	10	3.1
Shattter*	S22W21		D	3	12	D	PDC	Untreated	28	27	5	4.5
Complete*	S22W22		D	1	9	D	PDC	Untreated	6	4	3	0.4
Complete	S22W9		D	4	18	D	PDC	Untreated	16	21	3	1.2
Complete*	S23W11		D	1	14	D	PDC	Untreated	26	32	8	7.6
Complete*	S23W13		D	2	9	D	PDC	Untreeated	36	46	12	23
Complete*	S23W13		D	2	Lithic 1	D	PDC	Untreated	19	27	7	3.8
Shattter*	S23W13		D	2	Lithic 2	D	PDC	Untreated				1.5
Shattter*	S23W13		D	3	Lithic 1	D	PDC	Untreated				5

TABLE D.1: DEBITAGE continued

Shattter*	S23W17	D	4	4	D	PDC	Untreated	32	22	20	14
Shattter*	S23W17	D	4	5	D	PDC	Untreated	49	43	14	19.9
Complete*	S24W16	D	1	Lithic 1	D	PDC	Heat Treated	9	12	3	0.2
Complete*	S24W16	D	1	Lithic 2	D	PDC	Untreated	9	9	1	1
Complete*	S24W16	D	1	Lithic 3	D	PDC	Heat Treated	6	7	2	0.1
Broken*	S24W16	D	1	Lithic 4	D	PDC	Burned				<0.1
Broken*	S24W16	D	1	Lithic 5	D	Galena	Heat Treated				0.2
Broken*	S24W16	D	1	Lithic 6	D	PDC	Heat Treated				0.2
Broken*	S24W16	D	1	Lithic 7	D	PDC	Heat Treated				0.1
Broken*	S24W16	D	1	Lithic 8	D	PDC	Heat Treated				0.1
Broken*	S24W16	D	1	Lithic 9	D	Burlington	Heat Treated				0.1
Broken*	S24W16	D	1	Lithic 10	D	PDC	Heat Treated				0.1
Shattter*	S24W16	D	1	Lithic 11	D	PDC	Burned				0.1
Shattter*	S24W16	D	1	Lithic 12	D	PDC	Burned				0.4
Shattter*	S24W16	D	1	Lithic 13	D	PDC	Burned				0.3
Shattter*	S24W16	D	1	Lithic 14	D	PDC	Burned				0.3
Shattter*	S24W16	D	1	Lithic 15	D	Burlington	Burned				0.3
Shattter*	S24W16	D	1	Lithic 16	D	PDC	Burned				0.1
Shattter*	S24W16	D	1	Lithic 17	D	PDC	Burned				0.1
Shattter*	S24W16	D	1	Lithic 18	D	PDC	Heat Treated				0.2
Shattter*	S24W16	D	1	Lithic 19	D	PDC	Heat Treated				0.1
Shattter*	S24W16	D	1	Lithic 20	D	PDC	Heat Treated				0.2
Shattter*	S24W16	D	1	Lithic 21	D	PDC	Heat Treated				0.3
Shattter*	S24W16	D	1	Lithic 22	D	PDC	Heat Treated				0.1
Shattter*	S24W16	D	1	Lithic 23	D	PDC	Heat Treated				0.2
Shattter*	S24W16	D	1	Lithic 24	D	PDC	Heat Treated				0.4
Shattter*	S24W16	D	1	Lithic 25	D	PDC	Heat Treated				0.2

TABLE D.1: DEBITAGE continued

Shattter*	S24W16	D	1	Lithic 26	D	PDC	Heat Treated				0.3
Shattter*	S24W16	D	1	Lithic 27	D	PDC	Burned				0.5
Shattter*	S24W16	D	1	Lithic 28	D	PDC	Heat Treated				0.2
Shattter*	S24W16	D	1	Lithic 29	D	PDC	Burned				0.2
Shattter*	S24W16	D	1	Lithic 30	D	PDC	Heat Treated				0.2
Shattter*	S24W16	D	1	Lithic 31	D	PDC	Heat Treated				0.1
Shattter*	S24W16	D	1	Lithic 32	D	PDC	Heat Treated				0.1
Shattter*	S24W16	D	1	Lithic 33	D	PDC	Heat Treated				0.1
Shattter*	S24W16	D	1	Lithic 34	D	PDC	Untreated				0.2
Shattter*	S24W16	D	1	Lithic 35	D	PDC	Untreated				0.2
Shattter*	S24W16	D	1	Lithic 36	D	LRC	Untreated				0.2
Shattter*	S24W16	D	1	Lithic 37	D	LRC	Untreated				0.3
Shattter*	S24W16	D	1	Lithic 38	D	LRC	Untreated				0.1
Broken*	S24W16	D	2	Lithic 1	H	PDC	Burned				8.7
Broken*	S24W16	D		Lithic 1	D	PDC	Heat Tretaed				0.7
Shattter*	S24W16	D		Lithic 2	D	LRC	Heat Tretaed				14.8
Shattter*	S23W17	DB	4	3	D	PDC	Untreated	18	15	4.5	1.1
Shattter*	S23W17	DB	5	3	D	PDC	Untreated	32	26	14	14.3
Complete*	S17W19	DX	1	2	D	PDC	Untreated	18	25	7	2.4
Complete*	S17W19	DX	1	6	D	PDC	Untreated	14	10	1	0.2
Complete*	S18W20	DX	3	Lithic 1	D	PDC	Untreated	12	13	1	0.2
Shattter*	S18W20	DX	4	Lithic 1	D	PDC	Burned				0.7
Shattter*	S18W20	DX	4	Lithic 2	D	PDC	Burned				0.8
Shattter*	S18W20	DX	4	Lithic 3	D	PDC	Untreated				0.3
Shattter*	S18W20	DX	4	Lithic 4	D	PDC	Burned				0.4
Complete*	S16W10	E	3	Lithic 1	E	Burlington	Heat Treated	11	8	3	0.3
Shattter*	S16W10	E	4	Lithic 1	E	PDC	Untreated				0.3

TABLE D.1: DEBITAGE continued

Shattter*	S16W10	E	4	Lithic 2	E	LRC	Burned				0.7
Shattter*	S16W10	E	4	Lithic 3	E	PDC	Untreated				0.5
Complete*	S16W10	E	7	1	E	PDC	Untreated	26	27	3	2.5
Shattter*	S16W10	E	8	7	E	PDC	Untreated	43	35	13	11.8
Complete*	S16W10	E	8	Lithic 1	E	PDC	Untreated	14	9	3	0.4
Shattter*	S16W10	E	8	Lithic 2	E	PDC	Untreated				0.1
Shattter*	S16W10	E	10	12	E	PDC	Untreated	13	12	4	0.6
Shattter*	S16W10	E	10	Lithic 1	E	PDC	Burned				0.4
Broken*	S16W10	E	13	Lithic 1	E	PDC	Burned		10	1	0.1
Complete*	S16W10	E	16	4	L	Galena	Untreated	13	13	1	0.3
Shattter*	S16W10	E	16	Lithic 1	L	PDC	Burned				0.1
Shattter*	S16W10	E	16	Lithic 2	L	PDC	Untreated				0.2
Shattter*	S16W10	E	16	Lithic 3	L	PDC	Burned				0.2
Shattter*	S16W10	E	17	9	L	PDC	Untreated	13	10	2	0.2
Complete*	S16W10	E	17	11	L	PDC	Untreated	35	21	8	4.6
Shattter*	S16W10	E	18	17	L	PDC	Untreated	36	26	7	7.4
Shattter*	S16W10	E	18	Lithic 1	L	LRC	Heat Treated				0.4
Shattter*	S16W10	E	19	12	L	PDC	Untreated	32	27	9	8.5
Complete*	S18W10	E	1	Lithic 1	H, I & Fea 32	PDC	Untreated	10	11	3	0.4
Complete*	S18W10	E	1	Lithic 2	H, I & Fea 32	PDC	Untreated	15	10	4	0.6
Broken*	S18W10	E	1	Lithic 3	H, I & Fea 32	PDC	Untreated				0.05
Shattter*	S18W10	E	1	Lithic 4	H, I & Fea 32	Burlington	Burned				0.3
Shattter*	S18W10	E	1	Lithic 5	H, I & Fea 32	PDC	Burned				0.2
Shattter*	S18W10	E	1	Lithic 6	H, I & Fea 32	PDC	Untreated				0.7
Shattter*	S18W10	E	1	Lithic 7	H, I & Fea 32	PDC	Heat Treated				2.7
Shattter*	S18W10	E	1	Lithic 8	H, I & Fea 32	PDC	Heat Treated				0.6
Shattter*	S18W10	E	1	Lithic 9	H, I & Fea 32	Burlington	Heat Treated				0.2

TABLE D.1: DEBITAGE continued

Shattter*	S18W10		E	1	Lithic 10	H, I & Fea 32	PDC	Burned				0.8
Complete*	S18W10		E	1	Lithic 11	H, I & Fea 32	PDC	Heat Treated	23	21	3	1.5
Complete*	S18W10		E	1	Lithic 12	H, I & Fea 32	PDC	Heat Treated	16	16	3	0.7
Shattter*	S18W10		E	1	Lithic 13	H, I & Fea 32	PDC	Burned				0.9
Shattter*	S18W10		E	1	Lithic 14	.H, I & Fea 32	PDC	Burned				0.2
Shattter*	S18W10		E	1	Lithic 15	H, I & Fea 32	PDC	Untreated				0.2
Shattter*	S18W10		E	1	Lithic 16	H, I & Fea 32	LRC	Heat Treated				0.4
Complete*	S18W10		E	1	Lithic 17	H, I & Fea 32	PDC	Heat Treated	9	11	3	0.1
Broken*	S18W10		E	1	Lithic 18	H, I & Fea 32	PDC	Heat Treated				0.2
Broken*	S18W10		E	1	Lithic 19	H, I & Fea 32	Burlington	Heat Treated				0.1
Broken*	S18W10		E	1	Lithic 20	H, I & Fea 32	Burlington	Heat Treated				0.2
Shattter*	S18W10		E	1	Lithic 21	H, I & Fea 32	PDC	Burned				0.4
Shattter*	S18W10		E	1	Lithic 22	H, I & Fea 32	PDC	Burned				0.6
Shattter*	S18W10		E	1	Lithic 23	H, I & Fea 32	PDC	Burned				0.3
Shattter*	S18W10		E	1	Lithic 24	H, I & Fea 32	PDC	Burned				0.4
Shattter*	S18W10		E	1	Lithic 25	H, I & Fea 32	PDC	Heat Treated				0.2
Shattter*	S18W10		E	1	Lithic 26	H, I & Fea 32	PDC	Heat Treated				0.4
Shattter*	S18W10		E	1	Lithic 27	H, I & Fea 32	PDC	Heat Treated				0.6
Shattter*	S18W10		E	1	Lithic 28	H, I & Fea 32	LRC	Untreated				0.5
Broken*	S18W10		E	1	Lithic 29	H, I & Fea 32	PDC	Heat Treated				0.5
Shattter*	S18W10		E	1	Lithic 30	H, I & Fea 32	PDC	Burned				14.8
Shattter*	S18W10		E	1	Lithic 31	H, I & Fea 32	PDC	Burned				0.7
Shattter*	S18W10		E	1	Lithic 32	H, I & Fea 32	PDC	Heat Treated				0.5
Complete*	S18W10		E	2	Lithic 1	H, I & Fea 32	PDC	Heat Treated	18	23	3	0.8
Broken*	S18W10		E	2	Lithic 2	H, I & Fea 32	PDC	Burned				1
Shattter*	S18W10		E		Lithic 1	H, I & Fea 32	PDC	Untreated				0.5
Broken*	S18W14		E	1	Lithic 1	H, I, J & K	PDC	Heat Treated				1

TABLE D.1: DEBITAGE continued

Shattter*	S18W14	E	1	Lithic 2	H, I, J & K	PDC	Heat Treated				0.5
Complete*	S18W14	E	1	Lithic 3	H, I, J & K	Burlington	Heat Treated	13	13	5	0.7
Complete*	S18W14	E	1	Lithic 4	H, I, J & K	PDC	Heat Treated	8	10	2	0.2
Complete*	S18W14	E	1	Lithic 5	H, I, J & K	PDC	Heat Treated	7	10	3	0.2
Complete*	S18W14	E	1	Lithic 6	H, I, J & K	PDC	Heat Treated	10	13	2	0.2
Complete*	S18W14	E	1	Lithic 7	H, I, J & K	PDC	Untreated	12	14	2	0.2
Complete*	S18W14	E	1	Lithic 8	H, I, J & K	Burlington	Heat Treated	6	8	2	0.1
Complete*	S18W14	E	1	Lithic 9	H, I, J & K	PDC	Untreated	13	11	2	0.3
Broken*	S18W14	E	1	Lithic 10	H, I, J & K	PDC	Burned				0.8
Broken*	S18W14	E	1	Lithic 11	H, I, J & K	PDC	Heat Treated				0.5
Broken*	S18W14	E	1	Lithic 12	H, I, J & K	PDC	Heat Treated				0.4
Broken*	S18W14	E	1	Lithic 13	H, I, J & K	PDC	Heat Treated				0.2
Broken*	S18W14	E	1	Lithic 14	H, I, J & K	PDC	Heat Treated				0.1
Broken*	S18W14	E	1	Lithic 15	H, I, J & K	PDC	Untreated				0.3
Broken*	S18W14	E	1	Lithic 16	H, I, J & K	PDC	Untreated				0.2
Shattter*	S18W14	E	1	Lithic 17	H, I, J & K	PDC	Burned				0.5
Shattter*	S18W14	E	1	Lithic 18	H, I, J & K	PDC	Heat Treated				0.4
Shattter*	S18W14	E	1	Lithic 19	H, I, J & K	PDC	Burned				0.3
Shattter*	S18W14	E	1	Lithic 20	H, I, J & K	PDC	Burned				0.3
Shattter*	S18W14	E	1	Lithic 21	H, I, J & K	PDC	Heat Treated				0.3
Shattter*	S18W14	E	1	Lithic 22	H, I, J & K	PDC	Heat Treated				0.1
Shattter*	S18W14	E	1	Lithic 23	H, I, J & K	PDC	Heat Treated				0.1
Complete*	S18W14	E	1	Lithic 25	H, I, J & K	PDC	Heat Treated	21	15	3	0.5
Complete*	S18W14	E	1	Lithic 26	H, I, J & K	PDC	Heat Treated	11	11	2	0.2
Complete*	S18W14	E	1	Lithic 27	H, I, J & K	PDC	Heat Treated	11	14	3	0.3
Complete*	S18W14	E	1	Lithic 28	H, I, J & K	PDC	Heat Treated	15	13	4	0.6
Complete*	S18W14	E	1	Lithic 29	H, I, J & K	PDC	Untreated	9	11	2	0.2

TABLE D.1: DEBITAGE continued

Complete*	S18W14	E	1	Lithic 30	H, I, J & K	PDC	Heat Treated	9	7	2	0.2
Complete*	S18W14	E	1	Lithic 31	H, I, J & K	Burlington	Heat Treated	6	8	2	0.1
Broken*	S18W14	E	1	Lithic 32	H, I, J & K	PDC	Heat Treated				0.8
Broken*	S18W14	E	1	Lithic 33	H, I, J & K	PDC	Heat Treated				0.4
Broken*	S18W14	E	1	Lithic 34	H, I, J & K	PDC	Untreated				0.8
Broken*	S18W14	E	1	Lithic 35	H, I, J & K	PDC	Untreated				0.4
Broken*	S18W14	E	1	Lithic 36	H, I, J & K	PDC	Heat Treated				0.6
Broken*	S18W14	E	1	Lithic 37	H, I, J & K	PDC	Heat Treated				0.1
Broken*	S18W14	E	1	Lithic 38	H, I, J & K	Galena	Untreated				0.1
Broken*	S18W14	E	1	Lithic 39	H, I, J & K	Galena	Untreated				0.2
Broken*	S18W14	E	1	Lithic 40	H, I, J & K	Burlington	Heat Treated				0.2
Broken*	S18W14	E	1	Lithic 41	H, I, J & K	PDC	Burned				0.3
Broken*	S18W14	E	1	Lithic 42	H, I, J & K	PDC	Heat Treated				0.1
Broken*	S18W14	E	1	Lithic 43	H, I, J & K	PDC	Untreated				0.1
Broken*	S18W14	E	1	Lithic 44	H, I, J & K	PDC	Heat Treated				0.3
Broken*	S18W14	E	1	Lithic 45	H, I, J & K	PDC	Burned				0.1
Broken*	S18W14	E	1	Lithic 46	H, I, J & K	PDC	Heat Treated				0.1
Broken*	S18W14	E	1	Lithic 47	H, I, J & K	PDC	Heat Treated				0.1
Broken*	S18W14	E	1	Lithic 48	H, I, J & K	PDC	Heat Treated				0.1
Broken*	S18W14	E	1	Lithic 49	H, I, J & K	PDC	Burned				0.2
Complete*	S18W14	E	1	Lithic 50	H, I, J & K	PDC	Heat Treated	10	18	2	0.4
Broken*	S18W14	E	1	Lithic 51	H, I, J & K	PDC	Untreated				0.3
Broken*	S18W14	E	1	Lithic 52	H, I, J & K	PDC	Untreated				0.4
Broken*	S18W14	E	1	Lithic 53	H, I, J & K	PDC	Heat Treated				0.3
Broken*	S18W14	E	1	Lithic 54	H, I, J & K	PDC	Untreated				0.2
Broken*	S18W14	E	1	Lithic 55	H, I, J & K	PDC	Heat Treated				0.2
Broken*	S18W14	E	1	Lithic 56	H, I, J & K	PDC	Untreated				0.3

TABLE D.1: DEBITAGE continued

Broken*	S18W14		E	1	Lithic 57	H, I, J & K	PDC	Heat Treated				0.2
Broken*	S18W14		E	1	Lithic 58	H, I, J & K	PDC	Untreated				0.2
Broken*	S18W14		E	1	Lithic 59	H, I, J & K	PDC	Heat Treated				0.2
Broken*	S18W14		E	1	Lithic 60	H, I, J & K	Burlington	Heat Treated				0.2
Broken*	S18W14		E	1	Lithic 61	H, I, J & K	PDC	Heat Treated				0.1
Broken*	S18W14		E	1	Lithic 62	H, I, J & K	PDC	Burned				0.2
Broken*	S18W14		E	1	Lithic 63	H, I, J & K	PDC	Untreated				0.1
Broken*	S18W14		E	1	Lithic 64	H, I, J & K	PDC	Untreated				0.1
Broken*	S18W14		E	1	Lithic 65	H, I, J & K	PDC	Untreated				0.1
Broken*	S18W14		E	1	Lithic 66	H, I, J & K	PDC	Heat Treated				0.1
Broken*	S18W14		E	1	Lithic 67	H, I, J & K	PDC	Heat Treated				0.1
Broken*	S18W14		E	1	Lithic 68	H, I, J & K	PDC	Heat Treated				0.1
Broken*	S18W14		E	1	Lithic 69	H, I, J & K	PDC	Heat Treated				0.1
Shattter*	S18W14		E	1	Lithic 70	H, I, J & K	PDC	Burned				0.8
Shattter*	S18W14		E	1	Lithic 71	H, I, J & K	PDC	Heat Treated				0.7
Shattter*	S18W14		E	1	Lithic 72	H, I, J & K	PDC	Burned				0.5
Shattter*	S18W14		E	1	Lithic 73	H, I, J & K	Burlington	Burned				0.7
Shattter*	S18W14		E	1	Lithic 74	H, I, J & K	PDC	Burned				0.6
Shattter*	S18W14		E	1	Lithic 75	H, I, J & K	PDC	Heat Treated				0.3
Shattter*	S18W14		E	1	Lithic 76	H, I, J & K	PDC	Heat Treated				0.7
Shattter*	S18W14		E	1	Lithic 77	H, I, J & K	PDC	Burned				0.7
Shattter*	S18W14		E	1	Lithic 78	H, I, J & K	Galena	Burned				0.6
Shattter*	S18W14		E	1	Lithic 79	H, I, J & K	PDC	Burned				0.5
Shattter*	S18W14		E	1	Lithic 80	H, I, J & K	PDC	Heat Treated				0.4
Shattter*	S18W14		E	1	Lithic 81	H, I, J & K	PDC	Burned				0.5
Shattter*	S18W14		E	1	Lithic 82	H, I, J & K	PDC	Untreated				0.4
Shattter*	S18W14		E	1	Lithic 83	H, I, J & K	PDC	Heat Treated				0.4

TABLE D.1: DEBITAGE continued

Shattter*	S18W14	E	1	Lithic 84	H, I, J & K	PDC	Heat Treated	0.4
Shattter*	S18W14	E	1	Lithic 85	H, I, J & K	PDC	Heat Treated	0.5
Shattter*	S18W14	E	1	Lithic 86	H, I, J & K	PDC	Burned	0.3
Shattter*	S18W14	E	1	Lithic 87	H, I, J & K	PDC	Heat Treated	0.5
Shattter*	S18W14	E	1	Lithic 88	H, I, J & K	PDC	Heat Treated	0.2
Shattter*	S18W14	E	1	Lithic 89	H, I, J & K	PDC	Heat Treated	0.3
Shattter*	S18W14	E	1	Lithic 91	H, I, J & K	PDC	Heat Treated	0.3
Shattter*	S18W14	E	1	Lithic 92	H, I, J & K	PDC	Heat Treated	0.3
Shattter*	S18W14	E	1	Lithic 93	H, I, J & K	PDC	Heat Treated	0.2
Shattter*	S18W14	E	1	Lithic 94	H, I, J & K	PDC	Burned	0.1
Shattter*	S18W14	E	1	Lithic 95	H, I, J & K	PDC	Heat Treated	0.2
Shattter*	S18W14	E	1	Lithic 96	H, I, J & K	Burlington	Heat Treated	0.2
Shattter*	S18W14	E	1	Lithic 97	H, I, J & K	Burlington	Heat Treated	0.1
Shattter*	S18W14	E	1	Lithic 98	H, I, J & K	PDC	Heat Treated	0.2
Shattter*	S18W14	E	1	Lithic 99	H, I, J & K	Burlington	Heat Treated	0.2
Shattter*	S18W14	E	1	Lithic 100	H, I, J & K	PDC	Burned	0.2
Shattter*	S18W14	E	1	Lithic 101	H, I, J & K	Galena	Heat Treated	0.3
Shattter*	S18W14	E	1	Lithic 102	H, I, J & K	PDC	Heat Treated	0.2
Shattter*	S18W14	E	1	Lithic 103	H, I, J & K	PDC	Untreated	0.2
Shattter*	S18W14	E	1	Lithic 104	H, I, J & K	PDC	Burned	0.2
Shattter*	S18W14	E	1	Lithic 105	H, I, J & K	Burlington	Burned	0.1
Shattter*	S18W14	E	1	Lithic 106	H, I, J & K	PDC	Heat Treated	0.3
Shattter*	S18W14	E	1	Lithic 107	H, I, J & K	PDC	Heat Treated	0.1
Shattter*	S18W14	E	1	Lithic 108	H, I, J & K	PDC	Untreated	0.2
Shattter*	S18W14	E	1	Lithic 109	H, I, J & K	PDC	Burned	0.2
Shattter*	S18W14	E	1	Lithic 110	H, I, J & K	PDC	Burned	0.2
Shattter*	S18W14	E	1	Lithic 111	H, I, J & K	PDC	Burned	0.1

TABLE D.1: DEBITAGE continued

Shattter*	S18W14	E	1	Lithic 112	H, I, J & K	PDC	Burned				0.1
Shattter*	S18W14	E	1	Lithic 117	H, I, J & K	PDC	Heat Treated				0.6
Complete*	S18W14	E	1	Lithic 120	H, I, J & K	PDC	Heat Treated	6	11	2	0.1
Broken*	S18W14	E	1	Lithic 121	H, I, J & K	PDC	Heat Treated				<0.1
Shattter*	S18W14	E	1	Lithic 122	H, I, J & K	PDC	Burned				0.6
Shattter*	S18W14	E	1	Lithic 123	H, I, J & K	PDC	Burned				0.2
Shattter*	S18W14	E	1	Lithic 124	H, I, J & K	PDC	Burned				0.2
Shattter*	S18W14	E	1	Lithic 125	H, I, J & K	PDC	Burned				0.2
Shattter*	S18W14	E	1	Lithic 126	H, I, J & K	PDC	Burned				0.1
Shattter*	S18W14	E	1	Lithic 127	H, I, J & K	PDC	Heat Treated				0.5
Shattter*	S18W14	E	1	Lithic 128	H, I, J & K	PDC	Heat Treated				0.3
Shattter*	S18W14	E	1	Lithic 129	H, I, J & K	PDC	Heat Treated				0.1
Shattter*	S18W14	E	1	Lithic 130	H, I, J & K	PDC	Untreated				0.4
Shattter*	S18W14	E	1	Lithic 131	H, I, J & K	Galena	Heat Treated				0.1
Shattter*	S18W14	E	1	Lithic 132	H, I, J & K	PDC	Heat Treated				0.3
Shattter*	S18W14	E	1	Lithic 133	H, I, J & K	PDC	Heat Treated				0.1
Shattter*	S18W14	E	1	Lithic 134	H, I, J & K	PDC	Untreated				0.2
Shattter*	S18W14	E	1	Lithic 135	H, I, J & K	PDC	Untreated				0.3
Shattter*	S18W14	E	1	Lithic 136	H, I, J & K	PDC	Heat Treated				0.2
Shattter*	S18W14	E	1	Lithic 137	H, I, J & K	LRC	Heat Treated				0.3
Shattter*	S18W14	E	1	Lithic 138	H, I, J & K	LRC	Heat Treated				0.3
Shattter*	S18W14	E	1	Lithic 139	H, I, J & K	LRC	Heat Treated				0.4
Complete*	S18W16	E	1	Lithic 1	L	PDC	Heat Treated	13	16	3	0.5
Shattter*	S18W16	E	1	Lithic 2	L	PDC	Heat Treated				0.9
Shattter*	S18W16	E	1	Lithic 3	L	PDC	Heat Treated				0.3
Shattter*	S18W16	E	1	Lithic 4	L	PDC	Heat Treated				1.2
Shattter*	S18W18	E	1	Lithic 1	E	PDC	Heat Treated				4

TABLE D.1: DEBITAGE continued

Shattter	S18W8	E	1	Lithic 1	E	PDC	Burned				0.3
Shattter	S18W8	E	1	Lithic 2	E	PDC	Untreated				0.8
Shattter	S18W8	E	1	Lithic 3	E	PDC	Heat Treated				0.1
Complete*	S19W11	E	1	24	E	Galena	Untreated	16	18	5	1.5
Broken*	S19W11	E	1	180	E	PDC	Burned		22	4	
Complete*	S19W11	E	1	185	E	PDC	Untreated	10	17	3	0.6
Shattter*	S19W11	E	2	28	E	PDC	Untreated				10.2
Shattter*	S19W11	E	2	35	E	PDC	Untreated				3.5
Complete*	S19W11	E	2	38	E	Galena	Untreated	19	19	3	1.2
Complete*	S19W11	E	2	29	E	Galena	Burned	40	33	8	5.2
Complete*	S19W12	E	1	4	E	PDC	Untreated	15	23	5	1.3
Complete*	S19W12	E	1	4	E	PDC	Untreated	16	19	3	0.7
Broken*	S19W12	E	1	4	E	PDC	Untreated	15	17	5	1
Complete*	S19W12	E	1	4	E	PDC	Untreated	16	9	1	0.3
Shattter*	S19W12	E	1	24	E	PDC	Untreated	7	5	1	0.1
Broken*	S19W12	E	1	39	E	PDC	Untreated	18	9	7	1.2
Complete*	S19W12	E	1	106	E	Galena	Untreated	13	3	3	0.4
Complete*	S19W12	E	1	120	E	PDC	Burned	11	5	1	0.1
Shattter*	S19W12	E	1	152	E	PDC	Untreated	16	7	5	0.7
Complete*	S19W12	E	1	154	E	PDC	Untreated	14	6	1	0.1
Complete*	S19W12	E	1	183	E	PDC	Untreated	9	7	2	0.1
Complete*	S19W12	E	2	7	E	PDC	Untreated	15	9	3	0.4
Complete*	S19W12	E	2	14	E	PDC	Untreated	10	30	4	0.8
Complete*	S19W12	E	2	24	E	PDC	Untreated	6	13	4	0.3
Complete*	S19W12	E	2	24	E	PDC	Untreated	8	10	2	0.2
Shattter*	S19W12	E	2	4	E	Burlington	Heat Treated				0.5
Complete*	S19W12	E	3	2	E	PDC	Burned	15	14	4	0.6

TABLE D.1: DEBITAGE continued

Complete*	S19W12	E	3	11	E	Galena	Untreated	24	15	6	2.8
Shattter*	S19W12	E	4	4	E	PDC	Untreated	22	14	8	3
Broken*	S19W17	E	1	6	E	PDC	Untreated		16	1	
Broken*	S19W17	E	1	7	E	PDC	Untreated			2	
Shattter*	S19W17	E	1	14	E	PDC	Untreated				0.2
Complete*	S19W17	E	1	20	E	Galena	Untreated	13	11	1	0.2
Broken*	S19W17	E	2	9	E	PDC	Untreated	13	11	4	
Shattter*	S19W17	E	2	20	E	Galena	Untreated				4
Shattter*	S19W17	E	2	26	E	PDC	Untreated				6.4
Complete*	S19W17	E	2	29	E	Galena	Untreated	33	41	11	7.3
Complete*	S19W17	E	4	12	E	PDC	Untreated	9	12	2	0.2
Broken*	S19W17	E	5	3	E	PDC	Heat Treated		31	9	5.4
Complete*	S19W17	E	7	3	E	Galena	Untreated	17	17	5	1.5
Complete*	S19W17	E	7	6	E	PDC	Untreated	10	13	1	0.2
Broken*	S19W17	E	7	7	E	PDC	Untreated	12	11		
Shattter*	S20W10	E	2	2	E	PDC	Heat Treated				12.4
Broken*	S20W11	E	2	1	E	PDC	Untreated		15	2	
Shattter*	S20W11	E	3	2	E	Galena	Burned				4.3
Complete*	S20W12	E	1	7	E	Galena	Heat Treated	16	16	4	0.7
Shattter*	S20W12	E	2	Lithic 1	E	PDC	Burned				4.9
Complete*	S20W13	E	1	3	E	PDC	Burned	14	12	3	0.5
Complete*	S21W10	E	2	5	E	PDC	Burned	12	13	2	0.3
Shattter*	S21W11	E	1	2	E	Galena	Burned				1.6
Broken*	S21W11	E	2	2	E	PDC	Untreated		12	2	
Shattter*	S21W11	E	2	2	E	PDC	Burned				2.4
Complete*	S21W11	E	2	Lithic 1	E	PDC	Untreated	9	11	2	0.3
Complete*	S21W11	E	3	3	E	Galena	Untreated	14	19	3	0.7

TABLE D.1: DEBITAGE continued

Complete*	S21W11	E	4	1	E	PDC	Untreated	21	17	3	0.8
Broken*	S21W11	E	4	5	E	PDC	Untreated	21			3
Complete*	S21W12	E	1	2	E	PDC	Untreated	49	38	13	25.3
Shattter*	S21W12	E	1	7	E	PDC	Untreated				0.4
Shattter*	S21W12	E	1	8	E	Galena	Untreated				0.3
Shattter*	S21W12	E	1	13	E	LRC	Untreated				0.5
Complete*	S21W12	E	1	14	E	PDC	Untreated	24	16	4	1.3
Shattter*	S21W12	E	4	17	E	PDC	Untreated				0.5
Complete*	S21W12	E	4	32	E	PDC	Burned	20	18	5	1.9
Shattter*	S21W13	E	1	Lithic 1	E	PDC	Heat Treated				1.7
Shattter*	S21W13	E	1	13	E	LRC	Untreated				21.1
Complete*	S22W11	E	2	4	E	PDC	Untreated	18	30	5	3
Complete*	S22W11	E	4	1	E	PDC	Untreated	18	16	3	0.7
Complete*	S22W11	E	4	19	E	PDC	Untreated	19	13	4	0.9
Complete*	S22W11	E	5	25	E	PDC	Untreated	14	19	2	0.6
Shattter*	S22W11	E	6	3	E	Galena	Untreated				8
Shattter*	S22W11	E	6	4	E	PDC	Untreated				2.4
Complete*	S22W12	E	3	15	E	PDC	Untreated	17	21	2	1
Complete*	S22W12	E	3	28	E	PDC	Untreated	32	45	15	22.7
Shattter*	S22W12	E	3	99	E	PDC	Untreated				0.8
Shattter*	S22W12	E	4	6	E	PDC	Untreated				12.2
Broken*	S22W12	E	4	40	E	PDC	Untreated	14	14	2	
Shattter*	S22W12	E	5	1	E	PDC	Untreated				12.1
Complete*	S22W12	E	6	3	E	PDC	Untreated	17	17	2	0.6
Complete*	S22W13	E	1	Lithic 1	E	Burlington	Untreated	19	30	6	2.2
Complete*	S22W16	E	2	Lithic 1	H & I	Burlington	Heat Treated	17	11	2	0.5
Broken*	S22W16	E	2	Lithic 2	H & I	Galena	Heat Treated				1.5

TABLE D.1: DEBITAGE continued

Complete*	S22W18	E	3	8	E	PDC	Untreated	12	19	2	0.7
Complete*	S22W18	E	3	11	E	PDC	Untreated	17	22	5	2
Complete*	S22W19	E	3	7	E	PDC	Untreated	13	11	1	0.3
Complete*	S22W22	E	5	3	E	PDC	Untreated	10	9	2	0.2
Broken*	S23W12	E	2	26	E	PDC	Untreated		19	7	4.4
Complete*	S23W13	E	1	65	E	PDC	Untreeated	18	13	2	0.5
Complete*	S23W13	E	2	Lithic 1	E	Burlington	Untreated	20	11	3	0.6
Shatter*	S23W17	E	1	6	E	LRC	Untreated	26	31	15	11.1
Complete*	S24W16	E	1	Lithic 1	I	PDC	Heat Treated	12	10	2	0.2
Complete*	S24W16	E	1	Lithic 2	I	PDC	Heat Treated	11	7	1	<0.1
Broken*	S24W16	E	1	Lithic 3	I	PDC	Heat Treated				0.1
Broken*	S24W16	E	1	Lithic 4	I	PDC	Heat Treated				0.2
Shattter*	S24W16	E	1	Lithic 5	I	PDC	Burned				0.2
Shattter*	S24W16	E	1	Lithic 6	I	PDC	Heat Treated				0.2
Shattter*	S24W16	E	1	Lithic 7	I	PDC	Heat Treated				0.4
Shattter*	S24W16	E	1	Lithic 8	I	PDC	Heat Treated				0.1
Shattter*	S24W16	E	1	Lithic 9	I	PDC	Heat Treated				0.1
Shattter*	S24W16	E	1	Lithic 10	I	PDC	Heat Treated				0.1
Shattter*	S24W16	E	1	Lithic 11	I	PDC	Heat Treated				0.2
Shattter*	S22W22	EA	1	Lithic 1	E	Galena	Heat Treated				1.5
Complete*	S23W13	EA	97		E	PDC	Untreeated	18	25	5	1.6
Shattter*	S22W19	EB	2	1	E	PDC	Untreated	31	20	12	6
Shattter*	S22W21	EB	1	6	E	Galena	Untreated	20	10	6	2
Shattter*	S22W21	EB	1	7	E	PDC	Untreated	16	10	3	0.5
Complete*	S22W22	EB	1	1	E	PDC	Untreated	16	12	3	1.2
Shattter*	S22W22	EB	5	Lithic 1	E	LRC	Heat Treated				0.3
Shattter*	S22W22	EB	5	Lithic 2	E	LRC	Heat Treated				0.2

TABLE D.1: DEBITAGE continued

Shattter*	S22W22	EB	5	Lithic 6	E	LRC	Heat Treated				0.4
Shattter*	S22W22	EB	5	Lithic 7	E	LRC	Burned				0.4
Shattter*	S22W22	EB	5	Lithic 8	E	LRC	Heat Treated				0.5
Shattter*	S22W22	EB	5	Lithic 11	E	LRC	Burned				0.3
Shattter*	S22W22	EB	5	Lithic 14	E	LRC	Untreated				1.4
Shattter*	S22W22	EB	1 & 2	Lithic 1	E	LRC	Burned				0.5
Shattter*	S22W22	EB	3 & 4	Lithic 1	E	Galena	Burned				0.1
Shattter*	S22W22	EB	3 & 4	Lithic 2	E	LRC	Heat Treated				0.5
Shattter*	S22W22	EB	3 & 4	Lithic 3	E	LRC	Heat Treated				0.5
Shattter*	S22W22	EB	3 & 4	Lithic 4	E	LRC	Heat Treated				0.3
Shattter*	S22W22	EB	3 & 4	Lithic 5	E	LRC	Heat Treated				<0.1
Shattter*	S22W22	EB	3 & 4	Lithic 6	E	LRC	Untreated				1.7
Broken*	S23W12	EB	1	8	E	PDC	Untreated		17	2	0.4
Complete*	S23W13	EB	1	45	E	PDC	Untreeated	20	18	3	1.5
Shattter*	S23W13	EB	2	15	E	PDC	Untreeated	30	24	18	13.4
Complete*	S23W13	EB	2	20	E	PDC	Untreeated	17	35	7	4.6
Shattter*	S23W13	EB	3	7	E	PDC	Untreeated	43	31	23	28.9
Shattter*	S23W13	EB	3	54	E	PDC	Untreeated	18	9	4	0.7
Shattter*	S23W13	EB	3	Lithic 1	E	PDC	Untreated				4.7
Complete*	S22W19	EC	1	3	H	Galena	Untreated	19	29	4	2
Complete*	S22W22	EC	2	1	E	PDC	Heat Treated	24	21	5	1.7
Shattter*	S23W13	EC	1	Lithic 1	E	PDC	Untreated				2.1
Shattter*	S23W13	EC	1	Lithic 2	E	PDC	Burned				1.9
Broken*	S23W11	ECX		Lithic 1	E	PDC	Heat Treated	31		8	
Complete*	S22W19	ED	1	14	H	PDC	Untreated	28	17	2	1.1
Complete*	S22W22	ED	1	Lithic 1	H	PDC	Untreated	16	18	4	0.7
Complete*	S22W22	ED	1	Lithic 2	H	PDC	Heat Treated	20	17	4	1

TABLE D.1: DEBITAGE continued

Broken*	S22W22	ED	1	Lithic 3	H	PDC	Heat Treated				2
Broken*	S22W22	ED	1	Lithic 4	H	PDC	Untreated				0.8
Shattter*	S22W22	ED	1	Lithic 5	H	PDC	Heat Treated				0.7
Shattter*	S22W22	ED	1	Lithic 1	H	PDC	Heat Treated				0.5
Broken*	S22W22	ED	1	3	H	Galena	Heat Treated				0.9
Broken*	S23W13	ED	1	16	E	LRC	Untreeated	12	19	3	0.7
Complete*	S20W13	EE	1	61	E	PDC	Untreated	15	20	2	0.7
Broken*	S22W22	EE	1	Lithic 1	H	PDC	Untreated				0.2
Broken*	S22W22	EE	1	Lithic 2	H	PDC	Heat Treated				0.4
Shattter*	S22W22	EE	1	Lithic 3	H	Burlington	Heat Treated				0.4
Shattter*	S22W22	EE	1	Lithic 4	H	PDC	Heat Treated				0.4
Shattter*	S23W12	EE	2	4	E	PDC	Untreated	30	28	9	10.8
Complete*	S23W12	EE	2	41	E	PDC	Untreated	19	10	2	0.4
Complete*	S23W13	EE	1	52	E	PDC	Untreeated	23	32	6	3.7
Complete*	S23W13	EE	1	68	E	PDC	Untreeated	47	32	11	18.2
Complete*	S23W13	EE	1	71	E	PDC	Untreeated	12	16	4	0.7
Shattter*	S22W13	EF	1	10	E	PDC	Burned				5.1
Shattter*	S22W22	EF	1	Lithic 1	I	Heat Treated	PDC				4.2
Shattter*	S22W22	EF	1	Lithic 2	I	Heat Treated	PDC				0.3
Shattter*	S22W22	EF	1	Lithic 3	I	Heat Treated	PDC				0.7
Broken*	S22W22	EF	1	Lithic 4	I	Heat Treated	Galena				0.5
Shattter*	S22W22	EF	3	Lithic 1	I	PDC	Heat Treated				1.7
Shattter*	S22W22	EF	3	Lithic 2	I	PDC	Heat Treated				0.4
Shattter*	S23W13	EF	1	1	E	PDC	Untreeated	81	59	25	114.1
Shattter*	S23W13	EF	3	1	E	PDC	Burned	22	17	17	8.5
Complete*	S22W18	EG	1	4	E	PDC	Untreated	26	21	13	9.9
Shattter*	S22W19	EG	1	11	J	Galena	Untreated	25	13	5	1.3

TABLE D.1: DEBITAGE continued

Complete*	S22W19	EG	2	Lithic 1	J	PDC	Heat Treated	15	22	2	0.8
Complete*	S22W19	EG	2	Lithic 2	J	PDC	Untreated	14	14	2	0.4
Broken*	S22W19	EG	3	Lithic 1	J	PDC	Heat Treated				0.5
Shatter*	S22W19	EH	1	7	K	PDC	Untreated	56	40	20	60
Complete*	S22W19	EH	1	Lithic 1	K	PDC	Heat Treated	21	19	3	1
Shatter*	S22W19	EH	2	1	K	PDC	Untreated	42	12	7	5.9
Complete*	S22W19	EH	2	6	K	PDC	Untreated	22	20	6	3.3
Shatter*	S22W19	EH	2	16	K	PDC	Untreated	18	9	2	0.5
Complete*	S22W19	EH	2	18	K	PDC	Untreated	31	35	13	10.1
Complete*	S22W19	EH	4	1	K	PDC	Untreated	22	15	5	1.4
Shatter*	S22W19	EH	4	2	K	PDC	Burned	22	15	9	4.2
Broken*	S22W19	EH	4	16	K	Galena	Untreated		15	2	0.4
Shatter*	S22W19	EH	4	17	K	PDC	Untreated	29	27	23	30.4
Complete*	S22W19	EH	5	2	K	PDC	Untreated	21	18	2	1.6
Broken*	S22W19	EH	5	3	K	Galena	Untreated		10	1	0.2
Complete*	S22W19	EH	5	7	K	PDC	Untreated	14	10	3	0.4
Complete*	S22W19	EH	5	15	K	PDC	Untreated	10	13	1	0.2
Complete*	S22W19	EH	5	16	K	Galena	Untreated	14	19	3	1.5
Shatter*	S22W19	EH	5	19	K	PDC	Burned	21	11	9	2.5
Complete*	S22W19	EH	5	22	K	Galena	Burned	18	19	5	1.2
Shatter*	S22W19	EH	5	25	K	PDC	Untreated	10	10	2	0.3
Complete*	S22W19	EH	5	27	K	PDC	Untreated	21	23	2	1.8
Complete*	S22W19	EH	5	32	K	Galena	Burned	26	16	8	3.1
Complete*	S22W19	EH	5	34	K	PDC	Untreated	27	34	5	6.7
Shatter*	S22W19	EH	5	35	K	PDC	Untreated	14	13	6	1.1
Broken*	S22W19	EH	5	41	K	Galena	Untreated	20		3	0.9
Broken*	S22W19	EH	5	43	K	PDC	Untreated		18	2	0.4

TABLE D.1: DEBITAGE continued

Complete*	S22W19	EH	5	44	K	PDC	Untreated	13	12	2	0.3
Shattter*	S22W19	EH	5	47	K	PDC	Heat Treated				4.9
Complete*	S22W19	EH	5	62	K	PDC	Untreated	15	17	3	1
Shattter*	S22W19	EHB	1	4	K	PDC	Untreated	33	17	18	19.6
Broken*	S22W19	EHB	1	10	K	PDC	Untreated		19	1	0.7
Shattter*	S22W19	EHB	1	12	K	PDC	Untreated	67	44	40	139.7
Complete*	S22W19	EHB	1	13	K	PDC	Untreated	22	15	3	1.3
Shattter*	S22W19	EHB	1	23	K	PDC	Untreated	61	38	31	94.2
Shattter*	S22W19	EI	1	2	L	PDC	Untreated	28	22	13	10.5
Broken*	S23W13	EL	1	Lithic 1	E	PDC	Heat Treated		18	8	
Complete*	S17W19	G	2	2	G	PDC	Untreated	10	9	2	0.2
Complete*	S17W19	G	2	3	G	PDC	Untreated	16	6	3	0.2
Broken*	S17W19	G	3	1	G	Galena	Untreated		9	1	0.1
Broken*	S17W19	G	3	6	G	PDC	Burned		12	2	0.3
Broken*	S17W19	G	3	16	G	PDC	Burned		13	2	0.5
Broken*	S17W19	G	3	17	G	PDC	Untreated		16	4	1.1
Shattter*	S17W19	G	3	18	G	PDC	Untreated	8	6	2	0.1
Broken*	S17W19	G	3	19	G	PDC	Burned		13	2	0.4
Complete*	S17W19	G	3	21	G	PDC	Burned	11	20	2	0.2
Complete*	S17W19	G	3	12	G	Galena	Heat Treated	19	20	4	1.6
Shattter*	S18W10	G	1	Lithic 1	I	PDC	Burned				12.2
Shattter*	S18W12	G	1	Lithic 1	G & J	PDC	Heat Treated				0.2
Shattter*	S18W14	G	1	Lithic 1	H, I, J & K	PDC	Heat Treated				0.7
Complete*	S18W14	G	1	Lithic 2	H, I, J & K	Galena	Heat Treated	10	13	4	0.3
Broken*	S18W14	G	1	Lithic 3	H, I, J & K	PDC	Heat Treated				0.3
Broken*	S18W14	G	1	Lithic 4	H, I, J & K	Galena	Heat Treated				0.3
Shattter*	S18W14	G	1	Lithic 5	H, I, J & K	PDC	Burned				0.1

TABLE D.1: DEBITAGE continued

Shattter*	S18W14		G	1	Lithic 6	H, I, J & K	PDC	Burned				0.3
Shattter*	S18W14		G	1	Lithic 7	H, I, J & K	PDC	Heat Treated				0.4
Shattter*	S18W14		G	1	Lithic 8	H, I, J & K	PDC	Heat Treated				0.1
Shattter*	S18W14		G	1	Lithic 9	H, I, J & K	PDC	Untreated				0.1
Shattter*	S18W14		G	1	Lithic 11	H, I, J & K	PDC	Burned				1.2
Shattter*	S18W14		G	1	Lithic 12	H, I, J & K	PDC	Burned				0.7
Shattter*	S18W14		G	1	Lithic 13	H, I, J & K	PDC	Heat Treated				0.3
Complete*	S18W14		G	1	Lithic 14	H, I, J & K	PDC	Heat Treated	6	9	1	<0.1
Complete*	S18W14		G	1	Lithic 15	H, I, J & K	PDC	Heat Treated	6	7	1	<0.1
Broken*	S18W14		G	1	Lithic 16	H, I, J & K	PDC	Untreated				<0.1
Shattter*	S18W14		G	1	Lithic 17	H, I, J & K	PDC	Heat Treated				0.2
Shattter*	S18W14		G	1	Lithic 18	H, I, J & K	PDC	Burned				0.1
Complete*	S18W14		G	2	Lithic 1	H, I, J & K	PDC	Heat Treated	7	10	2	0.1
Shattter*	S18W14		G	2	Lithic 2	H, I, J & K	Galena	Heat Treated				0.2
Shattter*	S18W14		G	2	Lithic 3	H, I, J & K	PDC	Heat Treated				0.6
Shattter*	S18W14		G	2	Lithic 4	H, I, J & K	PDC	Untreated				0.3
Shattter*	S18W14		G	2	Lithic 5	H, I, J & K	PDC	Heat Treated				0.1
Shattter*	S18W14		G	2	Lithic 6	H, I, J & K	PDC	Untreated				0.1
Broken*	S18W20		G	2	Lithic 1	G	PDC	Untreated		8	1	
Broken*	S18W20		G	2	Lithic 2	G	PDC	Untreated		8	1	
Complete*	S18W20		G	2	Lithic 3	G	PDC	Heat Treated	10	11	3	0.2
Shattter*	S18W20		G	2	Lithic 4	G	PDC	Heat Treated				0.7
Shattter*	S18W20		G	2	Lithic 5	G	PDC	Heat Treated				0.5
Broken*	S18W20		G	3	1	G	PDC	Heat Treated	13	11	0.5	0.1
Shattter*	S18W20		G	3	2	G	PDC	Untreated	15	11	2	0.5
Broken*	S18W20		G	3	Lithic 1	G	PDC	Heat Treated		9	2	
Complete*	S18W20		G	3	Lithic 2	G	PDC	Untreated	6	12	3	0.3

TABLE D.1: DEBITAGE continued

Shattter*	S18W20		G	3	Lithic 3	G	PDC	Untreated				0.6
Shattter*	S18W20		G	3	Lithic 4	G	PDC	Heat Treated				0.2
Shattter*	S19W20		G	2	8	G	PDC	Burned				0.6
Shattter*	S20W10		G	3	Lithic 1	G	PDC	Burned				0.9
Broken*	S20W16		G	1	Lithic 1	I	PDC	Heat Treated				0.6
Complete*	S20W16		G	1	Lithic 2	I	PDC	Untreated	16	4	4	0.8
Broken*	S20W16		G	2	Lithic 1	J, L & M	PDC	Heat Treated				1.4
Shattter*	S20W16		G	2	Lithic 2	J, L & M	PDC	Heat Treated				1.3
Shattter*	S20W16		G	3	Lithic 1	J, L & M	PDC	Burned				0.7
Broken*	S21W11		G	4	16	G	PDC	Untreated		27	5	
Broken*	S24W16		G	1	Lithic 1	I	PDC	Heat Treated				0.5
Shattter*	S24W16		G	3	Lithic 2	K	PDC	Heat Treated				0.6
Shattter*	S18W18		GC		Lithic 1	G	PDC	Burned				0.1
Complete*	S22W18		GH	1	10	J	PDC	Untreated	23	35	13	9.9
Complete*	S22W18		GH	2	1	J	PDC	Heat Treated	50	48	15	24.6
Shattter*	S22W18		GHA	4	12	J	Galena	Untreated	41	33	17	25.7
Complete*	S22W18		GJA	3	1	K	PDC	Untreated	20	55	15	12.8
Complete*	S22W18		GJA	3	6	K	PDC	Untreated	31	22	4	3.9
Complete*	S22W18		GJA	3	10	K	PDC	Untreated	30	28	3	3.5
Complete*	S17W19		GX	2	9	G	PDC	Untreated	20	20	3	1.4
Complete*	S17W19		GX	3	9	G	PDC	Untreated	14	16	5	0.7
Shattter*	S17W19		GX	3	Lithic 1	G	PDC	Heat Treated				2.8
Broken*	S18W18		GX		Lithic 1	G	PDC	Heat Treated		11	2	
Shattter*	S18W18		GX		Lithic 10	G	PDC	Burned				0.4
Shattter*	S18W18		GX		Lithic 11	G	Galena	Burned				0.5
Shattter*	S18W18		GX		Lithic 12	G	PDC	Untreated				0.05
Broken*	S18W18		GX		Lithic 13	G	PDC	Untreated		11	1	

TABLE D.1: DEBITAGE continued

Shattter*	S18W18	GX		Lithic 14	G	Galena	Burned				0.9
Shattter*	S18W18	GX		Lithic 15	G	Galena	Heat Treated				0.1
Shattter*	S18W18	GX		Lithic 16	G	PDC	Untreated				0.3
Shattter*	S18W18	GX		Lithic 17	G	PDC	Untreated				0.2
Shattter*	S18W18	GX		Lithic 18	G	PDC	Untreated				0.1
Shattter*	S18W18	GX		Lithic 19	G	PDC	Burned				0.3
Complete*	S18W18	GX		Lithic 2	G	PDC	Untreated	10	8	1	0.1
Shattter*	S18W18	GX		Lithic 20	G	PDC	Burned				0.2
Complete*	S18W18	GX		Lithic 3	G	PDC	Untreated	8	19	3	0.5
Broken*	S18W18	GX		Lithic 4	G	PDC	Heat Treated		9	1	0.1
Complete*	S18W18	GX		Lithic 5	G	PDC	Heat Treated	7	9	2	0.05
Complete*	S18W18	GX		Lithic 6	G	PDC	Heat Treated	9	8	1	0.1
Complete*	S18W18	GX		Lithic 7	G	PDC	Untreated	7	12	1	0.1
Complete*	S18W18	GX		Lithic 8	G	PDC	Heat Treated	5	7	1	0.1
Shattter*	S18W18	GX		Lithic 9	G	PDC	Heat Treated				0.3
Shattter*	S18W14	H	1	Lithic 1	H, I, J & K	PDC	Burned				0.3
Shattter*	S18W14	H	1	Lithic 2	H, I, J & K	PDC	Burned				0.2
Shattter*	S18W14	H	1	Lithic 3	H, I, J & K	PDC	Burned				0.4
Shattter*	S18W14	H	1	Lithic 4	H, I, J & K	PDC	Heat Treated				1
Complete*	S20W10	H	1	4	H	Galena	Untreated	19	15	5	1.3
Broken*	S20W10	H	1	7	H	PDC	Untreated		10		
Complete*	S20W10	H	1	8	H	PDC	Untreated	22	29	6	5.1
Broken*	S20W10	H	1	14	H	Galena	Untreated				1.7
Shattter*	S20W10	H	2	3	H	Galena	Untreated				1.4
Broken*	S20W10	H	2	5	H	PDC	Untreated	14		4	
Broken*	S20W10	H	2	6	H	PDC	Untreated	24	21	5	2.1
Complete*	S20W10	H	2	8	H	Galena	Untreated	22	13	7	2.8

TABLE D.1: DEBITAGE continued

Complete*	S20W10		H	2	12	H	PDC	Burned	19	20	4	1.3
Complete*	S20W10		H	3	1	H	PDC	Untreated	14	11	5	0.6
Complete*	S20W10		H	3	2	H	PDC	Untreated	16	11	5	0.8
Complete*	S20W10		H	3	4	H	PDC	Untreated	8	14	4	0.4
Shatter*	S20W11		H	1	3	H	LRC	Untreated				5
Complete*	S20W11		H	4	3	H	PDC	Burned	21	25	3	2.2
Shatter*	S20W11		H	4	5	H	PDC	Burned				9.7
Broken*	S20W12		H	1	7	I	PDC	Burned		13	2	0.9
Complete*	S20W12		H	2	Lithic 1	I	PDC	Heat Treated	25	14	6	W
Broken*	S20W12		H	3	2	I	PDC	Untreated		10	1	
Broken*	S20W12		H	3	9	I	PDC	Untreated		16	2	
Broken*	S20W12		H	4	6	J	PDC	Untreated	17	27	6	
Shatter*	S20W12		H	5	2	J	PDC	Untreated				1.9
Shatter*	S20W12		H	7	12	J	LRC	Untreated				1.5
Complete*	S20W12		H	9	4	J	PDC	Untreated	38	25	6	9.1
Complete*	S20W12		H	15	1	J	PDC	Heat Treated	18	22	5	1.7
Complete*	S20W12		H	15	5	J	PDC	Untreated	40	28	13	17.5
Shatter*	S20W13		H	8	Lithic 1	H	Prairie du Chien	Untreated				0.3
Shatter*	S21W10		H	3	7	H	PDC	Untreated				1.6
Complete*	S21W11		H	5	26	H	Galena	Untreated	44	22	17	14.8
Complete*	S21W12		H	3	23	H	Galena	Untreated	23	15	4	1.3
Broken*	S21W13		H	1	14	I	PDC	Untreated	25	27	5	
Shatter*	S21W13		H	1	6	I	PDC	Burned				18
Shatter*	S21W13		H	2	9	I	PDC	Untreated				9.7
Shatter*	S21W13		H	2	23	I	PDC	Burned				3.3
Complete*	S21W13		H	3	16	I	Galena	Untreated	20	40	4	4.6
Broken*	S21W13		H	3	20	I	PDC	Untreated	17	20	8	2.9

TABLE D.1: DEBITAGE continued

Complete*	S21W13		H	3	23	I	PDC	Untreated	2	16	2	0.8
Shattter*	S21W13		H	3	39	I	PDC	Untreated				5.4
Complete*	S21W13		H	4	Lithic 1	I	PDC	Untreated	17	19	2	0.8
Complete*	S21W13		H	4	Lithic 2	I	PDC	Heat Treated	18	13	2	0.3
Shattter*	S21W13		H	4	Lithic 3	I	PDC	Heat Treated				0.6
Shattter*	S21W13		H	5	4	I	PDC	Untreated				4.5
Shattter*	S21W13		H	5	24	I	LRC	Untreated				57.4
Broken*	S22W11		H	1	16	H	PDC	Untreated		28	6	
Complete*	S23W13		H	2	Lithic 1	H	Burlington	Untreated	18	13	2	0.5
Broken*	S24W16		H	1	Lithic 1	J & K	Burlington	Untreated				0.1
Shattter*	S24W16		H	1	Lithic 2	J & K	LRC	Burned				0.4
Shattter*	S24W16		H	1	Lithic 3	J & K	LRC	Burned				0.3
Shattter*	S24W16		H	1	Lithic 4	J & K	LRC	Burned				0.5
Shattter*	S24W16		H	1	Lithic 5	J & K	PDC	Heat Treated				0.4
Shattter*	S24W16		H	1	Lithic 6	J & K	PDC	Heat Treated				0.3
Shattter*	S24W16		H	1	Lithic 7	J & K	PDC	Heat Treated				0.1
Shattter*	S24W16		H	1	Lithic 8	J & K	PDC	Heat Treated				0.2
Shattter*	S24W16		H	1	Lithic 9	J & K	PDC	Untreated				<0.1
Shattter*	S24W16		H	1	Lithic 10	J & K	LRC	Untreated				0.4
Shattter*	S24W16		H	1	Lithic 11	J & K	LRC	Untreated				0.3
Shattter*	S24W16		H	1	Lithic 15	J & K	LRC	Untreated				0.2
Shattter*	S24W16		H	3	Lithic 1	J & K	PDC	Heat Treated				1.1
Broken*	S24W16		H	4	Lithic 1	J & K	PDC	Heat Treated				0.2
Shattter*	S24W16		H	4	Lithic 2	J & K	PDC	Heat Treated				0.2
Shattter*	S24W16		H	4	Lithic 3	J & K	PDC	Heat Treated				0.2
Shattter*	S24W16		H	4	Lithic 4	J & K	PDC	Heat Treated				0.3
Shattter*	S24W16		H	4	Lithic 5	J & K	PDC	Heat Treated				<0.1

TABLE D.1: DEBITAGE continued

Shattter*	S24W16	H	5	Lithic 1	J & K	PDC	Heat Treated				0.2
Shattter*	S24W16	H	6	Lithic 1	J & K	PDC	Burned				0.4
Shattter*	S24W16	H	6	Lithic 2	J & K	PDC	Burned				0.1
Shattter*	S24W16	H	6	Lithic 3	J & K	PDC	Heat Treated				1.7
Shattter*	S24W16	H	6	Lithic 4	J & K	PDC	Heat Treated				0.5
Shattter*	S24W16	H	6	Lithic 5	J & K	PDC	Untreated				0.2
Shattter*	S24W16	H	6	Lithic 6	J & K	LRC	Untreated				0.3
Shattter*	S24W16	H	6	Lithic 7	J & K	PDC	Untreated				0.3
Shattter*	S24W16	H	6	Lithic 10	J & K	LRC	Burned				0.5
Complete*	S24W16	H	7	Lithic 1	J & K	PDC	Untreated	12	7	2	0.2
Shattter*	S24W16	H	7	Lithic 2	J & K	PDC	Heat Treated				0.2
Shattter*	S24W16	H	7	Lithic 3	J & K	PDC	Heat Treated				0.5
Shattter*	S24W16	H	7	Lithic 4	J & K	LRC	Heat Treated				0.2
Shattter*	S24W16	H	7	Lithic 5	J & K	LRC	Untreated				0.5
Shattter*	S24W16	H	7	Lithic 6	J & K	LRC	Untreated				0.4
Shattter*	S24W16	H	8	Lithic 1	J & K	PDC	Burned				0.6
Shattter*	S24W16	H	8	Lithic 1	J & K	PDC	Heat Treated				0.3
Shattter*	S24W16	H	8	Lithic 1	J & K	PDC	Heat Treated				0.2
Shattter*	S24W16	H	8	Lithic 1	J & K	PDC	Untreated				0.4
Complete*	S20W10	HA	2	3	H	PDC	Burned	24	15	2	1
Complete*	S21W12	HA	3	3	H	PDC	Untreated	21	31	3	1.6
Complete*	S22W11	HA	4	12	E	PDC	Untreated	11	8	1	0.1
Shattter*	S20W10	HAA		Lithic 1	H	Burlington	Untreated				0.4
Complete*	S20W9	HB	1	1	H	PDC	Untreated	16	14	2	0.4
Shattter*	S21W11	HB	1	Lithic 1	H	PDC	Untreated				0.2
Complete*	S21W11	HB	2	34	H	PDC	Burned	19	29	7	3.9
Shattter*	S21W11	HB	3	9	H	PDC	Untreated				2.1

TABLE D.1: DEBITAGE continued

Complete*	S21W11	HB	4	21	H	PDC	Untreated	33	22	8	5.2
Shattter*	S21W11	HB	4	25	H	PDC	Burned				2.4
Complete*	S22W10	HB	2	Lithic 1	H	PDC	Untreated	39	19	5	5
Shattter*	S22W11	HB	1	1	H	PDC	Untreated	21	30	17	8.4
Shattter*	S20W10	HBA		Lithic 1	H	PDC	Burned				3.6
Broken*	S21W11	HBA	2	12	H	PDC	Burned		15	3	
Shattter*	S21W11	HBA	2	Lithic 1	H	PDC	Heat Treated				0.3
Shattter*	S21W11	HBA	3	7	H	PDC	Untreated				2.4
Shattter*	S21W11	HBA	4	16	H	PDC	Untreated				3
Complete*	S21W11	HBA	5	3	H	PDC	Untreated	11	22	3	0.8
Shattter*	S21W11	HBA	5	17	H	PDC	Untreated				0.4
Shattter*	S21W11	HBA	5	27	H	PDC	Untreated				0.4
Shattter*	S21W11	HBA	5	Lithic 1	H	PDC	Burned				0.05
Complete*	S22W11	HBA	1	Lithic 1	E	PDC	Heat Treated	11	15	2	0.3
Broken*	S21W11	HC	2	Lithic 1	H	PDC	Untreated		31	2	
Shattter*	S21W11	HC	3	7	I	Galena	Heat Treated				18.8
Complete*	S21W13	HC	2	5	I	PDC	Untreated	22	12	2	0.7
Shattter*	S21W10	HCA	2	3	H	PDC	Untreated				0.1
Broken*	S21W10	HCA	7	2	H	PDC	Untreated	32		11	
Broken*	S20W10	HCB	2	7	H	PDC	Burned		22	3	2.4
Shattter*	S21W10	HCB	1	4	H	PDC	Untreated				16.4
Broken*	S21W10	HCB	1	3	H	PDC	Untreated	33		6	
Shattter*	S21W10	HCB	2	3	H	PDC	Untreated				15.1
Broken*	S21W10	HCB	2	4	H	PDC	Untreated	18	19	3	0.8
Broken*	S21W10	HD	4	3	H	Galena	Burned	37	33	9	
Shattter*	S22W13	HD	1	1	H	PDC	Burned				2.3
Shattter*	S21W11	H-D-A	2	2	H	PDC	Untreated				5.5

TABLE D.1: DEBITAGE continued

Complete*	S21W11	H-D-A	2	7	H	PDC	Untreated	20	34	6	3.6
Complete*	S21W11	HDB	2	10	H	Galena	Burned	16	16	3	1
Complete*	S22W13	HF	2	Lithic 1	H	Burlington	Heat Treated	15	8	2	0.3
Complete*	S18W10	I	1	Lithic 1	I & J	PDC	Untreated	7	9	1	0.1
Shattter*	S18W10	I	1	Lithic 2	I & J	PDC	Burned				0.2
Shattter*	S18W10	I	1	Lithic 3	I & J	PDC	Untreated				0.2
Shattter*	S18W10	I	1	Lithic 4	I & J	PDC	Untreated				0.5
Shattter*	S18W10	I	1	Lithic 5	I & J	PDC	Burned				0.6
Shattter*	S18W10	I	1	Lithic 6	I & J	Burlington	Burned				0.1
Shattter*	S18W10	I	1	Lithic 7	I & J	PDC	Burned				<0.1
Complete*	S18W10	I	1	Lithic 8	I & J	PDC	Heat Treated	10	8	2	0.2
Shattter*	S18W10	I	1	Lithic 9	I & J	PDC	Burned				0.7
Shattter*	S18W10	I	1	Lithic 10	I & J	PDC	Burned				0.6
Shattter*	S18W10	I	1	Lithic 11	I & J	PDC	Burned				0.7
Shattter*	S18W10	I	1	Lithic 12	I & J	PDC	Burned				1.2
Shattter*	S18W10	I	1	Lithic 13	I & J	PDC	Burned				1
Shattter*	S18W10	I	1	Lithic 14	I & J	PDC	Burned				0.5
Shattter*	S18W10	I	1	Lithic 15	I & J	PDC	Burned				0.4
Shattter*	S18W10	I	1	Lithic 16	I & J	PDC	Burned				0.2
Shattter*	S18W10	I	1	Lithic 17	I & J	PDC	Burned				0.3
Shattter*	S18W10	I	1	Lithic 18	I & J	PDC	Burned				0.4
Shattter*	S18W10	I	1	Lithic 19	I & J	PDC	Burned				0.2
Shattter*	S18W10	I	1	Lithic 20	I & J	PDC	Heat Treated				0.5
Shattter*	S18W10	I	1	Lithic 21	I & J	PDC	Heat Treated				1.2
Shattter*	S18W10	I	1	Lithic 22	I & J	PDC	Heat Treated				0.2
Shattter*	S18W10	I	2	Lithic 1	I & J	PDC	Burned				2
Complete*	S18W10	I	2	Lithic 2	I & J	Burlington	Heat Treated	10	14	3	0.4

TABLE D.1: DEBITAGE continued

Broken*	S18W10	I	2	Lithic 3	I & J	PDC	Untreated		11	1	
Shattter*	S18W10	I	2	Lithic 4	I & J	PDC	Burned				0.2
Complete*	S18W10	I	2	Lithic 5	I & J	PDC	Untreated	7	8	1	0.1
Complete*	S18W10	I	2	Lithic 6	I & J	PDC	Heat Treated	11	16	3	0.5
Broken*	S18W10	I	2	L:thic 7	I & J	PDC	Untreated		8	2	
Complete*	S18W10	I	2	Lithic 8	I & J	Burlington	Heat Treated	19	12	4	0.8
Shattter*	S18W10	I	2	Lithic 9	I & J	Burlington	Untreated				0.3
Shattter*	S18W10	I	2	Lithic 10	I & J	PDC	Untreated				0.3
Shattter*	S18W10	I	2	Lithic 11	I & J	PDC	Burned				0.4
Shattter*	S18W10	I	2	Lithic 13	I & J	PDC	Untreated				0.2
Shattter*	S18W10	I	2	Lithic 14	I & J	PDC	Burned				0.1
Complete*	S18W10	I	2	Lithic 15	I & J	Burlington	Untreated	7	9	1	0.05
Shattter*	S18W10	I	2	Lithic 16	I & J	PDC	Burned				0.3
Shattter*	S18W10	I	2	Lithic 17	I & J	PDC	Untreated				0.3
Shattter*	S18W10	I	2	Lithic 18	I & J	PDC	Untreated				0.4
Shattter*	S18W10	I	2	Lithic 19	I & J	PDC	Burned				0.3
Shattter*	S18W10	I	2	Lithic 20	I & J	Burlington	Heat Treated				0.1
Shattter*	S18W10	I	2	Lithic 21	I & J	PDC	Untreated				0.025
Shattter*	S18W10	I	2	Lithic 22	I & J	PDC	Burned				1
Shattter*	S18W10	I	2	Lithic 23	I & J	PDC	Burned				0.7
Shattter*	S18W10	I	2	Lithic 24	I & J	PDC	Untreated				1.3
Shattter*	S18W10	I	2	Lithic 25	I & J	PDC	Burned				0.2
Shattter*	S18W10	I	2	Lithic 26	I & J	PDC	Burned				0.1
Shattter*	S18W10	I	2	Lithic 27	I & J	PDC	Untreated				<0.1
Broken*	S18W10	I	2	Lithic 28	I & J	PDC	Burned				0.8
Shattter*	S18W10	I	2	Lithic 29	I & J	PDC	Burned				0.4
Shattter*	S18W10	I	2	Lithic 30	I & J	PDC	Burned				0.3

TABLE D.1: DEBITAGE continued

Shattter*	S18W10	I	2	Lithic 31	I & J	PDC	Burned				0.3
Shattter*	S18W10	I	2	Lithic 32	I & J	PDC	Burned				0.2
Shattter*	S18W10	I	2	Lithic 33	I & J	PDC	Heat Treated				0.9
Shattter*	S18W10	I	2	Lithic 34	I & J	PDC	Heat Treated				0.4
Shattter*	S18W10	I	2	Lithic 35	I & J	PDC	Heat Treated				0.1
Shattter*	S18W10	I	2	Lithic 36	I & J	PDC	Heat Treated				0.2
Shattter*	S18W10	I	2	Lithic 37	I & J	PDC	Heat Treated				0.2
Shattter*	S18W10	I	2	Lithic 39	I & J	PDC	Untreated				0.3
Shattter*	S18W10	I	2	Lithic 40	I & J	PDC	Untreated				0.3
Shattter*	S18W10	I	2	Lithic 41	I & J	PDC	Untreated				0.2
Complete*	S18W14	I	2	Lithic 1	H, I, J & K	PDC	Heat Treated	12	10	3	0.3
Complete*	S18W14	I	2	Lithic 2	H, I, J & K	Galena	Heat Treated	7	6	1	<0.1
Complete*	S18W14	I	2	Lithic 3	H, I, J & K	PDC	Burned	9	5	1	0.1
Broken*	S18W14	I	2	Lithic 4	H, I, J & K	PDC	Heat Treated				0.1
Broken*	S18W14	I	2	Lithic 5	H, I, J & K	PDC	Heat Treated				0.5
Shattter*	S18W14	I	2	Lithic 6	H, I, J & K	PDC	Burned				0.3
Shattter*	S18W14	I	2	Lithic 7	H, I, J & K	PDC	Burned				0.3
Shattter*	S18W14	I	2	Lithic 8	H, I, J & K	PDC	Burned				0.1
Shattter*	S18W14	I	2	Lithic 9	H, I, J & K	PDC	Burned				0.2
Shattter*	S18W14	I	2	Lithic 10	H, I, J & K	Galena	Heat Treated				0.5
Shattter*	S18W14	I	2	Lithic 11	H, I, J & K	Galena	Heat Treated				0.3
Shattter*	S18W14	I	2	Lithic 12	H, I, J & K	PDC	Heat Treated				0.3
Shattter*	S18W14	I	2	Lithic 13	H, I, J & K	PDC	Heat Treated				0.1
Shattter*	S18W14	I	2	Lithic 14	H, I, J & K	PDC	Heat Treated				0.2
Shattter*	S18W14	I	2	Lithic 15	H, I, J & K	PDC	Heat Treated				0.2
Shattter*	S18W14	I	1	Lithic 1	H, I, J & K	Burned	PDC				0.9
Shattter*	S18W14	I	1	Lithic 2	H, I, J & K	Burned	PDC				0.3

TABLE D.1: DEBITAGE continued

Broken*	S18W18		I	1	Lithic 1	I	PDC	Untreated		14	2	
Shattter*	S18W18		I	1	Lithic 2	I	PDC	Burned				0.3
Shattter*	S18W18		I	1	Lithic 3	I	PDC	Burned				0.2
Shattter*	S18W18		I	1	Lithic 4	I	PDC	Burned				0.9
Shattter*	S18W18		I	1	Lithic 5	I	PDC	Burned				0.2
Shattter*	S18W18		I	1	Lithic 6	I	PDC	Burned				0.1
Shattter*	S18W18		I	1	Lithic 7	I	PDC	Burned				0.2
Shattter*	S18W18		I	1	Lithic 8	I	PDC	Burned				0.5
Shattter*	S18W18		I	1	Lithic 9	I	PDC	Burned				0.2
Complete*	S18W18		I	2	8	I	PDC	Untreated	27	18	5	3.5
Shattter*	S18W18		I	2	11	I	PDC	Untreated	39	25	17	16.1
Complete*	S18W18		I	2	12	I	PDC	Untreated	25	18	2	1.1
Shattter*	S18W18		I	2	25	I	PDC	Heat Treated	55	41	26	77.3
Shattter*	S18W18		I	2	Lithic 1	I	PDC	Burned				0.2
Shattter*	S18W18		I	2	Lithic 2	I	LRC	Heat Treated				0.2
Shattter*	S18W18		I	2	Lithic 3	I	PDC	Burned				1.1
Shattter*	S18W18		I	2	Lithic 4	I	PDC	Heat Treated				1.1
Complete*	S18W18		I	3	2	I	PDC	Untreated	16	22	2	1.5
Shattter*	S18W18		I	3	Lithic 1	I	PDC	Burned				0.3
Shattter*	S18W18		I	3	Lithic 2	I	PDC	Burned				0.4
Shattter*	S18W18		I	3	Lithic 3	I	PDC	Untreated				0.3
Shattter*	S18W18		I	3	Lithic 4	I	PDC	Burned				0.2
Shattter*	S18W18		I	3	Lithic 5	I	PDC	Untreated				0.2
Shattter*	S18W18		I	3	Lithic 6	I	PDC	Untreated				0.1
Shattter*	S18W18		I	4	8	I	PDC	Burned	33	23	3	1.7
Shattter*	S18W18		I	7	2	I	PDC	Untreated	16	12	6	1.1
Complete*	S18W18		I	5 to 7	Lithic 1	I	PDC	Heat Treated	11	13	2	0.3

TABLE D.1: DEBITAGE continued

Complete*	S18W18		I	5 to 7	Lithic 2	I	PDC	Heat Treated	6	9	2	0.2
Complete*	S18W18		I	5 to 7	Lithic 3	I	PDC	Heat Treated	7	14	2	0.1
Shattter*	S18W18		I	5 to 7	Lithic 4	I	PDC	Burned				1.7
Broken*	S18W19		I	5	8	I	PDC	Burned		14	2	0.4
Shattter*	S18W19		I	5	7	I	PDC	Heat Treated				2.1
Shattter	S18W8		I		Lithic 1	I	PDC	Burned				0.2
Complete*	S19W10		I	1	11	I	Galena	Untreated	13	17	2	0.5
Shattter*	S19W11		I	1	22	I	PDC	Untreated				0.4
Complete*	S19W11		I	1	46	I	Galena	Untreated	12	31	5	1.7
Broken*	S19W11		I	1	85	I	PDC	Untreated	33	38	6	7.9
Shattter*	S19W11		I	2	16	I	PDC	Untreated				3.6
Complete*	S19W11		I	2	19	I	LRC	Untreated	17	14	4	0.9
Shattter*	S19W11		I	3	14	I	PDC	Untreated				0.1
Broken*	S19W11		I	3	16	I	PDC	Untreated	12	19	4	
Shattter*	S19W11		I	3	35	I	PDC	Untreated				0.9
Complete*	S19W11		I	3	66	I	PDC	Untreated	16	13	8	1.7
Complete*	S19W11		I	3	89	I	PDC	Untreated	16	9	3	0.4
Broken*	S19W11		I	3	101	I	PDC	Heat Treated		8	3	0.7
Complete*	S19W11		I	4	26	I	LRC	Untreated	40	27	8	9.7
Complete*	S19W11		I	8	18	I	LRC	Untreated	17	10	2	0.3
Complete*	S19W11		I	8	24	I	PDC	Untreated	6	25	5	0.8
Complete*	S19W11		I	10	25	I	PDC	Untreated	24	24	4	2.1
Shattter*	S19W11		I	10	44	I	PDC	Untreated				6.7
Complete*	S19W11		I	12	2	I	PDC	Burned	28	18	4	2.2
Shattter*	S19W11		I	12	6	I	PDC	Heat Treated				57.6
Broken*	S19W11		I	13	4	I	Galena	Burned		10	2	0.3
Complete*	S19W12		I	1	2	I	Galena	Untreated	18	14	4	1.2

TABLE D.1: DEBITAGE continued

Shattter*	S19W12	I	1	4	I	PDC	Burned	11	8	7	0.7
Complete*	S19W12	I	1	8	I	PDC	Untreated	19	16	3	1.1
Complete*	S19W12	I	1	10	I	PDC	Untreated	37	17	5	4.1
Complete*	S19W12	I	1	24	I	LRC	Untreated	16	12	4	0.7
Complete*	S19W12	I	1	59	I	PDC	Untreated	32	19	11	5.9
Shattter*	S19W12	I	2	9	I	PDC	Untreated	14	18	8	3
Complete*	S19W12	I	2	11	I	PDC	Untreated	34	42	12	14.2
Shattter*	S19W12	I	3	12	I	PDC	Untreated	43	32	21	33.6
Shattter*	S19W12	I	3	20	I	PDC	Untreated	26	15	8	2.6
Complete*	S19W12	I	3	20	I	PDC	Burned	16	18	3	0.8
Shattter*	S19W12	I	3	22	I	Galena	Burned	22	14	10	3.4
Complete*	S19W12	I	4	9	I	PDC	Burned	25	28	5	3.8
Complete*	S19W12	I	4	15	I	PDC	Untreated	18	20	3	0.9
Complete*	S19W12	I	4	40	I	PDC	Untreated	25	19	5	2
Shattter*	S19W12	I	4	40	I	PDC	Untreated	9	5	2	0.1
Complete*	S19W12	I	6	17	I	PDC	Burned	27	35	12	8.7
Shattter*	S19W12	I	6	Lithic 1	I	PDC	Burned				0.5
Complete*	S19W12	I	7	26	I	LRC	Burned	16	25	4	1.8
Complete*	S19W12	I	7	42	I	Galena	Burned	20	12	4	0.9
Shattter*	S19W12	I	9	5	I	PDC	Untreated	19	19	8	2.9
Broken*	S19W12	I	9	10	I	PDC	Untreated	39	30	19	30.1
Shattter*	S19W12	I	10	10	I	PDC	Untreated				3
Shattter*	S19W12	I	11	Lithic 1	I	PDC	Burned				3
Complete*	S19W13	I	1	6	I	PDC	Burned	9	19	2	0.3
Shattter*	S19W13	I	2	9	I	PDC	Burned	12	11	4	0.5
Complete*	S19W13	I	3	9	I	PDC	Untreated	13	9	2	0.1
Complete*	S19W13	I	4	14	I	PDC	Untreated	27	20	8	5.4

TABLE D.1: DEBITAGE continued

Complete*	S19W13	I	4	41	I	PDC	Burned	13	10	1	0.2
Broken*	S19W13	I	5	1	I	PDC	Burned	18	23	3	2
Broken*	S19W13	I	5	11	I	Galena	Burned	12	22	3	0.9
Broken*	S19W13	I	6	17	I	PDC	Untreated	NA	18	3	1
Complete*	S19W13	I	6	43	I	PDC	Burned	18	21	3	1.1
Broken*	S19W13	I	7	4	I	PDC	Untreated	NA	13	3	0.8
Broken*	S19W13	I	8	Lithic 1	I	PDC	Heat Treated				0.4
Shattter*	S19W17	I	1	3	I	Galena	Heat Treated				6.4
Shattter*	S19W17	I	2	7	I	Galena	Untreated				0.5
Shattter*	S19W17	I	2	15	I	PDC	Burned				1.8
Shattter*	S19W17	I	3	5	I	PDC	Untreated				3.1
Complete*	S19W17	I	4	5	I	PDC	Burned	27	16	3	1.4
Shattter*	S19W17	I	5	21	I	PDC	Untreated				8.3
Complete*	S20W10	I	1	4	I	PDC	Untreated	26	25	8	6.3
Complete*	S20W10	I	1	18	I	PDC	Untreated	17	18	2	1
Shattter*	S20W10	I	2	13	I	PDC	Heat Treated				7.1
Complete*	S20W10	I	3	14	I	PDC	Untreated	37	40	4	5.8
Broken*	S20W10	I	3	17	I	PDC	Burned	29		5	
Shattter*	S20W10	I	5	3	I	Galena	Untreated				0.6
Shattter*	S20W11	I	1	26	I	PDC	Untreated				67.5
Shattter*	S20W11	I	1	Lithic 1	I	PDC	Burned				1.6
Broken*	S20W11	I	2	10	I	PDC	Burned		8	1	
Complete*	S20W11	I	2	28	I	PDC	Untreated	20	12	2	0.5
Complete*	S20W11	I	2	33	I	PDC	Untreated	30	17	7	4.1
Shattter*	S20W11	I	2	65	I	PDC	Untreated				1.6
Shattter*	S20W11	I	3	8	I	PDC	Untreated				5.7
Complete*	S20W11	I	3	12	I	LRC	Untreated	21	23	9	4.8

TABLE D.1: DEBITAGE continued

Shattter*	S20W11	I	3	22	I	PDC	Untreated				0.5
Shattter*	S20W11	I	3	24	I	PDC	Untreated				2
Shattter*	S20W11	I	4	3	I	PDC	Untreated				7.1
Shattter*	S20W11	I	5	2	I	PDC	Untreated				4.3
Broken*	S20W11	I	7	6	I	PDC	Untreated	26	34	9	
Complete*	S20W11	I	9	11	I	Galena	Untreated	22	11	6	1.3
Broken*	S20W11	I	12	21	I	PDC	Untreated		21	3	
Shattter*	S20W11	I	12	23	I	PDC	Burned				1.5
Shattter*	S20W11	I	12	18	I	PDC	Burned				8.5
Shattter*	S20W11	I		Lithic 1	I	PDC	Untreated				0.7
Shattter*	S20W11	I		Lithic 2	I	PDC	Burned				1.5
Broken*	S20W13	I	1	1	I	PDC	Untreated	12	22	5	1.2
Complete*	S20W13	I	2	Lithic 1	I	Burlington	Heat Treated	20	18	2	0.7
Complete*	S20W13	I	3	2	I	PDC	Burned	11	20	4	1
Shattter*	S20W9	I	1	7	I	PDC	Untreated				1.4
Complete*	S20W9	I	1	8	I	Galena	Untreated	15	15	3	0.5
Shattter*	S20W9	I	1	20	I	Galena	Burned				10
Shattter*	S20W9	I	2	10	I	PDC	Untreated				1
Broken*	S20W9	I	4	14	I	PDC	Untreated	12			
Complete*	S20W9	I	4	16	I	PDC	Untreated	13	19	7	1
Complete*	S20W9	I	4	17	I	PDC	Untreated	13	28	5	1.9
Complete*	S21W11	I	2	4	I	Galena	Untreated	17	13	3	0.6
Shattter*	S21W11	I	2	7	I	PDC	Untreated				1.3
Complete*	S21W11	I	5	13	I	PDC	Untreated	16	13	4	0.9
Shattter*	S21W11	I	6	Lithic 1	I	PDC	Burned				1.7
Complete*	S21W12	I	1	1	I	PDC	Untreated	38	25	11	9.4
Complete*	S21W12	I	2	2	I	PDC	Untreated	22	18	5	1.9

TABLE D.1: DEBITAGE continued

Broken*	S21W14	I	1	Lithic 1	I	PDC	Heat Treated				0.7
Complete*	S21W9	I	3	22	I	Galena	Untreated	17	15	6	1
Complete*	S22W11	I	1	4	I	PDC	Untreated	14	17	6	1.7
Complete*	S22W11	I	1	76	I	PDC	Burned	14	27	3	1.3
Complete*	S22W11	I	1	62	I	PDC	Heat Treated	29	34	5	2.6
Shattter*	S22W11	I	1	31	I	Galena	Heat Treated				18.5
Broken*	S22W11	I	2	47	I	PDC	Untreated	31		5	
Complete*	S22W11	I	2	66	I	PDC	Untreated	24	17	4	1.5
Complete*	S22W11	I	2	76	I	PDC	Burned	27	21	4	1.7
Shattter*	S22W11	I	3	2	I	PDC	Untreated				2
Broken*	S22W11	I	3	13	I	PDC	Burned		22	6	
Broken*	S22W11	I	3	13	I	Galena	Heat Treated		22	6	1.8
Broken*	S22W11	I	3	37	I	PDC	Untreated		12	3	
Broken*	S22W11	I	3	38	I	PDC	Untreated		12	2	
Complete*	S22W11	I	3	55	I	PDC	Heat Treated	50	36	20	26.6
Shattter*	S22W11	I	4	18	I	Galena	Burned				2
Shattter*	S22W12	I	2	4	I	LRC	Burned				2.4
Complete*	S22W12	I	2	5	I	PDC	Untreated	11	13	2	0.4
Complete*	S22W12	I	2	6	I	PDC	Untreated	24	14	2	1.1
Shattter*	S22W12	I	2	7	I	PDC	Untreated				3.5
Complete*	S22W12	I	2	Lithic 1	I	PDC	Untreated	19	19	2	0.7
Shattter*	S22W12	I	2	8	I	PDC	Heat Treated				2.3
Shattter*	S22W13	I	1	7	I	Burlington	Heat Treated				7.8
Shattter*	S22W13	I	2	13	I	PDC	Untreated				7.2
Complete*	S22W13	I	2	32	I	PDC	Untreated	16	18	3	0.8
Complete*	S22W13	I	2	Lithic 1	I	PDC	Untreated	14	10	1	0.2
Complete*	S22W13	I	5	Lithic 1	I	Burlington	Heat Treated	10	12	1	0.2

TABLE D.1: DEBITAGE continued

Broken*	S22W13	I	5	Lithic 10	I	PDC	Untreated				1.5
Complete*	S22W13	I	5	Lithic 2	I	Burlington	Heat Treated	11	15	2	0.4
Complete*	S22W13	I	5	Lithic 3	I	PDC	Untreated	13	10	1	0.2
Shattter*	S22W13	I	5	Lithic 4	I	PDC	Burned				0.5
Shattter*	S22W13	I	5	Lithic 5	I	LRC	Heat Treated				0.4
Complete*	S22W13	I	5	Lithic 6	I	Burlington	Burned	8	11	3	0.3
Shattter*	S22W13	I	5	Lithic 7	I	PDC	Burned				0.2
Shattter*	S22W13	I	5	Lithic 8	I	LRC	Heat Treated				0.3
Shattter*	S22W13	I	5	Lithic 9	I	PDC	Burned				0.5
Broken*	S23W11	I	1	2	I	PDC	Untreated		32	5	4
Shattter*	S23W11	I	1	6	I	PDC	Heat Treated				2.4
Broken*	S23W11	I	3	2	I	Galena	Burned	22	26	3	1.3
Shattter*	S23W11	I	3	21	I	PDC	Untreated	24	11	8	1.8
Complete*	S23W11	I	3	Lithic 1	I	PDC	Heat Treated	21	17	3	1
Shattter*	S23W11	I	4	6	I	Galena	Heat Treated				30.3
Shattter*	S23W12	I	1	4	I	Galena	Untreated	18	15	10	4.3
Complete*	S23W13	I	1	52	I	PDC	Burned	21	24	4	2.4
Complete*	S23W13	I	1	59	I	PDC	Untreeated	20	25	6	3
Complete*	S23W13	I	1	63	I	PDC	Burned	24	39	6	3.8
Complete*	S23W13	I	2	Lithic 1	I	Galena	Burned	18	23	3	2.2
Shattter*	S24W16	I	2	Lithic 2	O	PDC	Heat Treated				0.3
Shattter*	S24W16	I	2	Lithic 4	O	PDC	Heat Treated				0.2
Shattter*	S24W16	I	4	Lithic 1	O	LRC	Untreated				0.2
Complete*	S18W10	IA	1	Lithic 1	I & J	Burlington	Heat Treated	9	12	2	0.2
Complete*	S20W10	IA	3	5	H	PDC	Burned	22	12	8	2.2
Complete*	S20W10	IA	3	6	H	PDC	Untreated	28	43	18	27.1
Shattter*	S20W10	IA	3	16	H	PDC	Untreated				2

TABLE D.1: DEBITAGE continued

Complete*	S20W10		IA	4	2	H	Galena	Untreated	15	13	2	0.4
Broken*	S20W10		IA	4	6	H	PDC	Burned	28		9	3.5
Shattter*	S20W10		IA	5	Lithic 1	H	Burlington	Burned				0.8
Shattter*	S20W10		IA	6	3	H	PDC	Untreated				4
Shattter*	S20W10		IA	8	7	H	PDC	Untreated				1.5
Complete*	S20W13		IA	2	Lithic 1	H	Burlington	Heat Treated		15	1	
Complete*	S20W9		IA	1	8	H	PDC	Untreated	29	16	3	1.5
Complete*	S20W9		IA	1	13	H	PDC	Burned	9	7	2	0.1
Shattter*	S20W9		IA	1	27	H	PDC	Untreated				1.2
Shattter*	S20W9		IA	1	48	H	PDC	Burned				0.3
Broken*	S20W9		IA	3	22	H	PDC	Heat Treated				0.9
Shattter*	S20W9		IA	3	24	H	PDC	Untreated				1.3
Shattter*	S20W9		IA	5	23	H	Galena	Untreated				1
Complete*	S20W9		IA	6	12	H	PDC	Untreated	21	17	5	1.5
Shattter*	S20W9		IA	7	9	H	Galena	Heat Treated				12.8
Complete*	S20W9		IA	10	3	H	PDC	Untreated	31	25	7	5.5
Complete*	S20W9		IA	11	4	H	PDC	Untreated	19	15	3	0.9
Complete*	S20W9		IA	11	11	H	PDC	Untreated	29	17	11	4.7
Complete*	S21W9		IA	1	Lithic 1	I	PDC	Heat Treated	15	13	3	1
Complete*	S21W9		IA	1	Lithic 2	I	Burlington	Heat Treated	12	10	2	0.3
Broken*	S21W9		IA	4	13	I	PDC	Untreated	17	22	6	
Complete*	S21W9		IA	5	1	I	PDC	Burned	42	26	16	17.7
Complete*	S22W10		IA	1	Lithic 1	I	PDC	Heat Treated	14	21	3	1
Broken*	S22W10		IA	3	18	I	PDC	Untreated	13	19	3	0.8
Shattter*	S22W10		IA	4	25	I	PDC	Burned				3.4
Shattter*	S22W10		IA	4	28	I	LRC	Untreated				6.9
Shattter*	S22W11		IA	2	3	I	LRC	Untreated				35

TABLE D.1: DEBITAGE continued

Complete*	S22W11		IA	2	9	I	Galena	Burned	27	24	5	4.4
Complete*	S20W9		IB	3	11	I	Galena	Untreated	15	13	3	0.8
Shattter*	S20W9		IB	5	26	I	PDC	Untreated				4.4
Complete*	S21W10		IB	1	12	I	PDC	Untreated	11	11	2	0.3
Shattter*	S21W11		IB	3	39	I	PDC	Untreated				10.3
Complete*	S21W11		IB	8	1	I	PDC	Untreated	13	7	3	0.2
Complete*	S21W9		IB	1	4	I	Galena	Untreated	18	16	4	9
Complete*	S21W9		IB	1	1	I	Galena	Heat Treated	34	31	5	3.8
Complete*	S21W9		IB	2	19	I	Galena	Untreated	30	34	7	4
Broken*	S21W9		IB	3	7	I	PDC	Untreated	36	40	14	
Complete*	S21W9		IB	3	21	I	PDC	Untreated	17	13	2	0.5
Broken*	S22W10		IB	1	25	I	PDC	Untreated		26	5	
Complete*	S22W10		IB	1	Lithic 1	I	PDC	Burned	12	15	3	0.6
Broken*	S22W10		IB	2	58	I	PDC	Burned		18	3	
Shattter*	S22W10		IB	2	88	I	Galena	Untreated				4.8
Shattter*	S22W11		IB	1	3	I	PDC	Untreated				3.1
Broken*	S22W11		IB	1	Lithic 1	I	PDC	Untreated	12		2	
Complete*	S22W11		IB	2	18	I	PDC	Untreated	36	35	4	7.9
Shattter*	S22W11		IB	3	7	I	Galena	Burned				3.3
Shattter*	S20W10		IC	6	7	I	Galena	Untreated				21.3
Broken*	S20W11		IC	1	Lithic 1	I	PDC	Heat Treated		16	8	
Shattter*	S20W9		IC	1	10	I	PDC	Untreated				7.8
Shattter*	S20W9		IC	1	11	I	PDC	Untreated				2.1
Shattter*	S20W9		IC	1	12	I	Galena	Burned				26.7
Complete*	S21W11		IC	2	6	I	PDC	Untreated	16	27	7	2.7
Complete*	S22W10		IC	1	60	I	PDC	Untreated	21	25	9	4.9
Complete*	S22W10		IC	2	18	I	PDC	Untreated	12	14	3	0.4

TABLE D.1: DEBITAGE continued

Complete*	S22W10	IC	3	1	I	PDC	Untreated	7	9	2	0.1
Shatter*	S22W10	IC	5	6	I	PDC	Untreated				0.1
Complete*	S22W11	IC	1	82	I	PDC	Untreated	30	19	11	5.2
Broken*	S22W11	IC	1	86	I	PDC	Untreated		27	4	
Shatter*	S22W11	IC	1	Lithic 1	I	LRC	Untreated				80.7
Complete*	S22W11	IC	2	27	I	PDC	Untreated	31	66	11	28.2
Shatter*	S22W11	IC	2	36	I	PDC	Untreated				17.1
Complete*	S22W11	IC	2	Lithic 1	I	PDC	Heat Treated	33	23	11	7.6
Broken*	S22W11	IC	2	Lithic 2	I	PDC	Heat Treated		21	3	
Complete*	S22W11	IC	2	Lithic 3	I	PDC	Heat Treated	18	21	5	1.2
Broken*	S22W11	IC	2	Lithic 4	I	PDC	Heat Treated		12	2	
Shatter*	S22W11	IC	2	Lithic 5	I	PDC	Heat Treated				1.1
Complete*	S22W11	IC	2	Lithic 6	I	PDC	Heat Treated	25	12	4	1.2
Complete*	S22W11	IC	3	16	I	Galena	Untreated	35	34	7	6.8
Complete*	S22W11	IC	3	30	I	PDC	Untreated	22	31	4	2.8
Complete*	S22W12	IC	1	45	I	PDC	Burned	16	16	4	1
Broken*	S22W12	IC	1	58	I	PDC	Burned	14	36		
Broken*	S22W12	IC	2	Lithic 1	I	PDC	Heat Treated				0.7
Shatter*	S23W11	IC	2	42	I	PDC	Untreated	36	20	12	13.4
Complete*	S23W11	IC	2	Lithic 1	I	Burlington	Heat Treated	13	14	2	0.5
Complete*	S23W11	IC	3	5	I	PDC	Untreated	26	16	3	1.8
Shatter*	S23W12	IC	1	9	I	PDC	Untreated	3	3	2	0
Complete*	S23W13	IC	4	14	I	PDC	Untreeated	32	26	11	11.4
Complete*	S20W9	ICA	1	2	I	Galena	Burned	16	22	5	1.9
Complete*	S20W9	ICA	1	5	I	PDC	Untreated	23	19	2	1.5
Complete*	S20W9	ICA	2	11	I	PDC	Burned	39	27	12	11.9
Complete*	S20W9	ICA	2	11	I	PDC	Untreated	8	9	2	0.1

TABLE D.1: DEBITAGE continued

Shattter*	S20W9	ICA	2	14	I	PDC	Untreated				5.6
Shattter*	S21W9	ICA	1	8	I	PDC	Untreated				1.1
Broken*	S21W9	ICA	1	8	I	PDC	Untreated		3		
Shattter*	S21W9	ICA	1	12	I	PDC	Untreated				38.1
Complete*	S21W9	ICA	2	42	I	PDC	Untreated	16	22	5	1.8
Broken*	S21W9	ICA	3	13	I	Galena	Untreated	16		7	
Complete*	S21W9	ICA	4	1	I	PDC	Untreated	10	21	4	1
Complete*	S21W9	ICA	4	11	I	PDC	Untreated	14	19	3	0.7
Shattter*	S21W9	ICA	4	14	I	Galena	Untreated				1.5
Shattter*	S21W9	ICA	5	3	I	PDC	Burned				33.2
Complete*	S21W9	ICA	5	9	I	PDC	Untreated	6	21	4	0.6
Shattter*	S21W9	ICA	5	13	I	PDC	Untreated				1.5
Complete*	S21W9	ICA	5	10	I	PDC	Burned	22	9	6	1
Broken*	S20W9	ICB	1	2	I	Galena	Untreated	17		4	
Complete*	S21W9	ICB	1	44	I	PDC	Untreated	74	45	17	54.6
Complete*	S22W11	ICB	3	Lithic 1	I	PDC	Untreated	15	12	2	0.5
Complete*	S21W9	ICC	1	14	I	PDC	Untreated	25	32	17	14.2
Complete*	S21W9	ICC	1	37	I	PDC	Untreated	28	15	7	2.7
Complete*	S21W9	ICC	2	3	I	PDC	Untreated	27	33	4	3.2
Complete*	S21W9	ICC	2	40	I	PDC	Untreated	15	17	2	0.5
Shattter*	S21W9	ICC	2	3	I	PDC	Heat Treated				17.4
Complete*	S21W9	ICC	2	48	I	Galena	Heat Treated	36	17	10	4.2
Shattter*	S21W9	ICC	3	12	I	PDC	Untreated				0.8
Shattter*	S21W9	ICC	4	13	I	PDC	Untreated				1.3
Shattter*	S22W10	ID	1	10	I	PDC	Untreated				4.3
Broken*	S22W10	ID	1	25	I	PDC	Untreated	19	16	2	
Shattter	S18W8	IE	1	Lithic 1	I	PDC	Heat Treated				0.5

TABLE D.1: DEBITAGE continued

Shattter	S18W8		IE	1	Lithic 2	I	Burlington	Heat Treated				0.1
Shattter*	S20W9		IE	1	3	I	LRC	Untreated				26.2
Complete*	S20W9		IE	1	12	I	PDC	Untreated	13	30	5	1.5
Broken*	S20W9		IE	1	13	I	Galena	Untreated	53	27	4	9.6
Complete*	S20W9		IE	2	10	I	PDC	Untreated	8	8	2	0.1
Shattter*	S21W9		IE	1	6	I	PDC	Untreated				15
Broken*	S21W9		IE	1	26	I	PDC	Burned		40	7	11.3
Broken*	S21W9		IE	2	30	I	PDC	Untreated				
Shattter*	S21W9		IE	2	Lithic 1	I	PDC	Burned				0.1
Shattter*	S22W10		IE	1	25	I	PDC	Burned				0.6
Complete*	S22W13		IE	2	2	I	PDC	Untreated	20	19	9	3.3
Complete*	S22W13		IE	2	23	I	PDC	Untreated	11	12	2	0.3
Complete*	S22W13		IE	2	Lithic 1	I	PDC	Heat Treated	13	15	2	0.5
Complete*	S22W13		IE	2	Lithic 2	I	PDC	Burned	11	19	7	0.8
Shattter*	S20W9		IEA	1	2	I	PDC	Untreated				1.6
Shattter*	S21W9		IEA	2	5	I	Galena	Untreated				10.7
Complete*	S21W9		IEA	2	27	I	Galena	Untreated	18	24	6	2.5
Complete*	S21W9		IEA	2	28	I	PDC	Untreated	16	15	5	0.8
Shattter*	S21W9		IEA	3	5	I	PDC	Untreated				42.7
Complete*	S22W10		IEA	2	35	I	Galena	Untreated	6	14	2	0.1
Broken*	S21W9		IEB	2	14	I	PDC	Untreated		12	1	
Complete*	S21W9		IEB	2	15	I	PDC	Untreated	7	9	1	0.1
Complete*	S21W9		IEC	1	14	I	PDC	Burned	14	11	1	0.2
Complete*	S21W9		IEC	1	15	I	PDC	Burned	16	7	5	0.5
Broken*	S21W9		IEC	1	16	I	PDC	Burned		9	1	
Complete*	S21W9		IEC	1	17	I	Galena	Untreated	7	11	2	0.1
Shattter*	S21W9		IEC	1	18	I	PDC	Burned				0.1

TABLE D.1: DEBITAGE continued

Complete*	S21W9	IEC	1	19	I	PDC	Burned	6	10	1	0.1
Complete*	S21W9	IEC	1	21	I	PDC	Untreated	15	13	2	0.3
Shattter*	S21W9	IEC	1	22	I	PDC	Burned				0.3
Broken*	S21W9	IEC	1	26	I	PDC	Untreated		16	3	
Complete*	S21W9	IEC	2	46	I	PDC	Untreated	42	40	13	17.5
Shattter*	S21W9	IED	1	1	I	PDC	Burned				0.3
Complete*	S21W9	IED	1	2	I	PDC	Untreated	13	7	2	0.2
Complete*	S21W9	IED	1	3	I	PDC	Untreated	20	11	2	0.2
Shattter*	S21W9	IED	1	4	I	PDC	Burned				0.05
Complete*	S21W9	IED	2	11	I	PDC	Untreated	17	18	3	0.8
Complete*	S21W9	IED	2	12	I	PDC	Untreated	15	19	2	0.6
Broken*	S21W9	IED	2	13	I	PDC	Burned	17		3	
Complete*	S21W9	IEE	1	10	I	PDC	Untreated	11	9	2	0.2
Complete*	S21W9	IEE	1	16	I	PDC	Untreated	22	9	8	1.1
Complete*	S21W9	IEE	1	17	I	PDC	Burned	7	9	2	0.2
Shattter*	S21W9	IEE	1	20	I	PDC	Heat Treated				4.6
Complete*	S21W9	IEE	1	29	I	PDC	Untreated	13	10	2	0.3
Complete*	S21W9	IEE	1	31	I	PDC	Untreated	5	7	1	0.1
Complete*	S21W9	IEE	1	32	I	PDC	Untreated	10	11	4	0.3
Complete*	S21W9	IEE	1	34	I	PDC	Untreated	10	12	2	0.2
Broken*	S21W9	IEE	1	56	I	PDC	Untreated	20	14	5	
Complete*	S21W9	IEE	2	1	I	PDC	Untreated	19	26	2	1.3
Broken*	S21W9	IEE	2	31	I	PDC	Untreated	25		6	
Broken*	S21W9	IEE	2	33	I	PDC	Untreated	18	13	2	0.6
Broken*	S21W9	IEE	3	28	I	PDC	Untreated		14	1	
Shattter*	S21W9	IEE	3	33	I	PDC	Untreated				0.3
Shattter*	S21W9	IEE	3	20	I	Galena	Heat Treated				2

TABLE D.1: DEBITAGE continued

Complete*	S21W9		IEE	4	66	I	PDC	Untreated	15	8	7	0.6
Complete*	S21W9		IEE	4	85	I	PDC	Burned	10	12	3	0.3
Shatter*	S21W9		IEE	4	89	I	PDC	Untreated				0.4
Complete*	S21W9		IEE	4	90	I	PDC	Burned	6	9	2	0.1
Complete*	S21W9		IEE	4	91	I	PDC	Untreated	9	8	3	0.2
Complete*	S18W10		IF		Lithic 1	I & J	PDC	Untreated	11	8	2	0.2
Complete*	S18W10		IF		Lithic 2	I & J	PDC	Untreated	11	8	2	0.2
Complete*	S18W10		IF		Lithic 3	I & J	Burlington	Untreated	10	13	2	0.1
Shatter*	S18W10		IF		Lithic 4	I & J	PDC	Heat Treated				0.2
Complete*	S20W9		IF	2	16	I	PDC	Untreated	32	27	5	3.3
Complete*	S22W10		IF	1	Lithic 1	I	Galena	Untreated	7	10	2	0.2
Shatter*	S22w10		IF	1	Lithic 1	I	PDC	Untreated				0.1
Complete*	S22W10		IF	2	13	I	PDC	Heat Treated	17	8	4	0.4
Complete*	S22W13		IF	1	4	I	Galena	Untreated	23	17	4	1.3
Complete*	S22W13		IF	1	17	I	PDC	Burned	14	19	5	1.2
Broken*	S22W13		IF	1	31	I	PDC	Untreated		16	4	0.9
Complete*	S22W13		IF	1	Lithic 1	I	PDC	Heat Treated	17	9	4	0.5
Complete*	S22W13		IF	1	Lithic 2	I	PDC	Untreated	12	15	3	0.6
Complete*	S22W13		IF	1	Lithic 3	I	PDC	Untreated	11	13	2	0.2
Complete*	S22W13		IF	1	Lithic 4	I	PDC	Untreated	17	12	2	0.4
Complete*	S22W13		IF	1	Lithic 5	I	PDC	Burned	14	10	2	0.5
Complete*	S22W13		IF	1	Lithic 6	I	PDC	Heat Treated	12	13	2	0.4
Complete*	S22W13		IF	1	Lithic 7	I	PDC	Untreated	11	10	2	0.3
Shatter*	S22W13		IF	1	Lithic 8	I	PDC	Untreated				0.4
Broken*	S22W13		IF	1	Lithic 9	I	PDC	Heat Treated		10	1	
Shatter*	S22W13		IF	2	20	I	PDC	Untreated				0.2
Complete*	S22W13		IF	2	Lithic 1	I	PDC	Untreated	28	23	4	2.6

TABLE D.1: DEBITAGE continued

Shattter*	S22W13		IF	2	Lithic 10	I	PDC	Heat Treated				
Complete*	S22W13		IF	2	Lithic 2	I	PDC	Untreated	15	12	2	0.3
Complete*	S22W13		IF	2	Lithic 3	I	PDC	Burned	19	13	2	0.8
Broken*	S22W13		IF	2	Lithic 4	I	PDC	Untreated				
Complete*	S22W13		IF	2	Lithic 5	I	PDC	Untreated	17	12	3	0.4
Shattter*	S22W13		IF	2	Lithic 6	I	Burlington	Untreated				0.4
Shattter*	S22W13		IF	2	Lithic 7	I	Burlington	Untreated				0.5
Shattter*	S22W13		IF	2	Lithic 8	I	PDC	Burned				3.6
Shattter*	S22W13		IF	2	Lithic 9	I	PDC	Burned				5.8
Shattter*	S22W13		IF	3	18	I	PDC	Untreated				14.4
Broken*	S22W13		IF	3	23	I	PDC	Untreated		13	2	0.3
Complete*	S22W13		IF	3	Liithic 3	I	PDC	Heat Treated	9	10	3	0.3
Shattter*	S22W13		IF	3	Liithic 4	I	PDC	Untreated				3.9
Complete*	S22W13		IF	3	Lithic 1	I	Burlington	Untreated	15	18	3	0.7
Complete*	S22W13		IF	3	Lithic 2	I	PDC	Heat Treated	11	11	2	0.1
Shattter*	S22W13		IF	3	Lithic 5	I	PDC	Untreated				5.1
Complete*	S20W10		IFA	1	9	I	PDC	Burned	29	18	8	4.6
Shattter*	S20W10		IFA	1	Lithic 1	I	Galena	Burned				1.2
Complete*	S20W10		IFA	2	Lithic 1	I	Burlington	Heat Treated	19	12	3	0.6
Shattter*	S20W10		IFA	2	Lithic 2	I	PDC	Burned				1.5
Shattter*	S20W10		IFA	3	8	I	PDC	Untreated				5.1
Broken*	S20W10		IFA	3	23	I	PDC	Burned		20	11	
Complete*	S20W10		IFA	4	10	I	PDC	Untreated	44	49	8	19.6
Shattter*	S22W10		IFA	1	1	I	PDC	Burned				2.7
Shattter*	S22W10		IFA	1	22	I	PDC	Untreated				1.7
Shattter*	S22W10		IFA	1	35	I	PDC	Untreated				2.9
Complete*	S22W10		IFA	1	36	I	PDC	Untreated	17	12	2	0.4

TABLE D.1: DEBITAGE continued

Complete*	S22W10		IFA	1	39	I	PDC	Untreated	14	11	4	0.5
Complete*	S22W10		IFA	1	Lithic 1	I	PDC	Heat Treated	23	10	5	0.6
Broken*	S22W10		IFA	2	5	I	Galena	Heat Treated				3.1
Complete*	S22W10		IFA	2	8	I	PDC	Untreated	24	16	3	1.1
Complete*	S22W10		IFA	2	11	I	PDC	Untreated	13	11	2	0.3
Complete*	S22W10		IFA	2	21	I	PDC	Untreated	11	10	1	0.2
Complete*	S22W10		IFA	2	22	I	PDC	Untreated	10	15	3	0.5
Shatter*	S22W10		IFA	2	25	I	PDC	Untreated				0.2
Complete*	S22W10		IFA	2	27	I	PDC	Untreated	10	18	2	0.3
Complete*	S22W10		IFA	2	28	I	PDC	Untreated	11	11	2	0.3
Broken*	S22W10		IFA	2	29	I	PDC	Untreated		11	1	
Complete*	S22W10		IFA	2	32	I	PDC	Burned	9	11	1	0.1
Complete*	S22W10		IFA	2	36	I	PDC	Burned	5	11	3	0.4
Complete*	S22W10		IFA	2	37	I	PDC	Burned	17	8	2	0.3
Complete*	S22W10		IFA	2	39	I	PDC	Burned	6	13	2	0.1
Complete*	S22W10		IFA	2	40	I	PDC	Untreated	7	12	2	0.1
Complete*	S22W10		IFA	2	41	I	PDC	Untreated	14	10	3	0.3
Broken*	S22W10		IFA	2	45 - Lithic 1	I	PDC	Untreated			3	
Broken*	S22W10		IFA	2	45 - Lithic 2	I	PDC	Untreated			3	
Complete*	S22W10		IFA	2	45 - Lithic 3	I	PDC	Untreated	10	9	2	0.1
Broken*	S22W10		IFA	2	45 - Lithic 4	I	PDC	Untreated		8	2	0.2
Broken*	S22W10		IFA	2	45 - Lithic 5	I	Galena	Untreated		12	3	
Complete*	S22W10		IFA	2	45 - Lithic 6	I	PDC	Untreated	10	14	3	0.3
Complete*	S22W10		IFA	2	45 - Lithic 7	I	PDC	Burned	10	15	4	0.5
Shatter*	S22W10		IFA	2	45 - Lithic 8	I	PDC	Untreated				0.05
Complete*	S22W10		IFA	2	45 - Lithic 9	I	PDC	Untreated	3	9	1	0.1
Complete*	S22W10		IFA	2	45 - Lithic 10	I	PDC	Untreated	13	14	2	0.4

TABLE D.1: DEBITAGE continued

Complete*	S22W10	IFA	3	1	I	Galena	Burned	26	14	2	1
Complete*	S22W10	IFA	3	2	I	PDC	Untreated	12	12	1	0.2
Broken*	S22W10	IFA	3	3	I	PDC	Burned	28		7	
Shattter*	S22W10	IFA	3	4	I	PDC	Untreated				1.8
Complete*	S22W10	IFA	3	5	I	PDC	Untreated	14	10	2	0.3
Complete*	S22W10	IFA	3	6	I	PDC	Heat Treated	12	13	5	0.5
Complete*	S22W10	IFA	3	8	I	PDC	Burned	16	8	2	0.3
Complete*	S22W10	IFA	3	9	I	PDC	Untreated	14	7	2	0.1
Complete*	S22W10	IFA	3	10	I	PDC	Untreated	7	12	2	0.1
Complete*	S22W10	IFA	3	11	I	PDC	Untreated	17	13	2	0.4
Complete*	S22W10	IFA	3	12	I	Galena	Burned	10	13	1	0.3
Complete*	S22W10	IFA	3	13	I	PDC	Untreated	13	7	1	0.1
Complete*	S22W10	IFA	3	15	I	PDC	Untreated	28	31	7	4.6
Broken*	S22W10	IFA	3	7 - Lithic 1	I	PDC	Untreated		11	2	
Broken*	S22W10	IFA	3	7 - Lithic 2	I	PDC	Untreated	7		1	
Broken*	S22W10	IFA	4	2	I	PDC	Burned		16	2	
Complete*	S22W10	IFA	4	3	I	PDC	Untreated	11	15	2	0.3
Complete*	S22W10	IFA	4	22	I	PDC	Untreated	19	13	3	0.5
Shattter*	S22W12	IFA	1	25	I	PDC	Heat Treated				31.1
Complete*	S21W9	IFB	1	8	I	PDC	Untreated	2	15	2	0.2
Shattter*	S21W9	IFB	1	17	I	PDC	Untreated				0.1
Complete*	S21W9	IFB	1	20	I	PDC	Untreated	11	13	2	0.3
Complete*	S21W9	IFB	1	21	I	PDC	Untreated	11	8	1	0.1
Broken*	S21W9	IFB	2	6	I	PDC	Untreated	21		5	
Broken*	S21W9	IFB	2	10	I	Galena	Untreated		10	3	
Shattter*	S21W9	IFB	3	4	I	PDC	Untreated				0.4
Shattter*	S21W9	IFB	3	11	I	PDC	Untreated				40.4

TABLE D.1: DEBITAGE,continued

Shattter*	S20W9	IG	1	21	I	PDC	Burned				0.7
Shattter*	S20W9	IG	1	28	I	PDC	Untreated				5.5
Complete*	S20W9	IG	1	43	I	PDC	Untreated	20	15	4	1.3
Shattter*	S20W9	IG	1	47	I	PDC	Untreated				5.9
Complete*	S20W9	IG	1	52	I	PDC	Untreated	16	17	2	0.4
Complete*	S20W9	IG	1	53	I	PDC	Untreated	10	9	2	0.1
Complete*	S20W9	IG	1	54	I	PDC	Untreated	8	6	2	0.1
Complete*	S20W9	IG	1	55	I	PDC	Untreated	5	8	2	0.1
Complete*	S20W9	IG	1	56	I	PDC	Untreated	12	13	4	0.4
Complete*	S20W9	IG	1	57	I	PDC	Untreated	7	9	2	0.1
Complete*	S20W9	IG	1	58	I	PDC	Untreated	12	7	4	0.2
Complete*	S20W9	IG	1	59	I	PDC	Untreated	19	11	2	0.4
Complete*	S21W9	IG	1	1	I	PDC	Untreated	21	16	2	1
Broken*	S21W9	IG	1	3	I	PDC	Burned		11	1	
Broken*	S21W9	IG	1	4	I	PDC	Untreated		10	1	
Shattter*	S21W9	IG	1	5	I	PDC	Untreated				0.1
Broken*	S21W9	IG	1	6	I	PDC	Untreated		12	2	
Complete*	S21W9	IG	1	7	I	PDC	Untreated	6	9	2	0.1
Shattter*	S21W9	IG	1	15	I	PDC	Burned				0.2
Complete*	S21W9	IG	1	46	I	PDC	Burned	47	32	6	10.2
Broken*	S21W9	IG	1	49	I	PDC	Untreated	14	18	3	
Shattter*	S21W9	IG	1	54	I	PDC	Untreated				0.5
Broken*	S21W9	IG	1	55	I	PDC	Burned			3	
Complete*	S21W9	IG	1	81	I	PDC	Untreated	14	9	2	0.4
Complete*	S21W9	IG	2	22	I	PDC	Untreated	13	12	3	0.4
Complete*	S21W9	IG	2	25	I	PDC	Untreated	21	17	4	1.3
Complete*	S21W9	IG	2	37	I	PDC	Untreated	12	11	2	0.2

TABLE D.1: DEBITAGE continued

Complete*	S21W9	IG	2	55	I	PDC	Untreated	22	15	5	1.8
Complete*	S22W10	IG	1	18	I	PDC	Untreated	20	18	2	0.8
Broken*	S22W10	IG	1	25	I	PDC	Untreated		9		
Shattter*	S22W10	IH	1	4	I	PDC	Burned				0.6
Complete*	S20W9	IX	1	7	I	PDC	Untreated	19	12	3	0.4
Complete*	S20W9	IX	1	8	I	PDC	Untreated	20	13	2	0.8
Complete*	S20W9	IX	3	5	I	PDC	Untreated	19	12	6	1
Shattter*	S20W9	IXC	2	29	I	PDC	Untreated				45.4
Complete*	S18W10	J	1	Lithic 1	I & J	PDC	Untreated	13	15	3	0.6
Shattter*	S18W10	J	1	Lithic 2	I & J	PDC	Burned				0.2
Shattter*	S18W10	J	1	Lithic 3	I & J	PDC	Untreated				0.2
Shattter*	S18W10	J	1	Lithic 4	I & J	PDC	Heat Treated				0.8
Shattter*	S18W10	J		Lithic 1	I & J	PDC	Heat Treated				1
Shattter*	S18W10	J		Lithic 2	I & J	PDC	Heat Treated				0.3
Shattter*	S18W10	J		Lithic 3	I & J	PDC	Burned				0.2
Complete*	S18W12	J	1	Lithic 1	L	PDC	Heat Treated	22	19	2	0.7
Shattter*	S18W14	J	1	Lithic 1	H, I, J & K	PDC	Heat Treated				0.4
Shattter*	S18W14	J	1	Lithic 2	H, I, J & K	PDC	Burned				0.4
Broken	S18W8	J	2	Lithic 1	J	PDC	Heat Treated				0.2
Shattter	S18W8	J	2	Lithic 2	J	PDC	Burned				0.3
Shattter*	S19W10	J	1	3	J	PDC	Untreated	20	13	10	2.7
Shattter*	S19W11	J	1	10	J	PDC	Burned				20.8
Broken*	S19W11	J	1	18	J	Galena	Heat Treated		24	3	2.3
Complete*	S19W11	J	2	20	J	Galena	Burned	38	20	5	3.3
Broken*	S19W11	J	4	11	J	PDC	Untreated	21		6	
Shattter*	S20W11	J	1	6	J	PDC	Burned				3.9
Shattter*	S20W11	J	1	7	J	PDC	Untreated				1.5

TABLE D.1: DEBITAGE continued

Shattter*	S20W11		J	1	12	J	PDC	Untreated				20.9
Shattter*	S20W13		J	1	13	J	PDC	Untreated				1.8
Complete*	S20W13		J	1	19	J	Galena	Burned	19	16	5	1.3
Broken*	S20W9		J	1	39	J	PDC	Burned		11	2	
Shattter*	S20W9		J	1	57	J	PDC	Untreated				3.3
Shattter*	S20W9		J	1	87	J	PDC	Untreated				4.1
Complete*	S20W9		J	2	16	J	PDC	Burned	25	16	4	1.5
Broken*	S20W9		J	2	32	J	PDC	Burned		16	2	
Complete*	S20W9		J	2	36	J	PDC	Untreated	22	12	4	1.2
Complete*	S20W9		J	3	3	J	PDC	Untreated	17	23	5	1.3
Complete*	S20W9		J	3	4	J	PDC	Untreated	13	9	4	0.7
Complete*	S20W9		J	3	5	J	PDC	Untreated	13	16	4	0.4
Complete*	S20W9		J	3	6	J	PDC	Untreated	6	11	3	0.2
Broken*	S20W9		J	3	7	J	PDC	Untreated		10	4	
Complete*	S20W9		J	3	8	J	PDC	Burned	9	7	2	0.1
Complete*	S20W9		J	3	9	J	LRC	Untreated	20	20	8	3
Complete*	S20W9		J	3	29	J	PDC	Untreated	16	11	3	0.3
Complete*	S21W10		J	3	4	K	PDC	Burned	21	21	6	2.8
Broken*	S21W11		J	1	2	J	PDC	Burned		14	2	
Complete*	S21W11		J	2	5	J	PDC	Untreated	10	12	2	0.2
Complete*	S21W11		J	2	10	J	PDC	Burned	9	14	8	0.6
Complete*	S21W11		J	4	2	J	PDC	Untreated	27	18	4	2.5
Broken*	S21W11		J	4	2	J	Galena	Untreated	26		4	2.4
Broken*	S21W11		J	4	3	J	PDC	Untreated	16	27	4	
Shattter*	S21W11		J	4	4	J	PDC	Burned				1.6
Complete*	S21W11		J	4	9	J	PDC	Untreated	8	9	2	0.1
Shattter*	S21W11		J	5	2	J	PDC	Untreated				0.6

TABLE D.1: DEBITAGE continued

Shattter*	S21W11	J	5	28	J	PDC	Burned				6.1
Shattter*	S21W11	J	5	Lithic 1	J	LRC	Heat Treated				0.1
Shattter*	S21W11	J	5	Lithic 2	J	PDC	Burned				0.2
Shattter*	S21W11	J	5	Lithic 3	J	PDC	Untreated				0.1
Shattter*	S21W11	J	5	28	J	PDC	Burned				10.6
Shattter*	S21W11	J	6	10	J	PDC	Untreated				0.7
Complete*	S21W11	J	6	16	J	PDC	Untreated	21	12	3	0.6
Complete*	S21W11	J	6	17	J	PDC	Burned	28	59	8	14.6
Complete*	S21W11	J	6	34	J	PDC	Untreated	14	22	3	0.8
Shattter*	S21W11	J	6	36	J	PDC	Untreated				3.9
Shattter*	S21W11	J	6	Lithic 1	J	PDC	Heat Treated				0.1
Broken*	S21W13	J	2	Lithic 1	J	PDC	Burned				0.5
Broken*	S21W13	J	2	Lithic 2	J	PDC	Heat Treated				0.7
Shattter*	S21W13	J	2	6	J	Galena	Untreated				0.1
Complete*	S21W13	J	2	32	J	PDC	Burned	30	28	4	2.9
Shattter*	S21W13	J	3	11	J	PDC	Untreated				5
Broken*	S21W13	J	3	19	J	PDC	Untreated	28	15	7	2.7
Shattter*	S21W13	J	4	6	J	PDC	Untreated				11.3
Shattter*	S21W13	J	4	9	J	PDC	Untreated				2.9
Shattter*	S21W13	J	6	9	J	PDC	Untreated				6.4
Complete*	S21W14	J	3	6	J	PDC	Untreated	20	37	5	3.2
Shattter*	S21W14	J	4	1	J	PDC	Heat Treated				25.5
Shattter*	S21W9	J	1	2	J	PDC	Heat Treated				10.2
Shattter*	S21W9	J	1	22	J	PDC	Untreated				37.9
Broken*	S21W9	J	1	50	J	PDC	Untreated		18	17	9
Shattter*	S21W9	J	1	56	J	PDC	Untreated				13
Complete*	S21W9	J	1	59	J	PDC	Burned	15	12	4	0.8

TABLE D.1: DEBITAGE continued

Broken*	S21W9	J	1	157	J	PDC	Untreated	25	18	9	
Shattter*	S21W9	J	1	Lithic 1	J	PDC	Heat Treated				0.9
Broken*	S21W9	J	1	Lithic 2	J	PDC	Heat Treated				<0.1
Complete*	S21W9	J	2	37	J	PDC	Untreated	17	14	2	0.4
Broken*	S21W9	J	2	79	J	PDC	Burned		11	3	
Complete*	S21W9	J	2	80	J	PDC	Untreated	6	6	1	0.05
Complete*	S21W9	J	2	87	J	PDC	Untreated	20	15	4	1.3
Complete*	S21W9	J	2	123	J	PDC	Untreated	19	29	3	1.3
Complete*	S21W9	J	2	Lithic 1	J	PDC	Burned	23	15	5	1.3
Complete*	S21W9	J	2	Lithic 2	J	PDC	Heat Treated	10	13	3	0.3
Complete*	S21W9	J	2	Lithic 3	J	PDC	Heat Treated	9	9	2	0.2
Complete*	S21W9	J	2	Lithic 4	J	LRC	Untreated	15	17	3	0.7
Shattter*	S21W9	J	2	Lithic 5	J	PDC	Heat Treated				0.7
Shattter*	S21W9	J	2	Lithic 6	J	PDC	Heat Treated				0.7
Shattter*	S21W9	J	2	Lithic 7	J	PDC	Heat Treated				0.1
Complete*	S21W9	J	2	120	J	PDC	Untreated	43	48	16	33
Complete*	S21W9	J	3	12	J	PDC	Untreated	16	17	3	0.7
Complete*	S21W9	J	3	29	J	PDC	Untreated	7	6	1	0.1
Complete*	S21W9	J	3	31	J	PDC	Untreated	16	14	5	0.9
Complete*	S21W9	J	3	46	J	PDC	Untreated	15	22	3	1
Complete*	S21W9	J	3	49	J	PDC	Untreated	17	15	3	0.8
Shattter*	S21W9	J	3	Lithic 1	J	PDC	Heat Treated				0.1
Shattter*	S21W9	J	3	Lithic 2	J	PDC	Untreated				0.1
Complete*	S21W9	J	3	Lithic 3	J	PDC	Untreated	4	5	1	<0.1
Broken*	S21W9	J	3	Lithic 4	J	PDC	Heat Treated				<0.1
Broken*	S21W9	J	3	Lithic 5	J	PDC	Heat Treated				<0.1
Shattter*	S21W9	J	3	Lithic 6	J	PDC	Untreated				0.1

TABLE D.1: DEBITAGE continued

Shattter*	S21W9	J	3	Lithic 7	J	PDC	Heat Treated				<0.1
Complete*	S21W9	J	3	27	J	PDC	Untreated	59	53	12	40.2
Complete*	S22W10	J	1	6	J	PDC	Untreated	22	15	6	2.1
Complete*	S22W11	J	1	19	J	Galena	Burned	23	18	3	1.2
Shattter*	S22W11	J	1	19	J	Galena	Untreated				3.4
Broken*	S22W11	J	1	29	J	PDC	Untreated		12	4	
Complete*	S22W11	J	1	3	J	Galena	Heat Treated	21	15	6	1.6
Shattter*	S22W11	J	2	Lithic 1	J	PDC	Burned				1.4
Complete*	S22W12	J	2	6	J	Galena	Untreated	22	14	3	1.2
Shattter*	S23W11	J	2	1	J	PDC	Untreated	31	21	13	13.1
Broken*	S23W11	J	2	Lithic 1	J	PDC	Untreated		10	2	
Shattter*	S23W12	J	1	10	J	PDC	Untreated	22	20	7	2
Shattter*	S23W12	J	3	5	J	PDC	Untreated	28	25	14	6.9
Complete*	S23W13	J	2	Lithic 1	J	Burlington	Burned	18	11	3	0.5
Shattter*	S24W16	J	1	Lithic 1	O	PDC	Heat Treated				1.4
Shattter*	S24W16	J	1	Lithic 2	O	PDC	Untreated				0.2
Shattter*	S24W16	J	1	Lithic 3	O	PDC	Untreated				0.2
Complete*	S22W12	J (J-K)	1	39	J (J-K)	PDC	Burned	26	23	6	2.9
Complete*	S22W12	J (J-K)	2	12	J (J-K)	PDC	Untreated	13	18	5	1.2
Complete*	S20W10	JA	1	11	K	PDC	Untreated	20	24	6	3
Complete*	S20W9	JA	1	31	J	PDC	Untreated	17	12	3	0.6
Complete*	S21W9	JA	1	23	J	PDC	Untreated	15	24	10	3.3
Complete*	S21W9	JA	1	35	J	PDC	Untreated	17	23	5	1.5
Broken*	S21W9	JA	1	36	J	PDC	Untreated	14	17	4	
Shattter*	S21W9	JA	1	50	J	PDC	Burned				0.1
Complete*	S21W9	JA	1	50	J	PDC	Burned	8	4	2	0.1
Shattter*	S21W9	JA	1	53	J	Galena	Untreated				45.7

TABLE D.1: DEBITAGE continued

Complete*	S22W10		JA	1	41	J	Galena	Untreated	10	21	5	0.7
Broken*	S22W10		JA	1	58	J	PDC	Untreated		12	2	
Complete*	S22W10		JA	2	25	J	PDC	Burned	16	6	3	0.1
Broken*	S22W13		JA	1	Lithic 1	J	PDC	Untreated		6	1	0.1
Shattter*	S22W13		JA	1	Lithic 2	J	PDC	Untreated				0.6
Complete*	S22W10		JAA	1	100	J	PDC	Burned	10	16	2	0.3
Shattter*	S21W12		JB	4	Lithic 1	J	PDC	Untreated				0.7
Complete*	S22W11		JB	1	3	J	PDC	Untreated	26	19	13	5.2
Shattter*	S22W11		JB	1	124	J	PDC	Untreated				16
Complete*	S22W11		JB	1	Lithic 1	J	Galena	Heat Treated	36	16	9	5.5
Shattter*	S22W11		JB	1	Lithic 2	J	LRC	Untreated				1.7
Complete*	S22W11		JB	1	Lithic 3	J	PDC	Untreated	55	28	11	14
Shattter*	S22W11		JB	2	5	J	PDC	Untreated				3.3
Broken*	S22W12		JB	1	28	J	PDC	Untreated	16	15	3	
Broken*	S22W12		JB	1	53	J	PDC	Untreated		14	4	
Complete*	S22W12		JB	1	85	J	PDC	Untreated	24	18	5	3.2
Shattter*	S22W12		JB	2	69	J	LRC	Untreated				0.5
Shattter*	S22W12		JB	2	69	J	Galena	Untreated				2.6
Complete*	S22W12		JB	2	76	J	PDC	Heat Treated	18	19	3	0.4
Shattter*	S22W12		JB	5	Lithic 1	J	PDC	Burned				35.4
Broken*	S22W13		JB	1	23	J	Galena	Burned	11	18	3	0.4
Complete*	S22W13		JB	2	Lithic 1	J	PDC	Untreated	10	6	1	0.1
Complete*	S22W13		JB	2	Lithic 2	J	Galena	Heat Treated	9	8	1	0.2
Shattter*	S22W13		JB	2	Lithic 3	J	PDC	Burned				0.2
Shattter*	S22W13		JB	2	Lithic 4	J	LRC	Heat Treated				0.2
Shattter*	S23W11		JB	1	4	J	PDC	Untreated	25	21	10	4.9
Shattter*	S23W11		JB	1	4	J	PDC	Burned				4.9

TABLE D.1: DEBITAGE continued

Broken*	S23W11		JB	3	1	J	PDC	Untreated	22	24	4	2.5
Complete*	S23W13		JB	1	40	K	PDC	Heat Treated	41	49	8	13.1
Broken*	S23W13		JB	1	41	K	PDC	Untreeated		17	2	0.6
Broken*	S23W13		JB	2	10	K	PDC	Untreeated	20	17	3	1.3
Complete*	S23W13		JB	2	16	K	PDC	Untreeated	21	28	7	2.7
Complete*	S23W13		JB	2	31	K	Galena	Untreeated	41	33	21	36
Complete*	S23W13		JB	2	Lithic 1	K	PDC	Burned	18	23	4	1.2
Complete*	S23W13		JB	3	1	K	PDC	Untreeated	21	18	9	4
Shattter*	S23W13		JB	3	39	K	PDC	Untreeated	33	21	10	5.2
Shattter*	S23W13		JB	4	31	K	PDC	Untreeated	24	17	9	4.3
Shattter*	S23W13		JB	4	Lithic 1	K	PDC	Untreated				1
Complete*	S23W13		JB	5	1	K	PDC	Untreeated	46	24	19	15.7
Shattter*	S23W13		JB	5	Lithic 1	K	PDC	Burned				2.7
Complete*	S23W13		JB	6	19	K	PDC	Untreeated	46	32	12	17
Complete*	S23W13		JB	6	25	K	PDC	Untreeated	26	31	5	5.8
Shattter*	S23W13		JB	7	39	K	PDC	Untreeated	21	14	10	2.6
Shattter*	S23W17		JB	1	22	J	PDC	Untreated	50	40	30	52.5
Shattter*	S22W10		JC	1	32	J	PDC	Untreated				1.2
Shattter*	S22W10		JC	1	34	J	PDC	Burned				7.6
Complete*	S22W10		JC	1	31	J	PDC	Heat Treated	22	11	3	0.9
Complete*	S22W11		JC	1	Lithic 1	J	PDC	Untreated	24	13	4	1.9
Complete*	S22W11		JC	2	Lithic 1	J	PDC	Burned	13	20	3	0.9
Broken*	S22W13		JC	6	12	J	Galena	Untreated	17	17	5	
Complete*	S23W13		JC	5	8	J	PDC	Untreeated	13	21	4	0.9
Complete*	S23W13		JC	5	8	J	PDC	Untreeated	18	35	4	1.9
Complete*	S23W13		JC	6	8	J	PDC	Untreeated	40	10	4	3
Shattter*	S23W13		JC	6	23	J	PDC	Untreeated	41	30	11	16.9

TABLE D.1: DEBITAGE continued

Complete*	S23W13	JC	12	24	J	PDC	Burned	52	47	7	20.1
Shattter*	S23W13	JC	3	Lithic 1	J	Galena	Heat Treated				2.2
Shattter*	S22W11	JD	1	4	J	Galena	Untreated				0.6
Complete*	S22W11	JD	2	7	J	PDC	Untreated	13	21	3	0.9
Complete*	S22W11	JD	2	40	J	PDC	Untreated	11	13	3	0.2
Complete*	S22W12	JD	1	22	J	PDC	Untreated	27	14	8	2
Complete*	S22W12	JD	1	23	J	PDC	Burned	16	28	7	1.8
Broken*	S22W12	JD	2	52	J	PDC	Untreated	19		4	
Complete*	S21W12	JDA	4	5	J	LRC	Untreated	12	16	4	0.5
Broken*	S22W11	JDA	1	28	J	PDC	Untreated	22			
Shattter*	S22W11	JDA	1	66	J	PDC	Burned				5.4
Complete*	S22W11	JDA	2	59	J	PDC	Untreated	32	32	13	15.1
Shattter*	S22W12	JDA	1	7	J	PDC	Burned				2.2
Shattter*	S22W12	JDA	1	23	J	PDC	Untreated				0.5
Complete*	S22W12	JDA	2	12	J	PDC	Untreated	8	10	3	0.2
Complete*	S22W12	JDA	4	46	J	PDC	Untreated	18	18	5	1.5
Complete*	S22W12	JDA	5	4	J	PDC	Burned	19	13	6	1.1
Shattter*	S22W12	JDA	5	6	J	PDC	Untreated				0.7
Shattter*	S22W12	JDA	7	13	J	PDC	Untreated				2.6
Shattter*	S23W12	JDA	1	12	J	PDC	Untreated	14	6	5	0.5
Complete*	S23W12	JDA	1	14	J	PDC	Untreated	9	11	2	0.1
Shattter*	S21W12	JE	1	15	J	PDC	Untreated				1.1
Shattter*	S21W12	JE	1	Lithic 1	J	PDC	Burned				2
Broken*	S22W11	JE	1	2	J	Silicified Sandstone	Untreated		12	4	0.5
Complete*	S22W12	JE	1	8	J	PDC	Untreated	21	19	4	1.4
Shattter*	S22W13	JH	2	2	J	PDC	Heat Treated				0.2
Complete*	S20W9	JK	3	60	J	PDC	Burned	25	23	17	8.2

TABLE D.1: DEBITAGE continued

Complete*	S22W12	JK	1	8	J	PDC	Untreated	22	23	5	2.2
Broken*	S22W12	JK	1	12	J	PDC	Untreated	32		9	
Complete*	S22W12	JK	1	41	J	PDC	Burned	21	19	3	1.1
Shattter*	S22W12	JK	1	52	J	PDC	Heat Treated				5.2
Shattter*	S23W12	JK	1	6	J	LRC	Untreated	24	15	12	5.2
Complete*	S23W12	JK	1	15	J	PDC	Untreated	48	22	10	8.7
Shattter*	S23W12	JK	1	50	J	PDC	Untreated	44	29	16	11.1
Shattter*	S23W12	JK	2	4	J	PDC	Heat Treated				1.5
Complete*	S23W12	JK	2	7	J	PDC	Untreated	28	29	6	3.6
Broken*	S23W12	JK	2	10	J	Galena	Heat Treated				2.5
Shattter*	S23W12	JK	3	2	J	PDC	Untreated	25	13	4	0.9
Shattter*	S23W12	JKY	2	9	J	PDC	Untreated	11	5	3	0.1
Shattter	S18W8	JX	1	Lithic 1	J	PDC	Heat Treated				0.7
Complete	S18W8	JX	1	Lithic 2	J	PDC	Heat Treated	14	19	3	0.5
Complete	S18W8	JX	2	Lithic 1	J	Galena	Heat Treated	8	9	1	0.1
Complete	S18W8	JX	3	Lithic 1	J	PDC	Untreated	19	18	3	0.9
Shattter	S18W8	JX	3	Lithic 2	J	PDC	Heat Treated				0.3
Broken	S18W8	JX	3	Lithic 3	J	PDC	Untreated				0.3
Shattter	S18W8	JX	3	Lithic 4	J	PDC	Heat Treated				0.1
Shattter*	S19W10	JX	1	6	J	PDC	Untreated	22	17	15	5
Complete*	S20W9	JX	1	13	J	PDC	Untreated	57	44	14	30.9
Shattter*	S20W9	JX	1	69	J	Galena	Untreated				23.5
Complete*	S20W9	JX	3	7	J	Galena	Untreated	28	21	4	2.3
Shattter*	S20W9	JX	3	43	J	LRC	Untreated				151.5
Complete*	S20W9	JX	3	51	J	PDC	Burned	40	30	17	13
Complete*	S20W9	JX	3	11	J	Galena	Heat Treated	33	19	7	2.6
Shattter*	S20W9	JX	4	41	J	PDC	Untreated				155.8

TABLE D.1: DEBITAGE continued

Shattter*	S20W9	JX	4	59	J	PDC	Untreated				8
Shattter*	S20W9	JX	4	73	J	PDC	Untreated				2.5
Shattter*	S20W9	JX	5	16	J	PDC	Burned				3.4
Shattter*	S20W9	JX	5	25	J	PDC	Untreated				60.8
Shattter*	S20W9	JX	6	3	J	PDC	Untreated				14.5
Complete*	S20W9	JX	6	21	J	PDC	Untreated	12	10	3	0.4
Complete*	S20W9	JX	6	22	J	PDC	Untreated	26	18	5	2.7
Shattter*	S20W9	JX	6	34	J	PDC	Burned				5.4
Complete*	S20W9	JX	6	50	J	Galena	Burned	20	20	3	1.4
Shattter*	S20W9	JX	6	58	J	PDC	Burned				4.7
Complete*	S20W9	JX	8	27	J	PDC	Burned	23	19	14	6.7
Complete*	S20W9	JX	8	31	J	PDC	Untreated	25	39	15	11.5
Complete*	S20W9	JX	9	22	J	PDC	Untreated	44	31	5	13.1
Shattter	S18W8	JXA	1	Lithic 1	J	PDC	Heat Treated				1.3
Broken	S18W8	JXA	1	Lithic 2	J	PDC	Heat Treated				0.1
Shattter	S18W8	JXA	1	Lithic 3	J	PDC	Heat Treated				0.2
Shattter	S18W8	JXA	1	Lithic 4	J	PDC	Burned				8.4
Broken	S18W8	JXA		Lithic 1	J	PDC	Burned				0.2
Shattter	S18W8	JXB	1	Lithic 2	J	PDC	Heat Treated				0.3
Shattter	S18W8	JXB	1	Lithic 3	J	PDC	Heat Treated				0.2
Shattter	S18W8	JXB	1	Lithic 4	J	PDC	Heat Treated				0.1
Complete*	S20W9	JXB	1	48	J	PDC	Untreated	49	54	9	21.6
Complete*	S20W9	JXB	1	64	J	PDC	Untreated	42	20	6	5.3
Complete*	S20W9	JXB	1	65	J	Galena	Untreated	23	20	5	1.4
Complete*	S20W9	JXB	2	39	J	PDC	Untreated	24	25	10	4.9
Complete*	S20W9	JXB	2	44	J	PDC	Burned	23	36	13	13.6
Complete*	S20W9	JXB	2	49	J	PDC	Untreated	22	16	8	2.6

TABLE D.1: DEBITAGE continued

Shattter*	S20W9	JXB	2	83	J	Galena	Untreated				2.4
Complete*	S20W9	JXBB	1	Lithic 1	J	PDC	Untreated	18	17	3	1.1
Complete*	S20W9	JXC	1	9	J	PDC	Untreated	27	20	9	4.9
Shattter*	S20W9	JXC	2	16	J	Galena	Untreated				3.3
Complete*	S20W9	JXC	2	38	J	PDC	Untreated	22	29	4	1.9
Complete*	S20W9	JXC	2	56	J	PDC	Untreated	19	8	6	0.8
Complete*	S20W9	JXC	2	92	J	PDC	Untreated	14	20	4	1.8
Shattter*	S20W9	JY	1	13	J	Galena	Burned				24
Complete*	S20W9	JY	2	1	J	PDC	Untreated	16	30	3	1.3
Complete*	S20W9	JY	2	2	J	PDC	Untreated	11	9	2	0.2
Shattter*	S18W10	K	1	Lithic 1	I & J	PDC	Burned				0.6
Complete*	S18W10	K	2	Lithic 1	J	Galena	Untreated	6	8	1	0.1
Complete*	S18W10	K	2	Lithic 2	J	PDC	Untreated	9	13	2	0.2
Complete*	S18W10	K	2	Lithic 3	J	PDC	Heat Treated	7	8	2	0.2
Complete*	S18W10	K	2	Lithic 4	J	PDC	Heat Treated	13	9	2	0.3
Shattter*	S18W10	K	2	Lithic 5	J	PDC	Burned				0.3
Shattter*	S18W10	K	2	Lithic 6	J	PDC	Burned				0.4
Shattter*	S18W10	K	2	Lithic 7	J	PDC	Burned				0.1
Shattter*	S18W10	K	2	Lithic 8	J	Burlington	Heat Treated				0.4
Complete*	S18W10	K	2	Lithic 9	J	PDC	Heat Treated	7	7	1	<0.1
Broken*	S18W10	K	2	Lithic 10	J	PDC	Burned				0.3
Broken*	S18W10	K	2	Lithic 11	J	PDC	Heat Treated				0.2
Broken*	S18W10	K	2	Lithic 12	J	PDC	Untreated				0.3
Shattter*	S18W10	K	2	Lithic 13	J	PDC	Burned				0.6
Shattter*	S18W10	K	2	Lithic 14	J	PDC	Heat Treated				0.7
Shattter*	S18W10	K	2	Lithic 15	J	PDC	Untreated				0.3
Shattter*	S18W10	K	2	Lithic 16	J	PDC	Untreated				0.3

TABLE D.1: DEBITAGE continued

Shattter*	S18W10	K	2	Lithic 17	J	PDC	Heat Treated				0.4
Complete*	S18W10	K	2	Lithic 18	J	PDC	Untreated	10	9	4	0.4
Shattter*	S18W10	K	2	Lithic 19	J	PDC	Heat Treated				0.2
Shattter*	S18W10	K	2	Lithic 23	J	LRC	Untreated				0.3
Shattter*	S18W14	K	1	Lithic 1	H, I, J & K	PDC	Heat Treated				0.3
Shattter*	S21W10	K	5	7	K	PDC	Burned				0.2
Shattter*	S21W10	K	6	4	K	LRC	Untreated				0.5
Shattter*	S21W10	K	6	5	K	PDC	Untreated				1.6
Shattter*	S21W10	K	8	1	K	PDC	Untreated				0.6
Complete*	S21W10	K	8	1	K	PDC	Untreated	23	36	13	12.8
Shattter*	S21W10	K	8	5	K	PDC	Untreated				4.3
Broken*	S21W10	K	8	7	K	PDC	Untreated	24	20	6	2.2
Shattter*	S21W10	K	8	8	K	Galena	Untreated				4.1
Shattter*	S21W10	K	9	4	K	PDC	Untreated				3.7
Complete*	S21W11	K	1	3	K	PDC	Untreated	32	17	10	3.4
Shattter*	S21W11	K	1	Lithic 1	K	PDC	Burned				0.1
Complete*	S21W11	K	3	43	K	PDC	Heat Treated	40	26	14	9.9
Complete*	S21W11	K	4	12	K	PDC	Untreated	40	17	16	15.6
Complete*	S21W11	K	8	19	K	PDC	Untreated	30	24	4	2.3
Complete*	S21W13	K	1	15	K	PDC	Untreated	32	21	9	4.8
Complete*	S21W13	K	1	16	K	PDC	Burned	31	26	9	5
Shattter*	S21W13	K	3	10	K	PDC	Untreated				3
Complete*	S21W13	K	3	18	K	PDC	Burned	24	23	4	2.6
Shattter*	S21W13	K	4	4	K	PDC	Untreated				25.9
Shattter*	S22W10	K	1	42	K	PDC	Burned				0.3
Shattter*	S22W10	K	1	42	K	LRC	Untreated				0.6
Shattter*	S22W11	K	2	15	K	PDC	Untreated				8.2

TABLE D.1: DEBITAGE continued

Broken*	S22W11	K	2	19	K	PDC	Untreated	17		7	
Broken*	S22W11	K	2	12	K	PDC	Heat Treated		15	6	2.1
Shattter*	S22W13	K	1	17	K	LRC	Untreated				2.4
Shattter*	S22W13	K	1	34	K	PDC	Untreated				1.6
Complete*	S22W13	K	1	Lithic 1	K	PDC	Heat Treated	18	21	8	1.9
Complete*	S22W13	K	1	28	K	PDC	Heat Treated	40	21	8	5.9
Shattter*	S22W13	K	2	9	K	Galena	Untreated				0.7
Broken*	S22W13	K	2	11	K	Galena	Untreated		12	4	
Broken*	S22W13	K	2	18	K	PDC	Untreated		40	11	
Complete*	S22W13	K	2	22	K	Galena	Burned	15	26	7	1.9
Complete*	S22W13	K	2	Lithic 1	K	PDC	Heat Treated	18	22	10	4.3
Shattter*	S22W13	K	2	Lithic 2	K	LRC	Burned				1.5
Shattter*	S22W13	K	2	Lithic 3	K	PDC	Burned				2.3
Shattter*	S22W13	K	2	Lithic 4	K	PDC	Untreated				0.5
Shattter*	S22W13	K	3	6	K	PDC	Untreated				1.6
Shattter*	S22W13	K	3	34	K	PDC	Untreated				7.5
Shattter*	S22W13	K	3	Lithic 1	K	PDC	Burned				1.3
Complete*	S22W13	K	4	16	K	PDC	Untreated	22	22	5	2.4
Shattter*	S22W13	K	4	Lithic 1	K	PDC	Burned				0.7
Complete*	S22W13	K	4	Lithic 2	K	PDC	Untreated	9	9	1	0.1
Complete*	S22W13	K	5	Lithic 1	K	PDC	Untreated	11	14	2	0.3
Complete*	S22W13	K	5	Lithic 2	K	PDC	Untreated	20	11	3	0.5
Complete*	S22W13	K	5	Lithic 3	K	PDC	Untreated	9	9	1	0.1
Shattter*	S22W13	K	5	Lithic 4	K	PDC	Burned				1.5
Shattter*	S22W13	K	5	Lithic 5	K	PDC	Untreated				1.7
Shattter*	S22W13	K	5	Lithic 6	K	PDC	Burned				0.7
Complete*	S22W13	K	6	2	K	Galena	Untreated	29	13	7	2.9

TABLE D.1: DEBITAGE continued

Complete*	S22W13		K	6	Lithic 1	K	PDC	Heat Treated	16	17	4	0.6
Shattter*	S22W13		K	6	Lithic 2	K	PDC	Heat Treated				0.6
Shattter*	S22W13		K	6	Lithic 3	K	PDC	Burned				1.8
Shattter*	S22W13		K	6	20	K	Galena	Burned				3.7
Shattter*	S22W13		K	7	Lithic 1	K	PDC	Burned				1
Shattter*	S22W13		K	7	Lithic 2	K	PDC	Burned				6.7
Shattter*	S22W13		K	7	Lithic 3	K	PDC	Heat Treated				0.5
Shattter*	S22W13		K	7	Lithic 4	K	PDC	Burned				0.3
Broken*	S22W13		K	8	2	K	PDC	Heat Treated				0.3
Broken*	S22W13		K	8	Lithic 1	K	Burlington	Heat Treated		15	2	
Shattter*	S22W13		K	8	Lithic 2	K	PDC	Burned				2.4
Broken*	S22W13		K	8	Lithic 3	K	PDC	Burned	19		5	
Shattter*	S22W13		K	8	Lithic 4	K	PDC	Burned				1.1
Shattter*	S22W13		K	8	Lithic 5	K	PDC	Heat Treated				0.3
Shattter*	S22W13		K	8	Lithic 6	K	PDC	Untreated				0.3
Complete*	S22W13		K	9	20	K	PDC	Untreated	19	19	5	1.4
Shattter*	S22W13		K	9	33	K	Galena	Heat Treated				3
Complete*	S22W13		K	10	Lithic 1	K	PDC	Untreated	11	11	2	0.4
Shattter*	S22W13		K	10	Lithic 2	K	PDC	Heat Treated				0.2
Complete*	S22W13		K	10	Lithic 3	K	PDC	Heat Treated	11	9	3	0.3
Complete*	S22W13		K	10	Lithic 4	K	PDC	Untreated	10	9	2	0.2
Shattter*	S22W13		K	10	Lithic 5	K	LRC	Untreated				0.2
Shattter*	S22W13		K	10	Lithic 6	K	PDC	Burned				0.2
Shattter*	S22W13		K	10	Lithic 7	K	PDC	Burned				0.5
Shattter*	S22W13		K	10	Lithic 8	K	PDC	Heat Treated				0.1
Complete*	S23W11		K	1	5	K	PDC	Untreated	12	16	2	0.5
Complete*	S23W13		K	1	106	K	PDC	Untreeated	27	23	4	2.5

TABLE D.1: DEBITAGE continued

Shattter*	S23W13		K	1	Lithic 1	K	PDC	Burned				6.1
Complete*	S23W13		K	1	Lithic 2	K	PDC	Untreated	20	16	7	1.7
Broken*	S23W13		K	1	Lithic 3	K	PDC	Heat Treated				
Shattter*	S23W13		K	5	Lithic 7	K	PDC	Burned				0.7
Shattter*	S23W13		K	5	2	K	PDC	Untreeated	65	61	31	137.2
Shattter*	S23W13		K	8	2	K	PDC	Untreeated	29	23	9	6.7
Broken*	S23W13		K	10	Lithic 9	K	PDC	Untreated	9		1	
Broken*	S21W11		KA	4	4	K	PDC	Burned		21	7	
Shattter*	S21W11		KA	7	1	K	PDC	Untreated				21.9
Shattter*	S22W13		KA	8	4	K	PDC	Burned				9.1
Complete*	S20W10		KAA	1	2	K	PDC	Burned	15	25	5	2
Complete*	S20W10		KB	1	6	K	PDC	Untreated	18	14	4	0.8
Shattter*	S23W11		KB	1	27	K	PDC	Burned				7.8
Shattter*	S23W13		KB	1	Lithic 1	K	PDC	Untreated				8.9
Complete*	S20W10		KBA	1	2	K	PDC	Untreated	23	25	4	2.5
Shattter*	S20W9		KBA	1	5	K	PDC	Untreated				11.1
Shattter*	S20W9		KBA	2	3	K	PDC	Untreated				0.6
Broken*	S21W9		KC	1	15	K	PDC	Untreated		15	4	
Shattter*	S21W9		KC	1	48	K	Galena	Untreated				1.1
Shattter*	S21W9		KC	1	52	K	Galena	Burned				3.1
Broken*	S21W9		KC	1	58	K	PDC	Untreated		19	4	
Complete*	S21W9		KC	1	78	K	PDC	Untreated	31	18	5	3.6
Shattter*	S21W9		KC	1	113	K	PDC	Untreated				3.7
Shattter*	S21W9		KC	2	13	K	PDC	Untreated				1.3
Complete*	S21W9		KC	2	84	K	PDC	Untreated	33	23	4	2.6
Broken*	S21W9		KC	2	89	K	Galena	Untreated	12	14	4	0.6
Complete*	S21W9		KC	2	Lithic 1	K	PDC	Untreated	13	20	2	0.8

TABLE D.1: DEBITAGE continued

Complete*	S21W9	KC	2	Lithic 2	K	PDC	Burned	18	14	5	1
Broken*	S21W9	KC	2	Lithic 3	K	PDC	Heat Treated				0.8
Broken*	S21W9	KC	2	Lithic 4	K	PDC	Heat Treated				1.5
Shattter*	S21W9	KC	2	Lithic 5	K	PDC	Heat Treated				0.2
Shattter*	S21W9	KC	2	Lithic 6	K	PDC	Untreated				0.2
Broken*	S22W10	KC	1	8	K	Galena	Untreated	15		4	
Complete*	S22W10	KC	1	54	K	PDC	Untreated	19	12	2	0.6
Complete*	S22W10	KC	1	68	K	PDC	Burned	14	15	2	0.5
Complete*	S22W10	KC	1	87	K	PDC	Untreated	29	30	7	4.9
Complete*	S22W10	KC	1	101	K	PDC	Untreated	27	22	8	3.2
Complete*	S22W10	KC	1	127	K	PDC	Untreated	22	14	3	0.6
Complete*	S22W10	KC	1	128	K	Galena	Burned	23	22	5	
Complete*	S22W10	KC	1	132	K	PDC	Burned	20	24	4	2
Complete*	S22W10	KC	1	150	K	PDC	Burned	16	26	15	7.1
Broken*	S22W10	KC	1	154	K	PDC	Untreated	11	19	2	0.3
Complete*	S22W10	KC	1	155	K	Galena	Burned	18	22	5	1.7
Broken*	S22W10	KC	1	188	K	PDC	Untreated		30	6	
Broken*	S22W10	KC	2	5	K	PDC	Heat Treated				1.4
Complete*	S22W10	KC	2	33	K	PDC	Untreated	22	24	6	3
Complete*	S22W10	KC	2	35	K	PDC	Untreated	21	13	3	0.7
Broken*	S22W10	KC	2	46	K	PDC	Untreated		19	3	
Complete*	S22W10	KC	2	48	K	PDC	Untreated	39	21	5	4.9
Shattter*	S22W10	KC	2	50	K	Galena	Burned				1.4
Complete*	S22W10	KC	2	51	K	LRC	Untreated	25	37	8	6.4
Complete*	S22W10	KC	2	77	K	PDC	Untreated	18	18	3	0.5
Shattter*	S22W10	KC	2	90	K	PDC	Untreated				1.2
Complete*	S22W10	KC	2	91	K	PDC	Untreated	14	26	6	2

TABLE D.1: DEBITAGE continued

Shattter*	S22W10	KC	2	117	K	PDC	Heat Treated				25.6
Shattter*	S22W10	KC	3	28	K	PDC	Untreated				1
Complete*	S22W10	KC	3	57	K	PDC	Untreated	27	20	10	5.6
Shattter*	S22W10	KC	3	93	K	PDC	Burned				6.1
Complete*	S22W12	KC	1	10	K	PDC	Heat Treated	19	11	4	0.7
Shattter*	S23W11	KC	1	4	K	PDC	Untreated	33	25	10	7.8
Broken*	S21W9	KCA	1	6	K	PDC	Untreated		22	6	2.4
Shattter*	S21W9	KCA	1	9	K	Galena	Untreated				0.2
Broken*	S21W9	KCA	1	Lithic 1	K	PDC	Heat Treated				0.1
Shattter*	S21W9	KCC	1	2	K	PDC	Untreated				0.1
Complete*	S21W9	KCC	2	8	K	PDC	Heat Treated	10	12	2	0.3
Complete*	S22W10	KCC	1	4	K	PDC	Burned	18	19	3	0.8
Shattter*	S22W10	KCC	1	8	K	PDC	Untreated				6.2
Shattter*	S22W10	KCC		Lithic 1	K	PDC	Burned				2.4
Shattter*	S23W12	KDA	1	8	K	PDC	Untreated	35	33	27	40.6
Broken*	S23W12	KDA	2	4	K	PDC	Burned		14	2	0.5
Complete*	S22W10	KE	1	5	K	PDC	Burned	20	18	3	0.7
Complete*	S22W10	KE	1	7	K	PDC	Untreated	20	17	4	1.1
Shattter*	S22W12	KE	1	32	K	PDC	Untreated				1.8
Shattter*	S22W12	KE	1	41	K	Galena	Untreated				2
Complete*	S22W11	KF	1	16	K	PDC	Untreated	8	19	6	1
Broken*	S22W12	KF	1	6	K	PDC	Untreated		28	11	12
Shattter*	S22W10	KFB	2	29	K	PDC	Burned				2.6
Shattter*	S21W12	KG	1	2	K	LRC	Untreated				1.1
Complete*	S22W11	KG	1	3	K	Galena	Untreated	50	39	7	11.7
Broken*	S22W11	KG	1	32	K	PDC	Untreated		24	5	
Complete*	S22W11	KG	3	3	K	PDC	Untreated				3.3

TABLE D.1: DEBITAGE continued

Shattter*	S22W12	KG	1	10	K	PDC	Burned				2.4
Shattter*	S22W12	KG	1	31	K	PDC	Burned				24.2
Complete*	S22W12	KG	1	56	K	PDC	Untreated	34	26	5	4.5
Broken*	S21W9	KH	1	9	K	Burlington	Heat Treated				3
Shattter*	S22W10	KH	1	1	K	PDC	Untreated				8.4
Complete*	S22W10	KH	1	11	K	PDC	Untreated	20	20	4	1.3
Complete*	S22W10	KH	1	17	K	PDC	Untreated	10	7	2	0.1
Shattter*	S22W10	KH	1	24	K	PDC	Untreated				0.3
Complete*	S22W10	KH	1	44	K	PDC	Untreated	8	11	2	0.2
Complete*	S22W10	KH	2	3	K	PDC	Heat Treated	36	51	12	14.2
Broken*	S22W10	KH	2	4	K	PDC	Untreated		28	5	
Shattter*	S22W10	KH	2	5	K	PDC	Untreated				6
Complete*	S22W10	KH	2	72	K	Burlington	Heat Treated	30	34	4	2.6
Broken*	S22W10	KH	2	Lithic 1	K	PDC	Burned				0.1
Shattter*	S22W10	KH	2	Lithic 1	K	PDC	Heat Treated				0.1
Complete*	S22W11	KH	1	2	K	Galena	Untreated	33	41	5	11
Broken*	S22W12	KH	2	8	K	PDC	Burned		17	2	
Complete*	S22W12	KH	2	12	K	PDC	Burned	51	37	11	17.9
Complete*	S23W11	KH	1	4	K	PDC	Untreated	43	42	19	29.1
Complete*	S22W10	KI	1	20	K	PDC	Heat Treated	25	29	4	2.2
Shattter*	S22W10	KI	1	31	K	PDC	Heat Treated				14.2
Shattter*	S22W10	KI	1	Lithic 1	K	PDC	Heat Treatment				0.2
Broken*	S22W10	KI	2	36	K	LRC	Untreated	34	30	6	5.6
Shattter*	S22W10	KI	2	39	K	PDC	Untreated				1
Shattter*	S22W10	KI	2	43	K	PDC	Burned				3.3
Broken*	S22W10	KIB	1	14	K	PDC	Untreated		21	3	
Shattter*	S22W10	KIB	1	34	K	PDC	Untreated				3.8

TABLE D.1: DEBITAGE continued

Complete*	S22W10	KIB	4	10	K	PDC	Burned	14	35	5	3.1
Shattter*	S22W11	KIB	1	22	K	PDC	Untreated				2.6
Complete*	S22W11	KJ	1	9	K	Galena	Untreated	28	21	4	1.8
Shattter*	S22W11	KJ	1	13	K	Galena	Heat Treated				53.5
Complete*	S21W9	KJX	1	20	K	PDC	Untreated	32	24	9	6.4
Shattter*	S21W9	KJX	1	26	K	PDC	Untreated				8.5
Broken*	S21W9	KJXA	1	16	K	PDC	Untreated		30	16	17.8
Shattter*	S21W9	KJXA	2	Lithic 1	K	PDC	Heat Treated				1.6
Shattter*	S21W9	KJXA	2	Lithic 2	K	PDC	Burned				0.3
Shattter*	S21W9	KJXA	2	Lithic 3	K	PDC	Heat Treated				0.4
Complete*	S21W9	KJXA	2	2	K	PDC	Untreated	36	38	13	15.5
Shattter*	S21W9	KJXB	1	4	K	PDC	Untreated				0.8
Complete*	S21W9	KJXB	1	9	K	PDC	Untreated	13	14	2	0.4
Complete*	S21W9	KJXB	1	19	K	PDC	Untreated	21	38	17	12.2
Broken*	S21W9	KJXC	1	7	K	PDC	Heat Treated				0.7
Shattter*	S21W9	KJXC	1	19	K	PDC	Heat Treated				31.3
Shattter*	S21W9	KJXC	2	53	K	PDC	Heat Treated				6.1
Broken*	S21W9	KJXC	2	65	K	PDC	Untreated				5.6
Shattter*	S21W9	KJXC	2	Lithic 1	K	PDC	Heat Treated				0.8
Shattter*	S21W9	KJXC	2	Lithic 2	K	LRC	Untreated				0.5
Shattter*	S21W9	KJXD	1	18	K	PDC	Heat Treated				15.8
Shattter*	S21W9	KK	1	2	K	PDC	Untreated				20.9
Shattter*	S21W9	KK	1	Lithic 1	K	PDC	Burned				1.6
Shattter*	S22W10	KL	3	15	K	PDC	Heat Treated				23.4
Shattter*	S22W13	KO	4	3	K	PDC	Untreated				1.9
Shattter*	S20W11	KX	6	1	K	LRC	Untreated				0.4
Shattter*	S20W11	KX	6	3	K	PDC	Burned				0.3

TABLE D.1: DEBITAGE continued

Shattter*	S20W11		KX	6	4	K	LRC	Heat Treated				0.3
Shattter*	S20W11		KX	6	Lithic 1	K	PDC	Burned				0.2
Complete*	S20W11		KX	9	Lithic 1	K	PDC	Burned	26	19	3	1.9
Shattter*	S20W11		KX	9	Lithic 2	K	LRC	Heat Treated				1.6
Complete*	S21W12		KX	2	2	K	PDC	Burned	8	10	1	0.1
Shattter*	S21W13		KX	2	21	K	PDC	Untreated				2.9
Shattter*	S21W13		KX	4	1	K	PDC	Untreated				13.5
Shattter*	S20W9		KXA	1	16	K	PDC	Untreated				1
Shattter*	S22W12		KY	1	8	K	PDC	Heat Treated				32.7
Shattter*	S22W12		KYA	1	13	K	PDC	Burned				2.7
Broken*	S22W10		KZ	1	12	K	PDC	Untreated		39	10	
Broken*	S22W10		KZ	1	15	K	PDC	Burned		9	2	
Shattter*	S22W10		KZ	1	16	K	PDC	Heat Treated				6.3
Broken*	S16W10		L	1	4	L	Galena	Untreated		14	1	0.3
Shattter*	S16W10		L	1	Lithic 1	L	PDC	Burned				0.2
Shattter*	S16W10		L	3	Lithic 1	L	PDC	Burned				1
Shattter*	S16W10		L	3	Lithic 2	L	PDC	Burned				0.7
Shattter*	S18W10		L	1	Lithic 1	J & L	PDC	Untreated				0.1
Shattter*	S18W10		L	1	Lithic 2	J & L	PDC	Burned				0.1
Complete*	S18W10		L	1	Lithic 3	J & L	PDC	Untreated	15	10	2	0.2
Complete*	S18W10		L	1	Lithic 4	J & L	PDC	Burned	13	17	4	0.7
Complete*	S18W10		L	1	Lithic 5	J & L	PDC	Untreated	9	9	2	0.3
Complete*	S18W10		L	1	Lithic 6	J & L	PDC	Heat Treated	9	9	2	0.2
Broken*	S18W10		L	1	Lithic 7	J & L	PDC	Heat Treated				0.7
Broken*	S18W10		L	1	Lithic 8	J & L	PDC	Heat Treated				0.1
Broken*	S18W10		L	1	Lithic 9	J & L	PDC	Untreated				0.2
Broken*	S18W10		L	1	Lithic 10	J & L	PDC	Heat Treated				0.3

TABLE D.1: DEBITAGE continued

Shattter*	S18W10		L	1	Lithic 11	J & L	PDC	Burned				0.3
Shattter*	S18W10		L	1	Lithic 12	J & L	PDC	Burned				0.4
Shattter*	S18W10		L	1	Lithic 13	J & L	PDC	Burned				0.2
Shattter*	S18W10		L	1	Lithic 14	J & L	PDC	Burned				0.2
Shattter*	S18W10		L	1	Lithic 15	J & L	PDC	Heat Treated				0.5
Shattter*	S18W10		L	1	Lithic 16	J & L	PDC	Heat Treated				0.2
Shattter*	S18W10		L	1	Lithic 17	J & L	PDC	Burned				0.5
Shattter*	S18W10		L	1	Lithic 18	J & L	PDC	Heat Treated				0.6
Shattter*	S18W10		L	1	Lithic 19	J & L	PDC	Untreated				0.4
Shattter*	S18W10		L	1	Lithic 20	J & L	PDC	Heat Treated				0.3
Shattter*	S18W10		L	1	Lithic 21	J & L	PDC	Untreated				0.6
Shattter*	S18W10		L	1	Lithic 22	J & L	Burlington	Heat Treated				0.2
Shattter*	S18W10		L	1	Lithic 26	J & L	PDC	Untreated				0.2
Shattter*	S18W10		L	1	Lithic 27	J & L	PDC	Heat Treated				0.1
Shattter*	S18W10		L	1	Lithic 28	J & L	PDC	Untreated				0.1
Broken*	S18W14		L	1	Lithic 1	L & N	PDC	Heat Treated				0.9
Complete*	S18W14		L	1	Lithic 2	L & N	PDC	Heat Treated	10	9	13	0.2
Broken*	S18W14		L	1	Lithic 3	L & N	PDC	Untreated				0.3
Broken*	S18W14		L	1	Lithic 4	L & N	PDC	Heat Treated				0.6
Broken*	S18W14		L	1	Lithic 5	L & N	PDC	Heat Treated				0.3
Shattter*	S18W14		L	1	Lithic 6	L & N	PDC	Heat Treated				0.2
Shattter*	S18W14		L	1	Lithic 7	L & N	PDC	Burned				0.9
Shattter*	S18W14		L	1	Lithic 8	L & N	PDC	Burned				0.9
Shattter*	S18W14		L	1	Lithic 9	L & N	PDC	Burned				0.2
Shattter*	S18W14		L	1	Lithic 10	L & N	PDC	Heat Treated				0.5
Shattter*	S18W14		L	1	Lithic 11	L & N	Burlington	Heat Treated				0.8
Shattter*	S18W14		L	1	Lithic 12	L & N	PDC	Heat Treated				0.3

TABLE D.1: DEBITAGE continued

Shattter*	S18W14	L	1	Lithic 13	L & N	PDC	Heat Treated				0.3
Shattter*	S18W14	L	1	Lithic 14	L & N	PDC	Heat Treated				0.4
Shattter*	S18W14	L	1	Lithic 15	L & N	PDC	Heat Treated				0.2
Complete*	S18W14	L	1	Lithic 16	L & N	PDC	Heat Treated	15	15	5	0.8
Complete*	S18W14	L	1	Lithic 17	L & N	PDC	Untreated	11	15	4	0.4
Complete*	S18W14	L	1	Lithic 18	L & N	PDC	Untreated	16	11	2	0.1
Broken*	S18W14	L	1	Lithic 19	L & N	PDC	Heat Treated				0.2
Broken*	S18W14	L	1	Lithic 20	L & N	PDC	Heat Treated				0.2
Broken*	S18W14	L	1	Lithic 21	L & N	PDC	Heat Treated				0.1
Shattter*	S18W14	L	1	Lithic 22	L & N	PDC	Burned				0.2
Shattter*	S18W14	L	1	Lithic 23	L & N	PDC	Burned				0.1
Shattter*	S18W14	L	1	Lithic 24	L & N	PDC	Heat Treated				0.9
Shattter*	S18W14	L	1	Lithic 25	L & N	PDC	Heat Treated				0.8
Shattter*	S18W14	L	1	Lithic 26	L & N	PDC	Heat Treated				0.2
Shattter*	S18W14	L	1	Lithic 27	L & N	PDC	Burned				0.3
Shattter*	S18W14	L	1	Lithic 28	L & N	PDC	Burned				0.5
Shattter*	S18W14	L	1	Lithic 29	L & N	PDC	Heat Treated				0.2
Shattter*	S18W14	L	1	Lithic 30	L & N	PDC	Heat Treated				0.2
Shattter*	S18W14	L	1	Lithic 31	L & N	PDC	Heat Treated				0.6
Broken*	S18W14	L	1	Lithic 33	L & N	PDC	Untreated				0.3
Broken*	S18W14	L	1	Lithic 34	L & N	PDC	Untreated				<0.1
Complete*	S18W14	L	2	Lithic 1	L & N	PDC	Heat Treated	12	11	3	0.3
Broken*	S18W14	L	2	Lithic 2	L & N	PDC	Heat Treated				0.1
Broken*	S18W14	L	2	Lithic 3	L & N	PDC	Heat Treated				0.3
Broken*	S18W14	L	2	Lithic 4	L & N	PDC	Heat Treated				0.2
Broken*	S18W14	L	2	Lithic 5	L & N	PDC	Heat Treated				0.2
Shattter*	S18W14	L	2	Lithic 6	L & N	PDC	Burned				0.9

TABLE D.1: DEBITAGE continued

Shattter*	S18W14		L	2	Lithic 7	L & N	PDC	Heat Treated				0.4
Shattter*	S18W14		L	2	Lithic 8	L & N	PDC	Untreated				0.2
Complete*	S18W14		L	2	Lithic 9	L & N	PDC	Untreated	8	10	2	0.1
Broken*	S18W14		L	2	Lithic 10	L & N	PDC	Untreated				0.1
Broken*	S18W14		L	2	Lithic 11	L & N	PDC	Heat Treated				<0.1
Broken*	S18W14		L	2	Lithic 12	L & N	PDC	Heat Treated				0.1
Broken*	S18W14		L	2	Lithic 13	L & N	PDC	Heat Treated				<0.1
Shattter*	S18W14		L	2	Lithic 14	L & N	PDC	Heat Treated				0.8
Broken*	S19W11		L	2	34	L	PDC	Untreated	43	23	8	
Shattter*	S19W12		L	1	5	L	PDC	Untreated	25	20	14	9.5
Shattter*	S19W12		L	2	1	L	PDC	Untreated				1.4
Complete*	S20W11		L	3	Lithic 1	L	PDC	Heat Treated	18	14	2	0.6
Shattter*	S20W11		L	3	Lithic 2	L	PDC	Burned				2.9
Shattter*	S20W13		L	2	5	L	PDC	Heat Treated				9.5
Complete*	S20W13		L	2	6	L	PDC	Untreated	15	21	3	1.1
Broken*	S20W13		L	2	Lithic 1	L	Prairie du Chien	Heat Treated		20	3	
Shattter*	S21W11		L	1	Lithic 2	L	PDC	Untreated				0.4
Shattter*	S21W13		L	1	7	L	PDC	Untreated				24.5
Broken*	S21W13		L	1	13	L	Galena	Untreated		32	7	
Complete*	S21W13		L	1	41	L	LRC	Untreated	24	14	2	0.8
Shattter*	S21W13		L	6	6	L	PDC	Burned				4.2
Shattter*	S21W13		L	9	3	L	PDC	Untreated				16.8
Shattter*	S22W11		L	2	13	L	PDC	Heat Treated				3.7
Shattter*	S22W12		L	7	3	L	LRC	Untreated				6.7
Shattter*	S22W13		L	3	6	L	PDC	Untreated				4
Complete*	S22W13		L	8	10	L	PDC	Untreated	14	14	4	1
Complete*	S22W19		L	1	3	L	PDC	Untreated	21	17	3	1.2

TABLE D.1: DEBITAGE continued

Complete*	S22W19	L	1	40	L	PDC	Untreated	16	12	2	0.4
Complete*	S22W19	L	2	21	L	PDC	Untreated	18	20	1	0.9
Complete*	S22W19	L	2	45	L	PDC	Untreated	16	15	12	3.2
Shattter*	S22W19	L	3	10	L	PDC	Untreated	19	8	2	0.4
Shattter*	S22W19	L	3	11	L	PDC	Untreated	23	17	5	2.8
Broken*	S22W19	L	4	1	L	PDC	Untreated	18	18	12	5.4
Shattter*	S22W19	L	4	2	L	PDC	Heat Treated				10.1
Shattter*	S22W19	L	4	7	L	Galena	Untreated	48	37	33	86.7
Shattter*	S22W19	L	7	38	L	Galena	Untreated	40	30	18	35
Shattter	S22W9	L	2	31	L	Galena	Untreated				0.8
Complete*	S23W13	L	1	1	L	PDC	Untreeated	33	33	10	15
Shattter	S24W16	L	1	Lithic 1	T	PDC	Untreated				0.2
Shattter	S24W16	L	1	Lithic 2	T	PDC	Untreated				0.2
Shattter*	S21W11	L	1	Lithic 1	L	PDC	Heat Treated				0.1
Shattter	S18W8	LA	1	Lithic 1	L	PDC	Burned				0.6
Shattter	S18W8	LA	1	Lithic 2	L	PDC	Burned				1.1
Shattter	S18W8	LA	2	Lithic 2	L	Burlington	Burned				0.2
Shattter	S18W8	LA	2	Lithic 3	L	PDC	Heat Treated				0.2
Shattter*	S21W13	LA	3	1	L	PDC	Untreated				19.8
Shattter*	S23W13	LAA	4	Lithic 1	L	PDC	Untreated				13.7
Shattter*	S20W9	LC	2	Lithic 1	L	PDC	Heat Treated				0.3
Broken*	S21W9	LC	1	3	L	Galena	Heat Treated				1.3
Shattter*	S21W9	LC		Lithic 1	L	PDC	Untreated				0.3
Shattter*	S22W10	LC	4	Lithic 1	L	LRC	Heat Treated				0.3
Broken*	S22W11	LC	1	1	L	PDC	Untreated	21	28	4	
Complete*	S22W11	LC	1	49	L	PDC	Untreated	10	9	1	0.1
Shattter*	S22W11	LC	2	8	L	LRC	Untreated				0.3

TABLE D.1: DEBITAGE continued

Shattter*	S22W19	LC	3	30	L	PDC	Untreated	20	17	8	4.9
Shattter*	S23W12	LC	3	11	L	PDC	Untreated	49	48	15	48.4
Shattter*	S22W11	LC	1	Lithic 1	L	PDC	Heat Treated				3.4
Shattter*	S16W10	M	3	Lithic 1	M	PDC	Untreated				0.4
Complete*	S16W10	M	7	11	M	Galena	Untreated	18	13	1	0.4
Shattter*	S16W10	M	7	Lithic 1	M	Galena	Untreated				0.1
Broken*	S18W10	M	1	Lithic 1	M	PDC	Untreated				0.1
Shattter*	S18W10	M	1	Lithic 2	M	PDC	Burned				0.4
Shattter*	S18W10	M	1	Lithic 3	M	Burlington	Heat Treated				0.3
Complete*	S18W18	M	7	1	M	PDC	Untreated	10	11	1	0.1
Shattter*	S18W19	M	2	Lithic 1	M	PDC	Burned				0.5
Complete*	S19W17	M	1	28	M	PDC	Burned	15	23	4	1.4
Shattter*	S19W17	M	1	32	M	PDC	Burned				4.5
Shattter*	S19W17	M	1	42	M	LRC	Untreated				3.5
Complete*	S19W17	M	1	48	M	PDC	Burned	20	22	4	1.5
Broken*	S19W17	M	2	45	M	PDC	Untreated			4	
Broken*	S19W17	M	3	28	M	Galena	Burned		14	2	
Complete*	S20W13	M	3	8	M	PDC	Untreated	27	36	8	6.3
Complete*	S20W13	M	4	8	M	PDC	Burned	30	23	3	3.6
Broken*	S20W13	M	5	2	M	PDC	Burned		15	2	
Complete*	S21W13	M	1	Lithic 1	M	PDC	Heat Treated	15	17	4	1.1
Shattter	S18W8	MA	2	Lithic 1	M	PDC	Untreated				0.3
Complete*	S19W12	MA	1	2	M	PDC	Untreated	8	8	2	0.2
Shattter	S18W8	MC	1	Lithic 1	M	PDC	Heat Treated				0.3
Broken*	S18W10	N	1	Lithic 1	N	PDC	Untreated				0.3
Shattter*	S18W10	N	1	Lithic 2	N	PDC	Untreated				0.2
Shattter*	S18W10	N	1	Lithic 3	N	PDC	Heat Treated				2

TABLE D.1: DEBITAGE continued

Shattter*	S18W10	N	1	Lithic 5	N	PDC	Untreated				0.3
Shattter*	S19W11	N	1	33	N	PDC	Untreated				1.4
Shattter*	S19W11	N	2	3	N	PDC	Untreated				9.4
Complete*	S19W17	N	1	20	N	Galena	Untreated	13	20	4	1
Complete*	S20W11	N	2	1	N	PDC	Untreated	12	30	3	1.3
Shattter*	S21W13	N	1	2	N	PDC	Untreated				2.2
Complete*	S22W13	N	4	1	N	PDC	Burned	43	45	11	18.4
Shattter*	S20W9	NA	1	Lithic 1	N	PDC	Heat Treated				0.7
Shattter*	S20W9	NA	1	Lithic 2	N	PDC	Untreated				0.2
Complete*	S20W10	NB	1	2	O	PDC	Untreated	29	40	9	11.1
Shattter*	S20W10	NB	1	9	O	PDC	Untreated				6
Complete*	S21W10	NB	2	2	O	PDC	Untreated	10	15	5	0.7
Shattter*	S21W10	NB	2	11	O	Galena	Untreated				0.1
Broken*	S20W10	NBC	2	1	O	PDC	Burned		19	3	0.9
Broken*	S20W9	NBEE	2	Lithic 1	N	PDC	Heat Treated				<0.1
Complete*	S20W10	NC	2	32	O	PDC	Burned	33	26	3	3.4
Shattter*	S20W10	NC	2	Lithic 1	O	PDC	Untreated				0.5
Shattter*	S20W10	NC	3	5	O	Galena	Untreated				9.4
Complete*	S20W10	NC	6	12	O	Galena	Untreated	27	17	3	1.1
Shattter*	S18W10	O	1	Lithic 1	O	PDC	Untreated				0.4
Shattter*	S18W10	O	1	Lithic 2	O	PDC	Heat Treated				0.6
Shattter*	S18W10	O	5	Lithic 1	O	Galena	Untreated				0.7
Broken*	S18W12	O	1	Lithic 1	O	PDC	Heat Treated				1.8
Complete*	S19W11	O	1	12	O	Galena	Untreated	14	12	2	0.5
Complete*	S19W11	O	1	33	O	PDC	Untreated	31	23	3	1.9
Complete*	S20W16	O	1	Lithic 1	O	PDC	Untreated	14	22	7	2.2
Shattter*	S21W10	O	8	14	O	Galena	Burned				11.9

TABLE D.1: DEBITAGE continued

Shattter*	S21W10		O	11	7	O	LRC	Burned				1.2
Shattter*	S22W10		O	3	Lithic 1	O	PDC	Heat Treated				0.1
Broken*	S22W10		O	4	Lithic 1	O	PDC	Heat Treated				<0.1
Shattter*	S22W10		O	4	Lithic 2	O	PDC	Untreated				0.3
Shattter*	S22W10		O	4	Lithic 4	O	PDC	Heat Treated				<0.1
Shattter*	S22W10		O	4	Lithic 5	O	PDC	Untreated				0.6
Broken*	S22W10		O	5	Lithic 1	O	PDC	Heat Treated				<0.1
Shattter*	S22W10		O	5	Lithic 2	O	LRC	Burned				<0.1
Shattter*	S22W10		O	5	Lithic 3	O	PDC	Heat Treated				0.5
Shattter*	S22W10		O	5	Lithic 4	O	PDC	Heat Treated				<0.1
Shattter*	S22W10		O	5	Lithic 5	O	PDC	Heat Treated				<0.1
Shattter*	S22W10		O	5	Lithic 6	O	LRC	Heat Treated				0.2
Complete*	S22W10		O	6	1	O	PDC	Heat Treated	23	23	3	1
Broken*	S22W10		O	8	Lithic 1	O	PDC	Heat Treated				0.1
Broken*	S22W10		O	8	Lithic 2	O	PDC	Untreated				0.1
Shattter*	S22W10		O	8	Lithic 3	O	PDC	Heat Treated				<0.1
Shattter*	S22W10		O	8	Lithic 4	O	PDC	Untreated				0.2
Shattter*	S22W10		O	8	Lithic 5	O	PDC	Untreated				<0.1
Shattter*	S22W10		O	8	Lithic 6	O	PDC	Burned				0.2
Shattter*	S22W10		O	8	Lithic 7	O	PDC	Heat Treated				0.2
Shattter*	S22W10		O	8	Lithic 8	O	PDC	Heat Treated				0.1
Shattter*	S22W10		O	8	Lithic 9	O	PDC	Heat Treated				0.1
Shattter*	S22W10		O	8	Lithic 10	O	PDC	Heat Treated				<0.1
Shattter*	S22W10		O	8	Lithic 11	O	PDC	Heat Treated				<0.1
Shattter*	S22W10		O	8	Lithic 12	O	PDC	Heat Treated				<0.1
Shattter*	S22W10		O	8	Lithic 13	O	PDC	Untreated				0.2
Shattter*	S22W10		O	8	Lithic 14	O	PDC	Untreated				0.1

TABLE D.1: DEBITAGE continued

Shattter*	S22W10	O	9	Lithic 1	O	PDC	Heat Treated				0.1
Shattter*	S22W10	O	10	Lithic 1	O	PDC	Heat Treated				0.5
Shattter*	S22W10	O	10	Lithic 2	O	PDC	Untreated				0.9
Shattter*	S22W10	O	11	Lithic 1	O	PDC	Heat Treated				0.2
Shattter*	S22W13	O	4	Lithic 1	O	PDC	Burned				77.5
Shattter*	S22W13	O	5	4	O	PDC	Untreated				2.4
Shattter*	S22W19	O	1	9	O	PDC	Untreated	38	20	14	16.9
Shattter*	S23W12	O	8	Lithic 1	O	Galena	Untreated				4.6
Shattter*	S23W12	O	14	25	O	PDC	Untreated	6	4	2	0.1
Shattter*	S23W13	O	7	14	O	LRC	Untreeated	14	7	6	0.4
Shattter*	S23W13	O	7	15	O	LRC	Untreeated	9	7	2	0.2
Shattter*	S23W13	O	13	Lithic 2	O	LCR	Burned				1.5
Shattter*	S23W13	O	14	Lithic 1	O	LCR	Burned				2.7
Shattter*	S23W13	O	14	Lithic 2	O	Galena	Untreated				1.3
Shattter*	S21W10	O	11	9	O	PDC	Untreated				45.8
Shattter*	S18W10	OA	1	Lithic 1	O	Burlington	Burned				0.1
Shattter*	S18W10	OA	1	Lithic 3	O	PDC	Burned				0.1
Broken*	S19W12	OA	1	20	O	PDC	Burned		23	11	4
Shattter*	S18W10	OB	1	Lithic 1	O	PDC	Untreated				0.3
Shattter*	S18W10	OB	1	Lithic 2	O	PDC	Burned				0.2
Shattter*	S18W10	OB	1	Lithic 3	O	LRC	Burned				0.2
Shattter*	S18W10	OB	1	Lithic 5	O	PDC	Untreated				1.6
Shattter*	S18W10	OB	1	Lithic 6	O	PDC	Heat Treated				0.2
Shattter*	S18W10	OB	1	Lithic 7	O	Galena	Heat Treated				0.4
Shattter*	S18W10	OB	1	Lithic 8	O	PDC	Untreated				0.2
Shattter*	S18W10	OB	1	Lithic 9	O	PDC	Heat Treated				0.4
Shattter	S18W8	OB	2	Lithic 1	O	PDC	Heat Treated				0.2

TABLE D.1: DEBITAGE continued

Shattter*	S20W9		OB	2	12	O	PDC	Heat Treated				<0.1
Shattter*	S20W9		OB	3	2	O	PDC	Heat Treated				54.9
Complete*	S21W9		OB	1	15	O	PDC	Heat Treated	35	22	7	4.4
Shattter*	S21W9		OB	3	4	O	PDC	Untreated				<0.1
Broken*	S21W9		OB	3	12	O	PDC	Heat Treated				0.1
Complete*	S21W9		OB	3	14	O	Burlington	Heat Treated	8	7	1	<0.1
Broken*	S22W10		OB	1	Lithic 1	O	PDC	Heat Treated				0.1
Shattter*	S22W10		OB	1	Lithic 2	O	PDC	Untreated				0.3
Shattter*	S22W10		OB	1	Lithic 3	O	PDC	Untreated				0.1
Complete*	S22W10		OB	4	8	O	Burlington	Heat Treated	30	25	4	1.6
Shattter*	S22W10		OB	4	13	O	PDC	Heat Treated				4.5
Shattter*	S22W10		OBA	1	2	O	PDC	Untreated				3.7
Complete*	S22W10		OBA	1	3	O	PDC	Heat Treated	6	9	1	0.1
Complete*	S22W10		OBA	1	4	O	PDC	Heat Treated	6	7	1	<0.1
Broken*	S22W10		OBA	1	5	O	PDC	Heat Treated				0.1
Shattter*	S22W10		OBA	1	6	O	PDC	Untreated				1.5
Shattter*	S20W16		OBB	7	Lithic 1	O	Galena	Untreated				1.3
Shattter*	S20W16		OBB	7	Lithic 5	O	Galena	Untreated				0.4
Complete*	S21W9		OBB	3	3	O	PDC	Untreated	8	6	1	<0.1
Broken*	S21W9		OBB	3	13	O	PDC	Untreated				0.1
Broken*	S22W10		OBB	1	1	O	PDC	Heat Treated				<0.1
Broken*	S22W10		OBB	1	1	O	PDC	Heat Treated				0.1
Shattter*	S22W10		OBB	3	Lithic 1	O	PDC	Burned				0.2
Shattter*	S22W10		OBB	3	Lithic 2	O	PDC	Burned				0.3
Shattter*	S22W10		OBB	3	Lithic 3	O	PDC	Untreated				0.2
Shattter*	S22W10		OBB	3	Lithic 4	O	PDC	Heat Treated				0.3
Broken*	S22W19		OC	2	1	O	PDC	Untreated		15	2	0.4

TABLE D.1: DEBITAGE continued

Broken*	S22W19		OC	3	29	O	PDC	Untreated		13	2	0.3
Broken	S18W12		P	1	Lithic 1	P	PDC	Heat Treated				1.3
Shattter	S19W11		P	1	12	P	PDC	Untreated				16.2
Shattter	S19W11		P	1	18	P	PDC	Untreated				1.3
Complete	S19W11		P	2	25	P	PDC	Burned	28	30	3	3.2
Complete	S19W12		P	1	31	P	PDC	Untreated	33	31	3	3.5
Complete	S19W12		P	1	33	P	PDC	Untreated	16	42	6	6.3
Broken	S19W12		P	3	18	P	PDC	Untreated	31	36	8	7
Shattter	S19W17		P	3	Lithic 1	P	PDC	Burned				1.2
Shattter	S24W16		P	1	Lithic 1	P	PDC	Heat Treated				0.2
Shattter	S24W16		P	2	Lithic 1	P	PDC	Untreated				0.6
Broken	S18W8		PB	1	Lithic 1	P	PDC	Heat Treated				0.1
Shattter	S18W10		Q	1	Lithic 1	Q	PDC	Burned				0.3
Shattter	S18W8		Q	1	Lithic 1	Q	PDC	Burned				0.4
Shattter	S24W16		Q	1	Lithic 1	Q	PDC	Untreated				1
Shattter	S24W16		Q	1	Lithic 2	Q	PDC	Untreated				0.6
Shattter	S16W10		R	1	1	R	LRC	Untreated	17	15	8	1.6
Complete	S18W12		S	1	Lithic 1	S	PDC	Heat Treated	20	14	1	0.3
Broken	S18W12		S		Lithic 1	S	PDC	Untreated		19	7	3.2
Broken	S18W12		T	1	Lithic 1	T	PDC	Burned				0.8
Shattter	S18W8		T	2	Lithic 1	T	Burlington	Heat Treated				0.2
Shattter	S18W8		T	2	Lithic 2	T	Burlington	Heat Treated				0.1
Shattter	S16W10		U	1	Lithic 1	U	PDC	Untreated			0.2	
Shattter	S22W13		U	7	18	U	PDC	Untreated				4.2

NVC = no vertical control or non-provenienced artifacts
* = denotes artifacts composing spatial analysis sample

APPENDIX E: GROUNDSTONE AND MISCELLANEOUS ROCKS

In addition to the chipped stone artifacts and debitage present within the Gottschall Rockshelter lithic assemblage there were ground stone artifacts and miscellaneous rocks or manuports recovered during the excavations. This appendix presents a brief discussion of each artifact class and concludes with a table presenting a summary of the standard types of observations collected for such artifacts that includes: classification, spatial data (unit, feature, original stratigraphic assignment, level, artifact #, stratigraphic correlation), metric attributes (length, width, thickness and weight), treatment (burned, heat treated or untreated) and the presence of wear (hard or soft). In addition, there was a cell reserved for any additional comments.

Groundstone

This artifact class includes those specimens that have been modified by grinding, pecking, or battering. There were 19 ground stone artifacts identified within the Gottschall lithic assemblage that includes a bowl, geometric shapes, a ¾ grooved axe and unidentifiable fragments.

Geometric shapes

There five ground stone geometric shapes identified within the lithic assemblage: cone, triangle, circle, trapezoid and an oval (Figures E.1, E.2 and E.3). These artifacts remain a complete mystery, except for the fact they were ground into the shapes they retain. Four of these artifacts are associated with Late Woodland deposits, while the remaining is non-provenienced. Four of these are fashioned from dolomite, while the other is from PDC chert.

Figure E.1: Groundstone oval and circle.

Figure E.2: Groundstone cone and triangle.

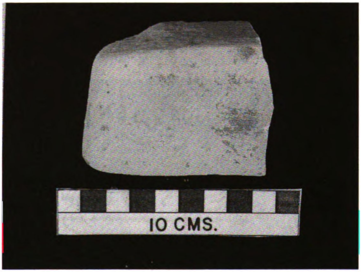

Figure E.3: Groundstone trapezoid.

Grooved Axe

These artifacts are identified with woodworking activities, but the one broken specimen recovered from the rockshelter appears to have been used for smashing hard objects. The proximal end of the axe is battered in a style similar to a hammerstone. The axe is composed of two pieces that refit and is associated with the Late Woodland deposits (Figure E.4).

Figure E.4: ¾ grooved axe

Bowl

There was one piece of limestone recovered from the site that has been fashioned into a small bowl. The exact function of this particular artifact is unknown but given its shape and size it maybe associated with the production of pigments at the site. The limestone has been heat treated (Figure E.5).

Figure E.5: Limestone bowl

Fragments

There were 12 groundstone fragments recovered during the excavations that were unidentifiable to specific artifacts forms. There were three fragments that refit together potentially indicating a second but smaller grooved axe (Figure E.6). In addition, the majority of the other fragments are from some burned groundstone dolomite object(s). It is likely there are more of these fragments presently misidentified as limestone or sandstone with the larger Gottschall assemblage. A further review of those types of artifacts may provide additional fragments that will provide the data necessary to refit these items.

Figure E.6: Ground stone artifacts

Manuport

Included in this artifact class are those nodules or cobbles that are not a natural part of the site context, but that have not been altered by human activity. There is only one rock that adequately fits into this category and that is a piece of gabbro (Figure E.7). It is a baseball sized piece of gabbro that was recovered from Late Woodland context and may be associated with pottery making activities at the site (Salzer, personal communication).

Figure E.7: Piece of gabbro

Limestone Tablet

There was one flattened groundstone artifact recovered from the site that has been ground into a rectangular shape with incising on both sides. The incising is in the form of parallel striations and it is unclear what these striations indicate or if they are even meant to be stylistic (Figure E.8). Regardless, the uniqueness of this particular artifact associated with the Late Woodland deposits warranted the separate treatment of it from the other groundstone artifacts.

Figure E.8: Limestone tablet.

Hammerstone

A hammerstone is a hard nodule of lithic material used for the direct fracturing of the tool stone during lithic reduction. These artifacts exhibit battering on one or more ends, which are assumed to be the result from utilization during the lithic reduction process. A total of five hammerstones have been recovered from the rockshelter and all but one are associated with the Late Woodland deposits (Figure E.9).

Figure E.9: Example of a hammerstone.

Sandstone Artifacts

Abraders

These specimens are usually limestone or sandstone fragments that exhibit longitudinal, V-shaped grooves resulting from use as a polishing, smoothing, and/or sharpening stone employed in the production of bone or lithic tools. There were a total of four abraders within the Gottschall Rockshelter lithic assemblage (Figure E.10).

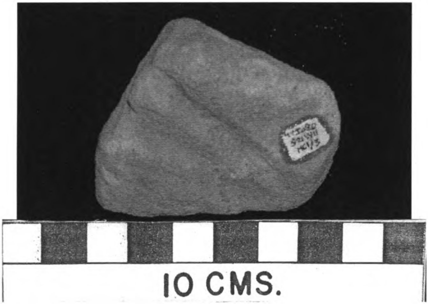

Figure E.10: Example of a sandstone abrader.

Gorget

These pieces manifest as ground, smoothed and polished stones, often of an exotic, nonlocal material, which exhibit one or two drilled perforations. They were presumably worn or utilized as decorative ornaments. It is not common for sandstone to be utilized as material for manufacturing gorgets, but this particular piece of sandstone has some integrity likely due to elevated iron content.

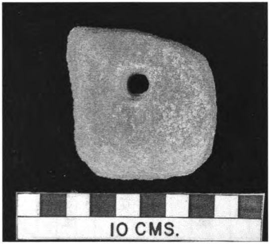

Figure E.11: Sandstone gorget.

Sphere

There is one piece of sandstone similar in raw material quality to that the sandstone gorget is fashioned from that is perfectly spherical. The function of this object is unclear due to the fact it is both unique and non-provenienced (Figure E.12).

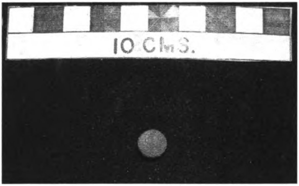

Figure E.12: Sandstone sphere.

TABLE E.1: GROUNDSTONE AND MISCELLANEOUS ROCKS

Classification	Unit	Fea. #	Strat.	Level	Stratigraphic Correlation	Raw Material	Treatment	L (mm)	W (mm)	T (mm)	Wt (g)
Geometric Shapes											
Groundstone Cone	S20W12	25	H	12	J	Dolomite	Heat Treated	5	2.6	2	23.7
Groundstone Trapizoid	S22W12		HD	1	H	Dolomite	Indeterminable	73	61	41	289.5
Groundstone Oval	S22W11		I	2	I	PDC	Untreated	63	24	24	43.2
Groundstone Triangle	S20W9		JX	5	J	Dolomite	Untreated	6.7	5.7	4.5	
Ground Stone Circle	S20W9		NVC		NVC	Granite	Untreated	70	55	16	97
Groundstone Axe											
3/4 Groved Ax (Refit)	S20W9		JX	3	J	Igneous rock	Heat Treated			4.2	536.8
Groundstone Bowl											
Groundstone Bowl	S20W9		JXB	1	J	Dolomite	Heat Treated	48	36	22	40.6
UnID Groundstone											
Fragments											
Groundstone Fragment	S18W8		E	1	E	Igneous rock	Heat Treated				11
Groundstone Fragment	S20W12		H	6	J						
Groundstone Fragment	S21W11	61	HB		H	Dolomite	Burned				1.8
Groundstone Fragment	S18W18	84	I		I	Dolomite	Untreated				1.7
Groundstone Fragment	S22W12	121	B	1	K	Dolomite	Heat Treated				10

TABLE E.1: GROUNDSTONE AND MISCELLANEOUS ROCKS continued

Groundstone Fragment	S24W16		H	3	J & K	Igneous rock	Untreated				41.3
Groundstone Fragment	S21W11		J	6	J	Igneous rock	Heat Treated				29.5
Groundstone Fragment	S22W10		KH	2	K	Dolomite	Heat Treated				19.6
Groundstone Fragment	S20W9		L	1	L	Dolomite	Heat Treated				56.6
Groundstone Fragment	S22W12		LC	4	L	Igneous rock	Heat Treated				17.2
Groundstone Fragment	S22W12		NX	2	N	Igneous rock	Heat Treated				58.6
Groundstone Fragment	S20W10		NVC		NVC	Dolomite	Heat Treated				8.9
Groundstone Fragment	Surface		Surface		NVC	Dolomite	Untreated				
Possible Temper Source											
Granitic Rock	S20W11		I	7	I	Igneous Rock	Heat Treated	80	56	34	171
Groundstone Tablet											
Limestone Tablet	S20W9		JXB	1	J	Dolomite	Untreated	87	50	10	71.8
Hammerstones											
Hammerstone	S22W11		JC	2	J	PDC	Untreated	56	45	32	89
Hammerstone	S21W12		JD	1	J	Local Cobble	Untreated	71	55	35	196
Hammerstone	S22W11		JD	1	J						
Hammerstone	S20W9		JX	1	J	PDC	Untreated	60	49	20	91.7
Hammerstone	S19W11		L	1	L	PDC	Heat Treated	71	57	21	98.3

TABLE E.1: GROUNDSTONE AND MISCELLANEOUS ROCKS continued

Sandstone Artifacts											
Sandstone Abrader	S22W16		C	2	NVC	Sandstone	Untreated	67	44	44	140
Sandstone Abrader	S18W10		D	1	D & E	Sandstone	Untreated	82	57	51	205
Sandstone Abrader	S21W11		HC	1	H	Sandstone	Heat Treaed	57	49	32	89.5
Sandstone Abrader	S21W9		ICB	1	I	Sandstone	Heat Treaed	59	52	41	155
Sandstone Abrader	S19W17		D	1	D	Sandstone	Untreated	58	54	20	33.6
Sandstone Gorget	S18W12		I	1	K	Sandstone	Untreated	6.1	5.6	2	94.2
Sandstone Sphere	NVC				NVC	Sandstone	Heat Treated				0.2
NVC = no vertical control or non-provenienced artifacts											

APPENDIX F: SPATIAL ANALYSIS SAMPLES

The purpose of this appendix is to present the full case by case summary of the samples used in the spatial analysis section of this thesis (see Chapter 5). These samples are composed of the diagnostic chipped stone projectiles and unmodified debitage with assigned provenience. These two artifact classes were selected because they have the greatest frequencies within the lithic assemblage, and represent two different positions along the continuum of chipped stone manufacture.

The samples used in this spatial analysis are unlike any previously undertaken research projects because this study incorporates all of the presently know piece-plotted and level data excavated from the site. Previous samples and studies have used different spatial analytical techniques, but all of these studies have inherent limitations and potentially misrepresent the actual spatial relationships within the data (see Appendix A). As a result of this unique arrangement, this study represents the only holistic independent test of the hypothesized differentiation of sacred versus secular space within the rockshelter. The full sample used can be identified by looking for the individual cases highlighted in Table A.1 and C.1.

The remained of this appendix presents graphical summaries of the spatial distribution of both the diagnostic bifaces and unmodified debitage per aggregated chronological unit.

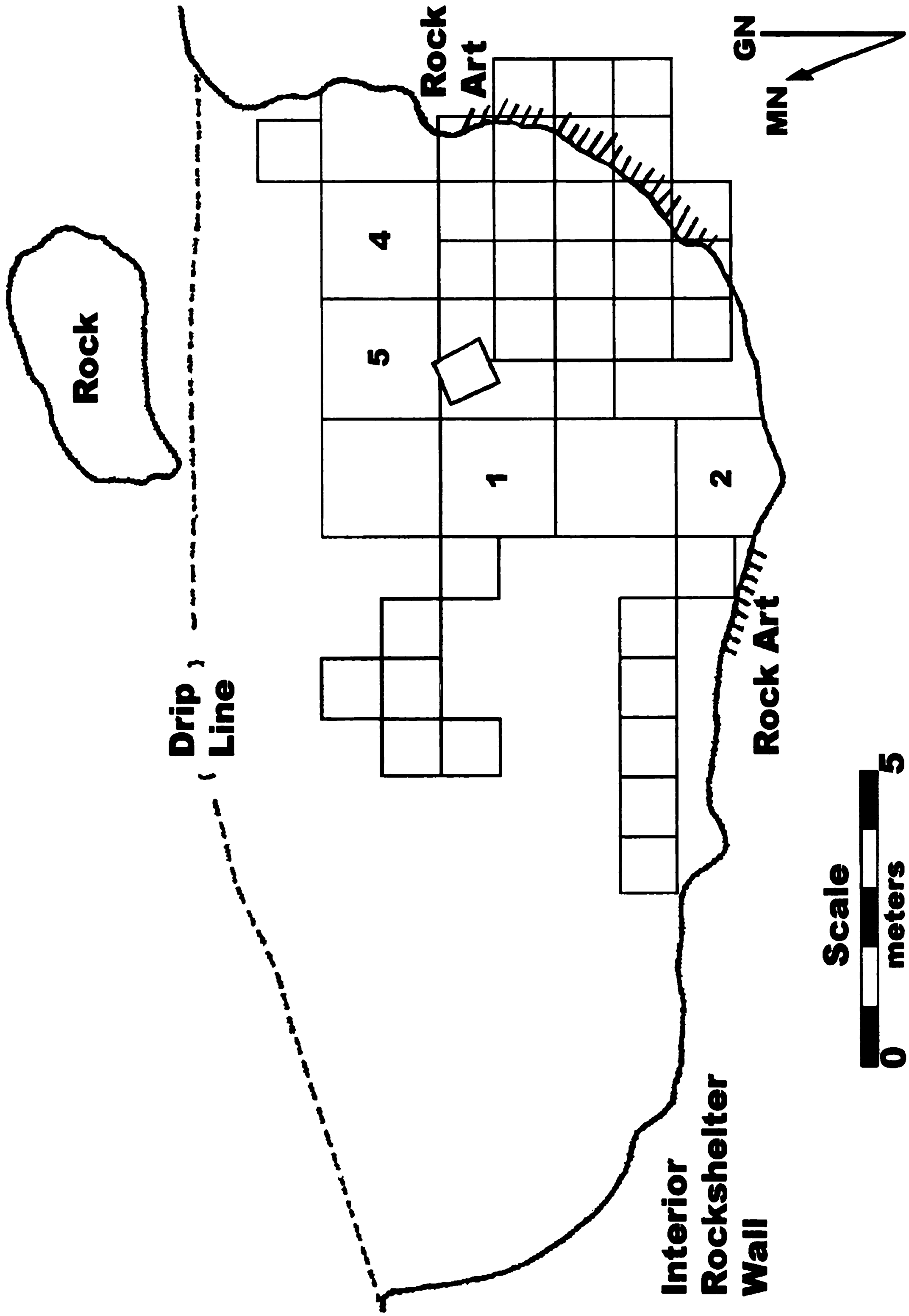

Figure F.1: Distribution of D Zone Diagnostics Bifaces

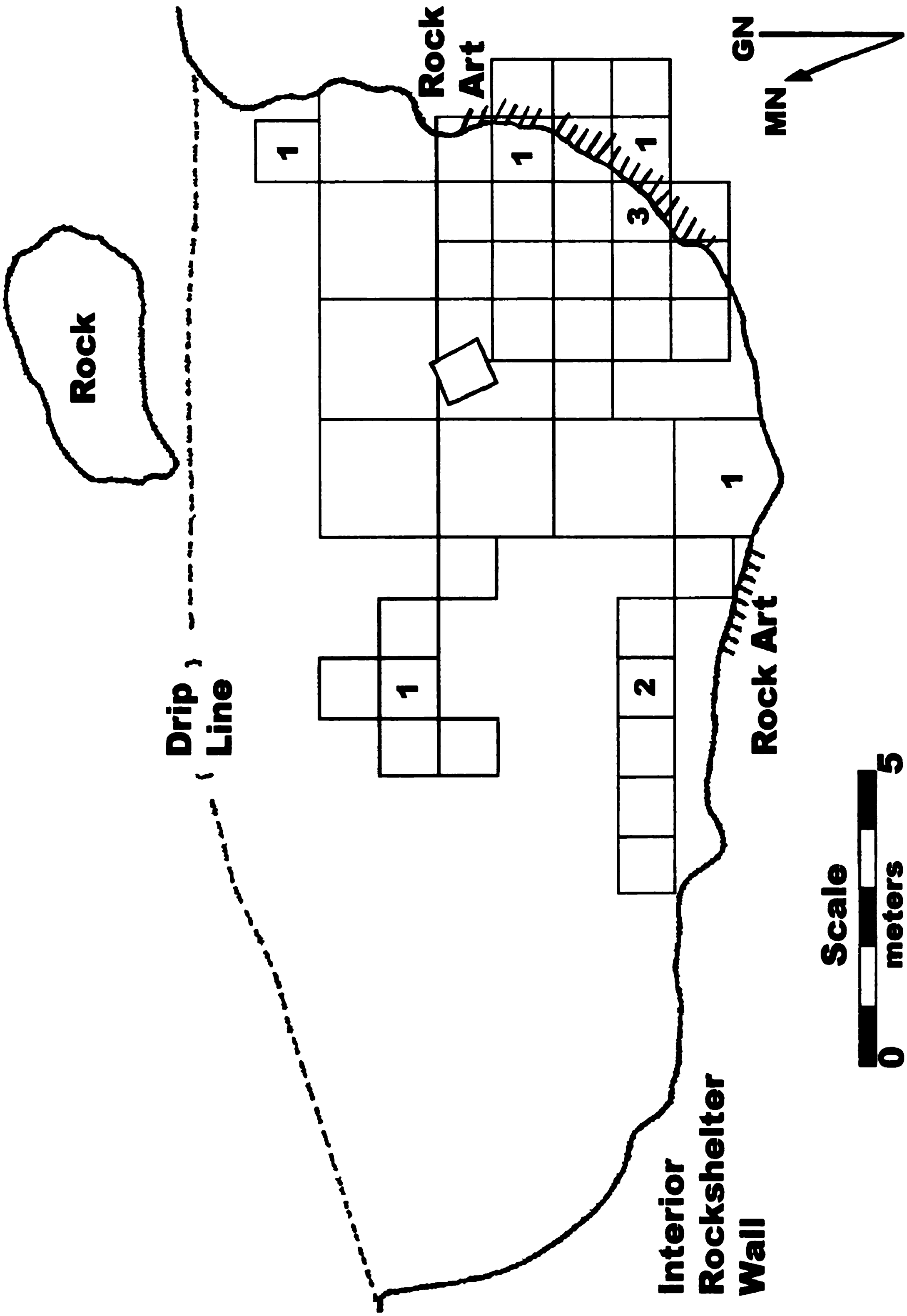

Figure F.2: Distribution of E Zone Diagnostics Bifaces

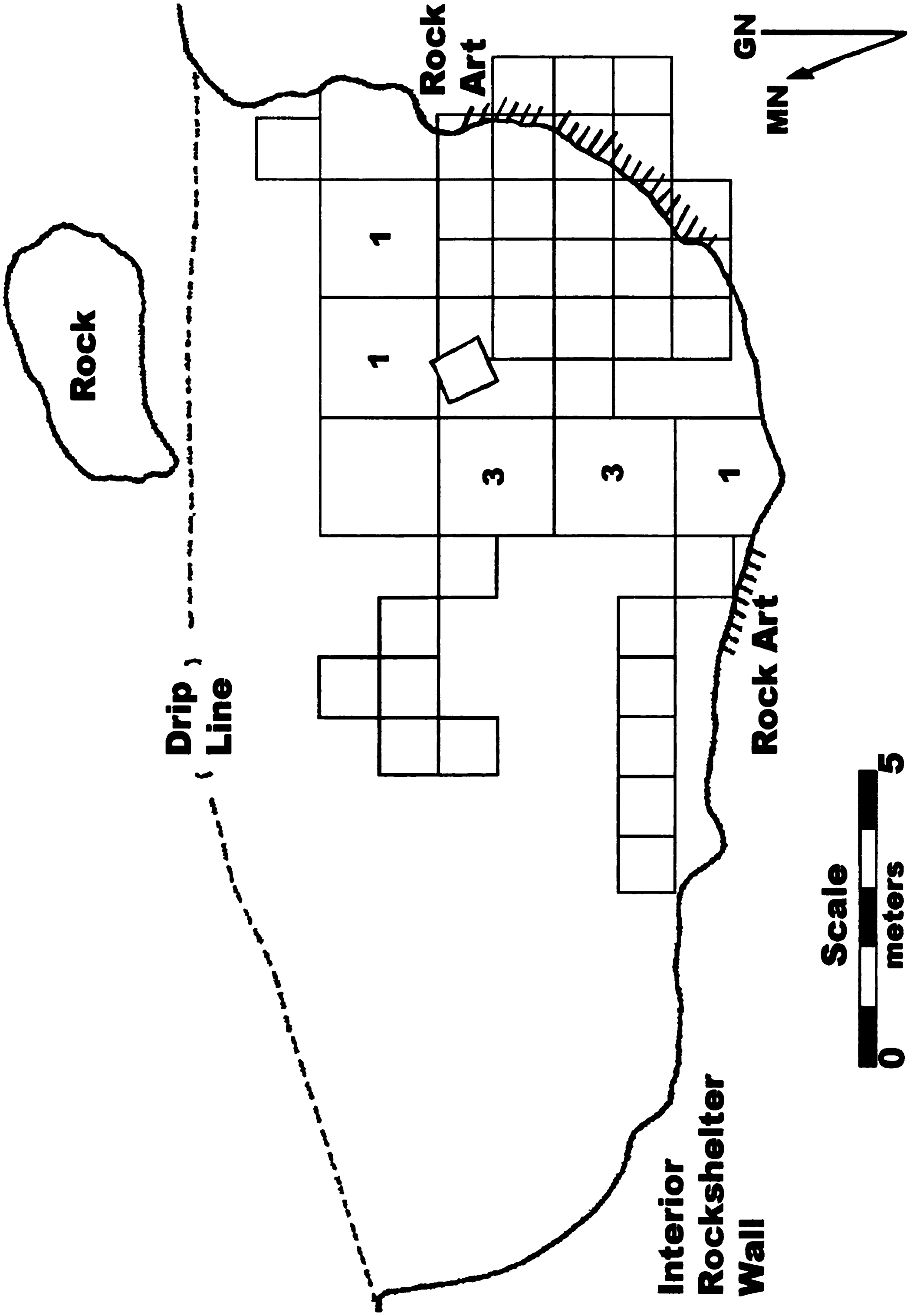

Figure F.3: Distribution of G Zone Diagnostics Bifaces

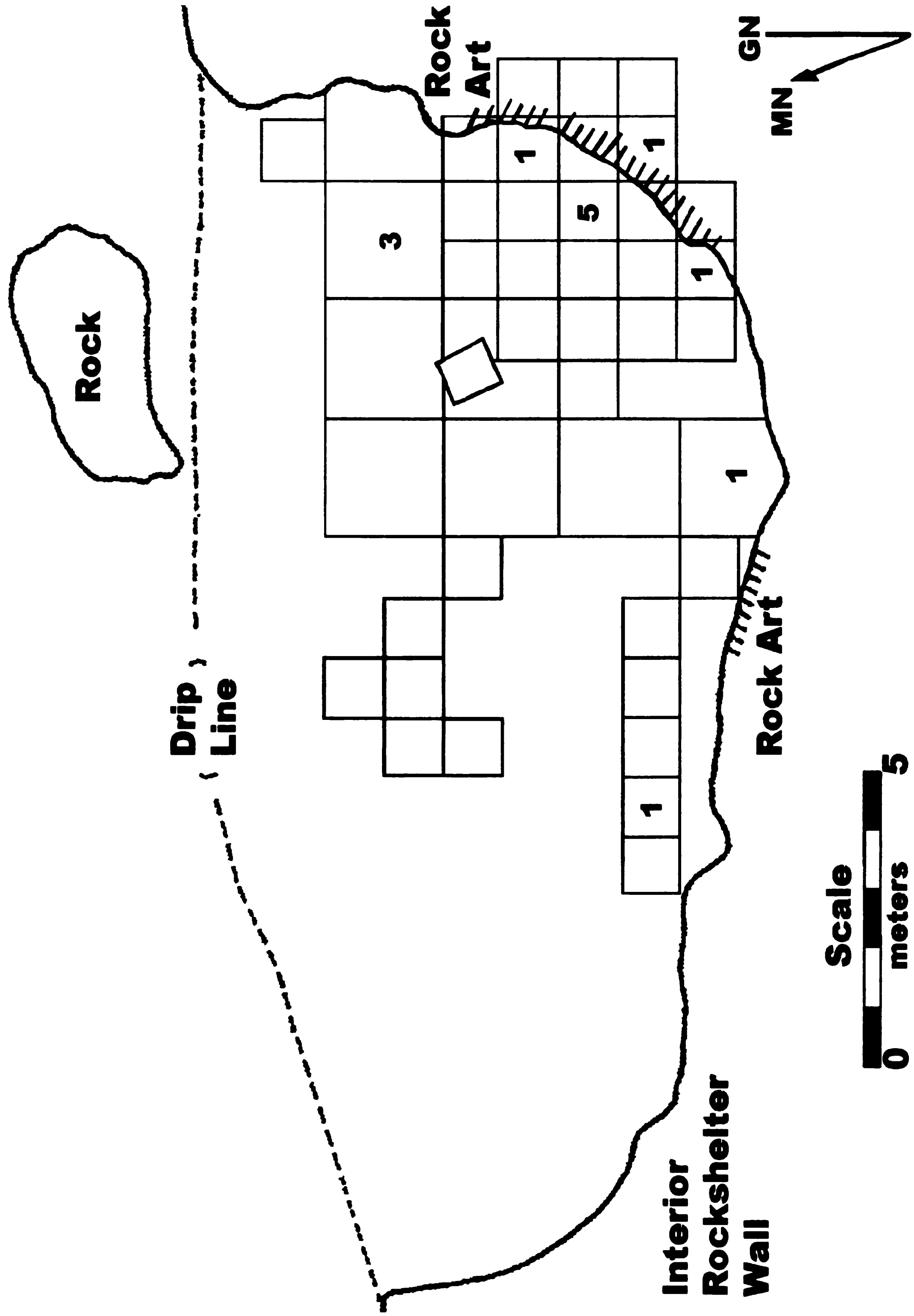

Figure F.4: Distribution of H Zone Diagnostics Bifaces

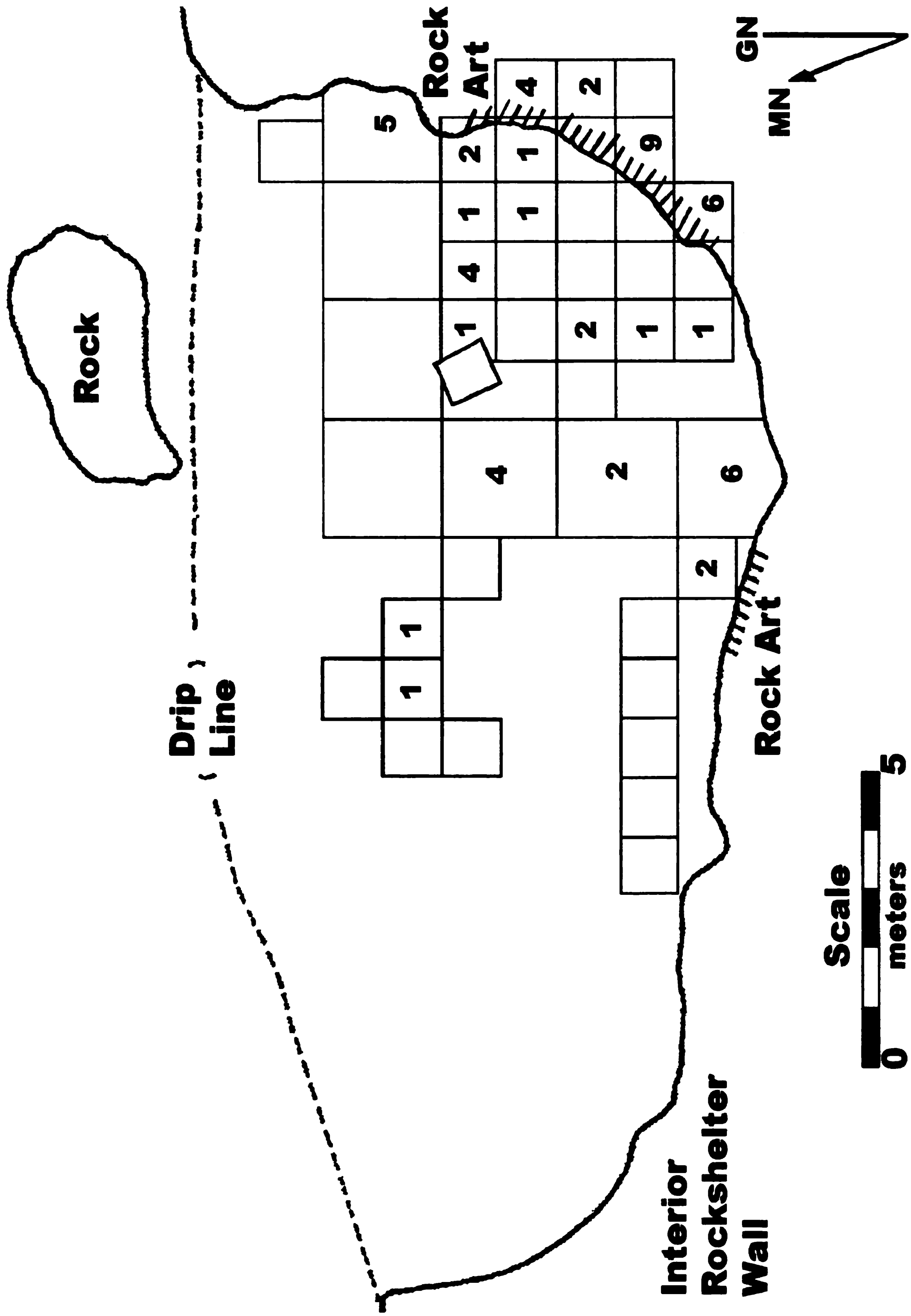

Figure F.5: Distribution of I Zone Diagnostics Bifaces

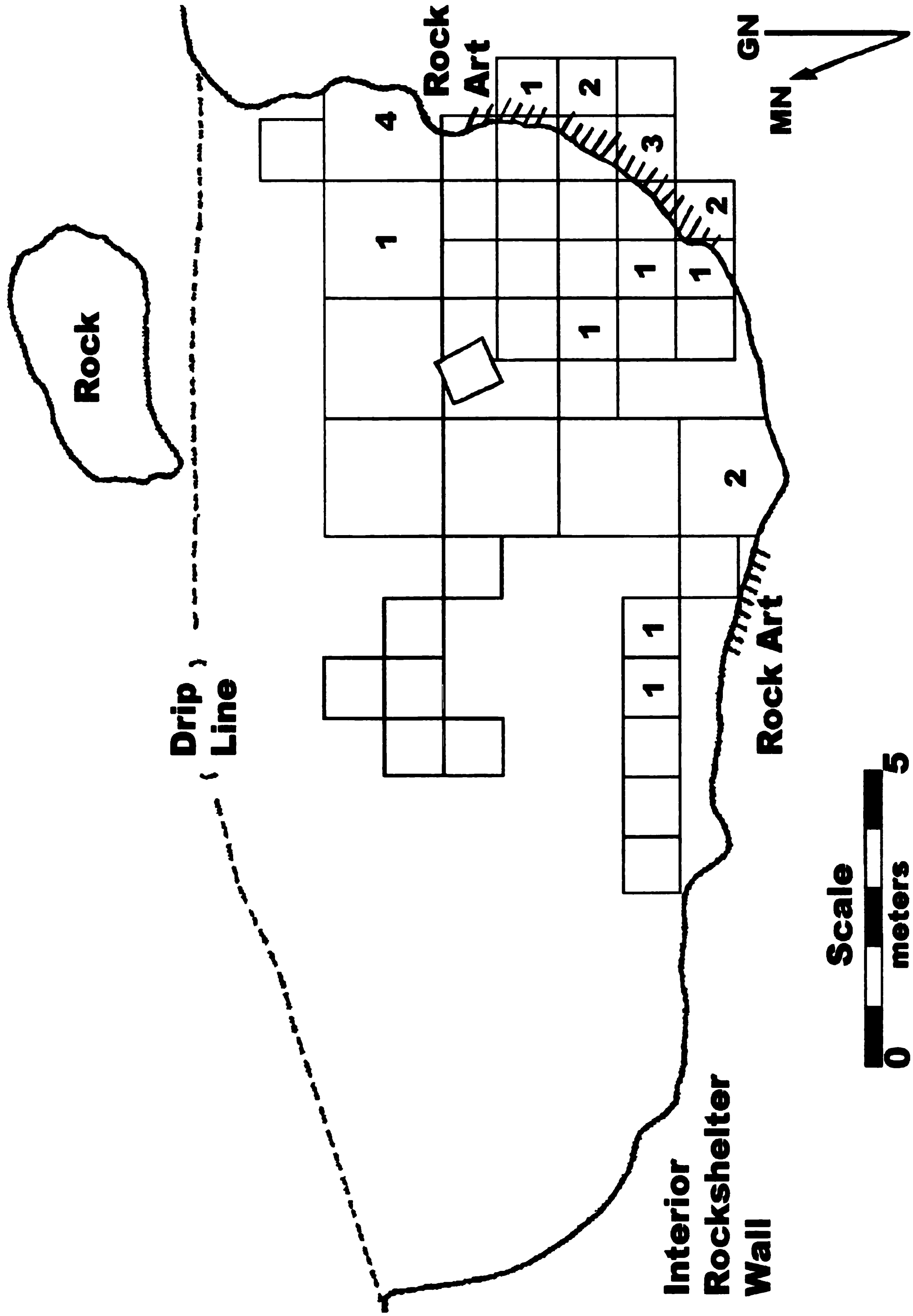

Figure F.6: Distribution of J Zone Diagnostics Bifaces

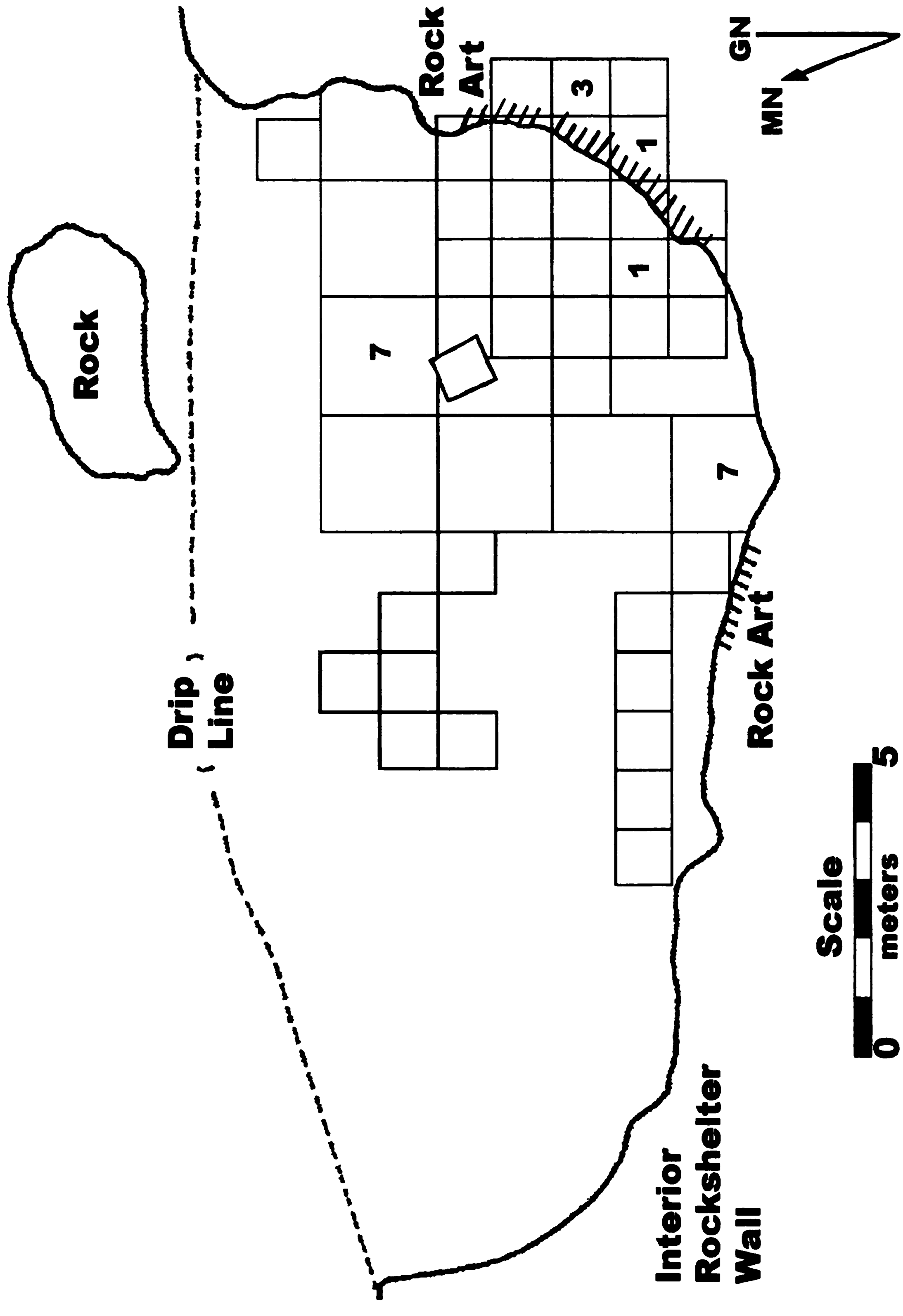

Figure F.7: Distribution of K Zone Diagnostics Bifaces

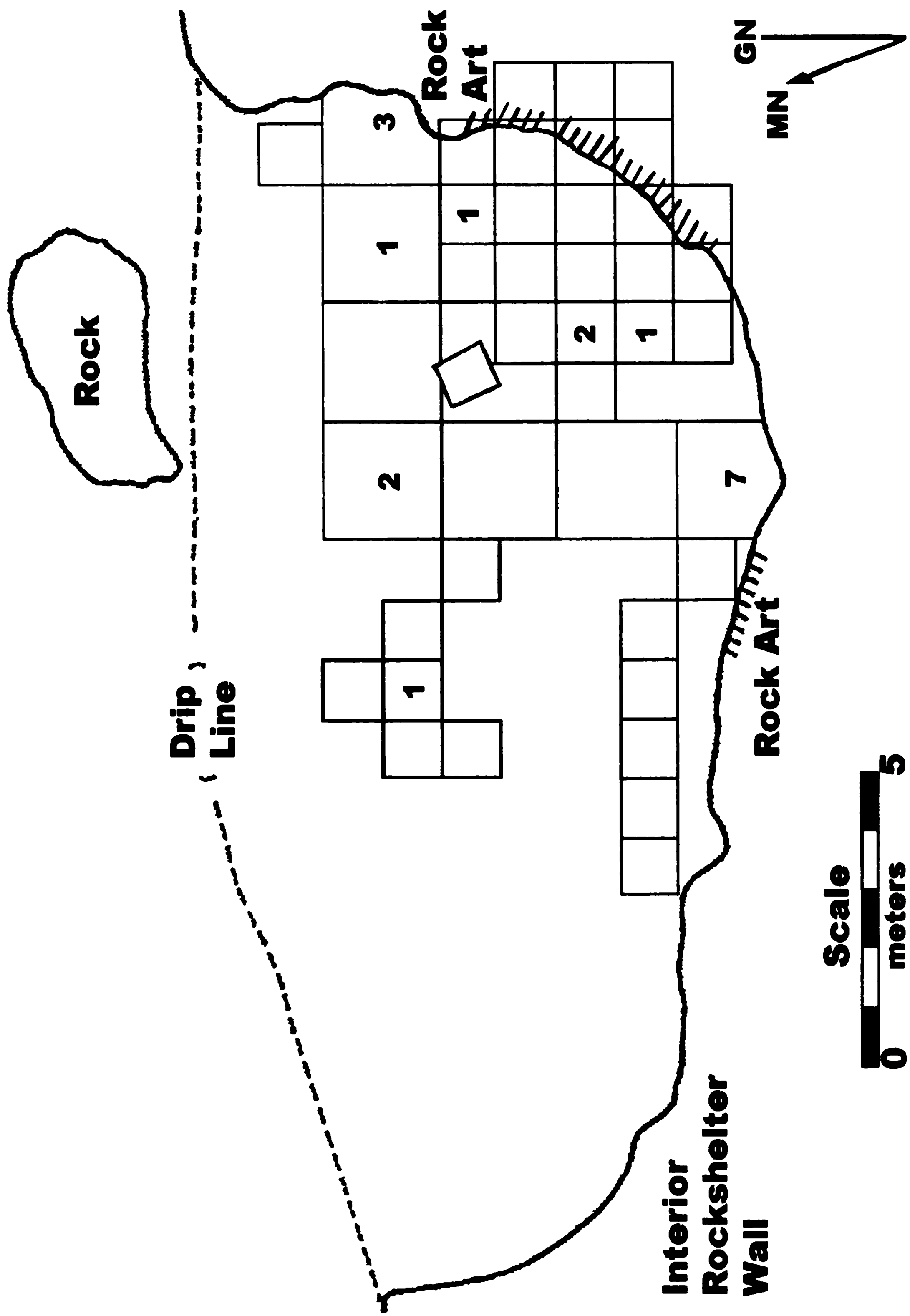

Figure F.8: Distribution of L Zone Diagnostics Bifaces

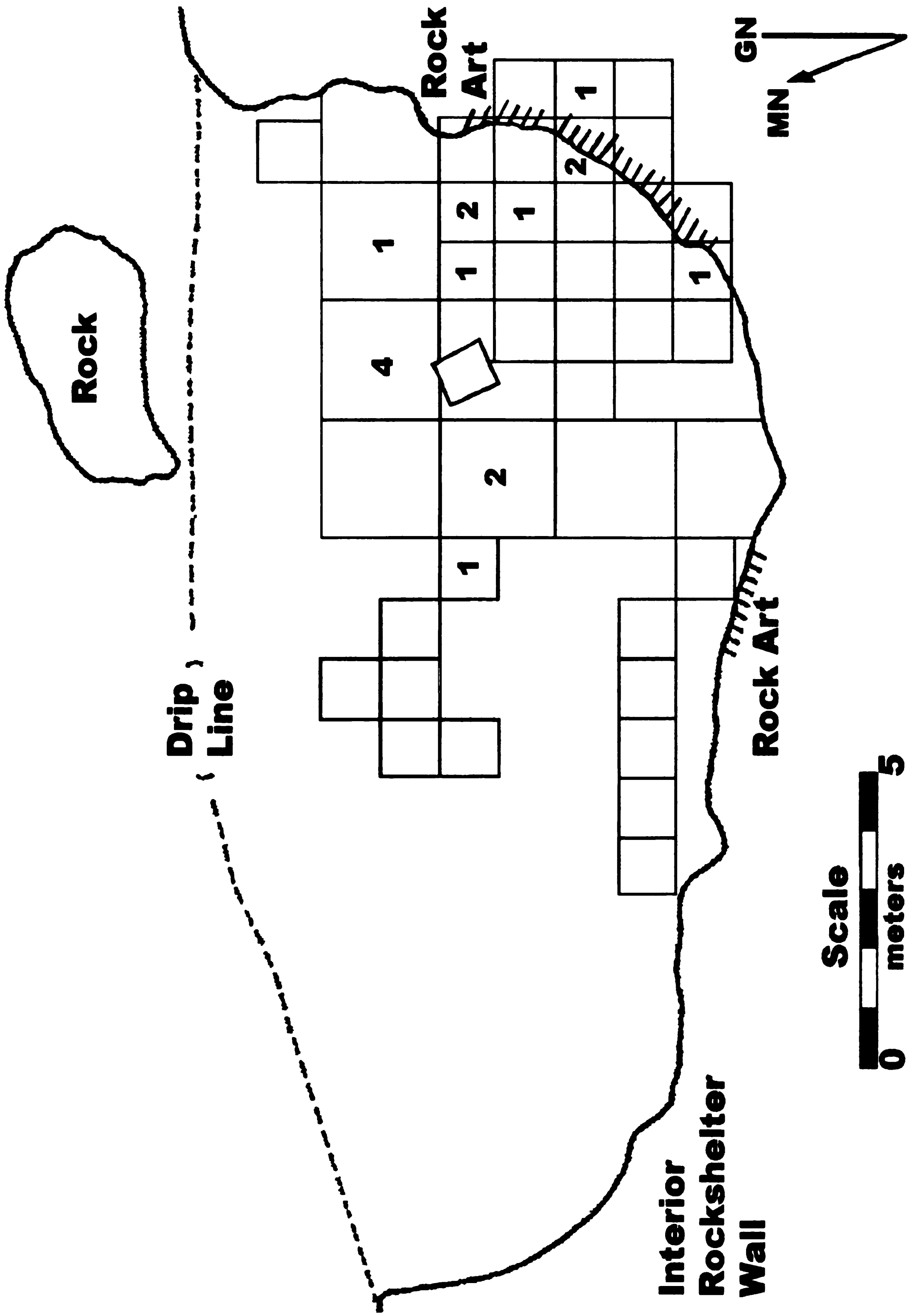

Figure F.9: Distribution of O Zone Diagnostics Bifaces

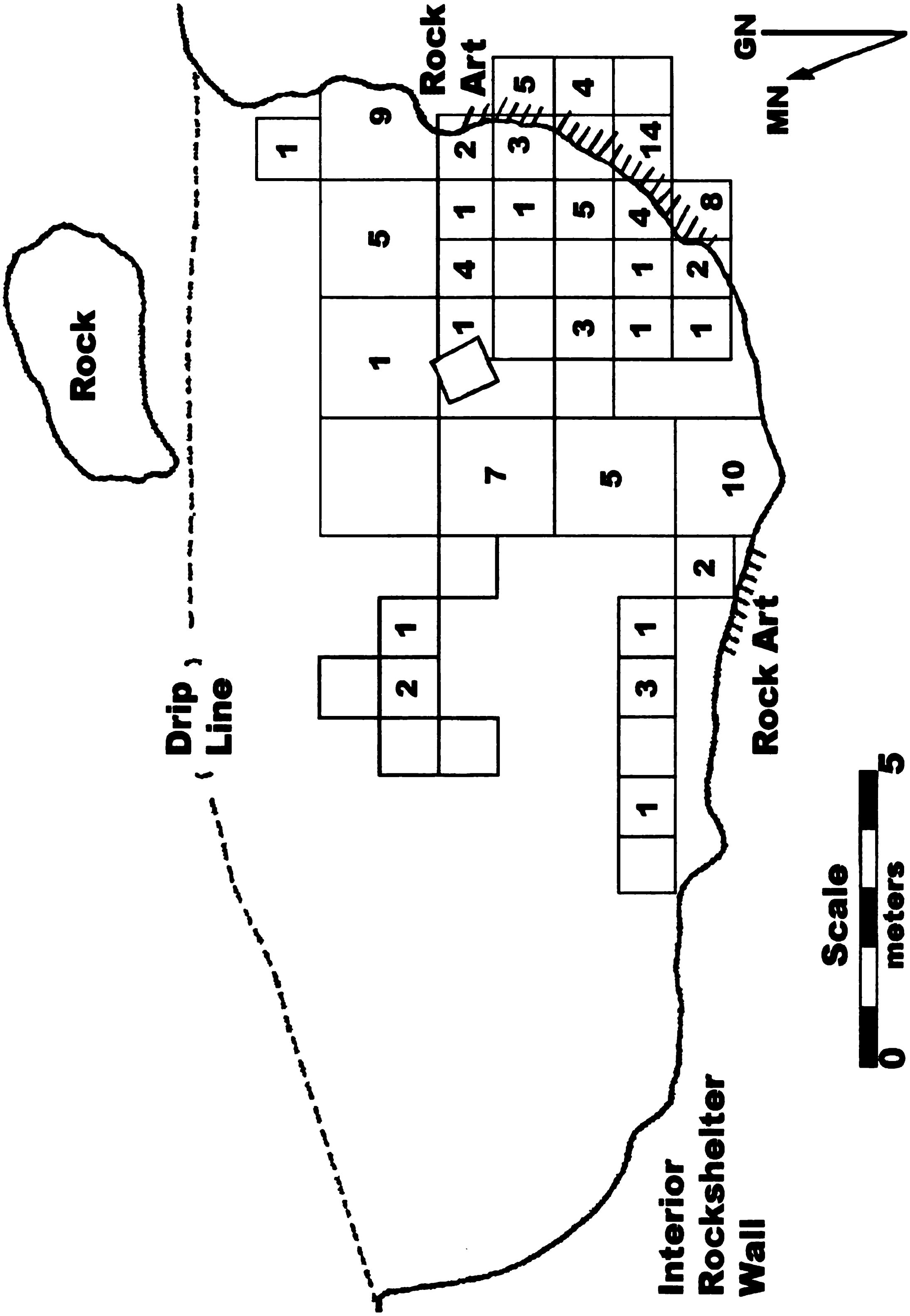

Figure F.10: Distribution of combined E, H, I and J Zone Diagnostics Bifaces

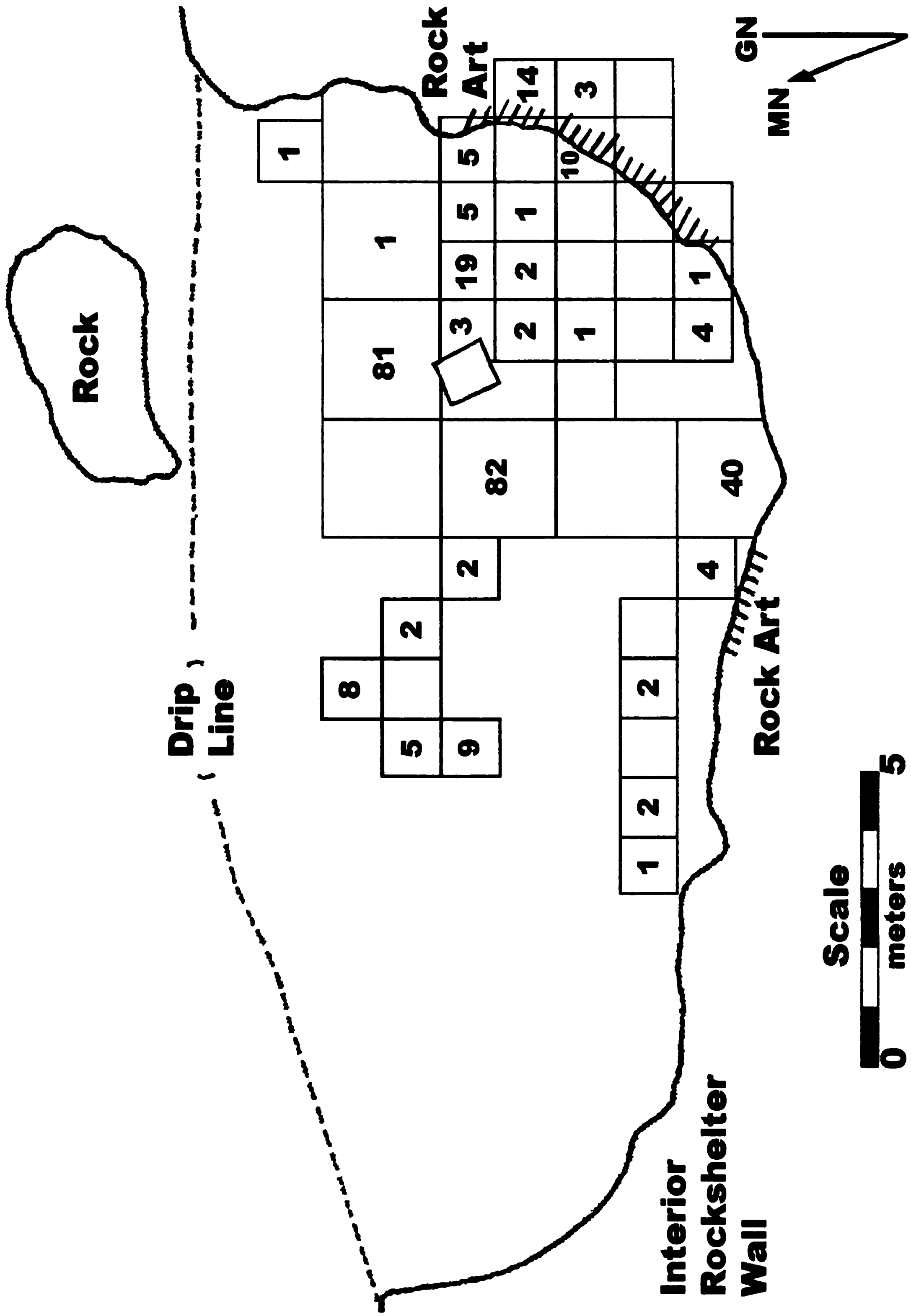

Figure F.11: Distribution of D Zone Debitage

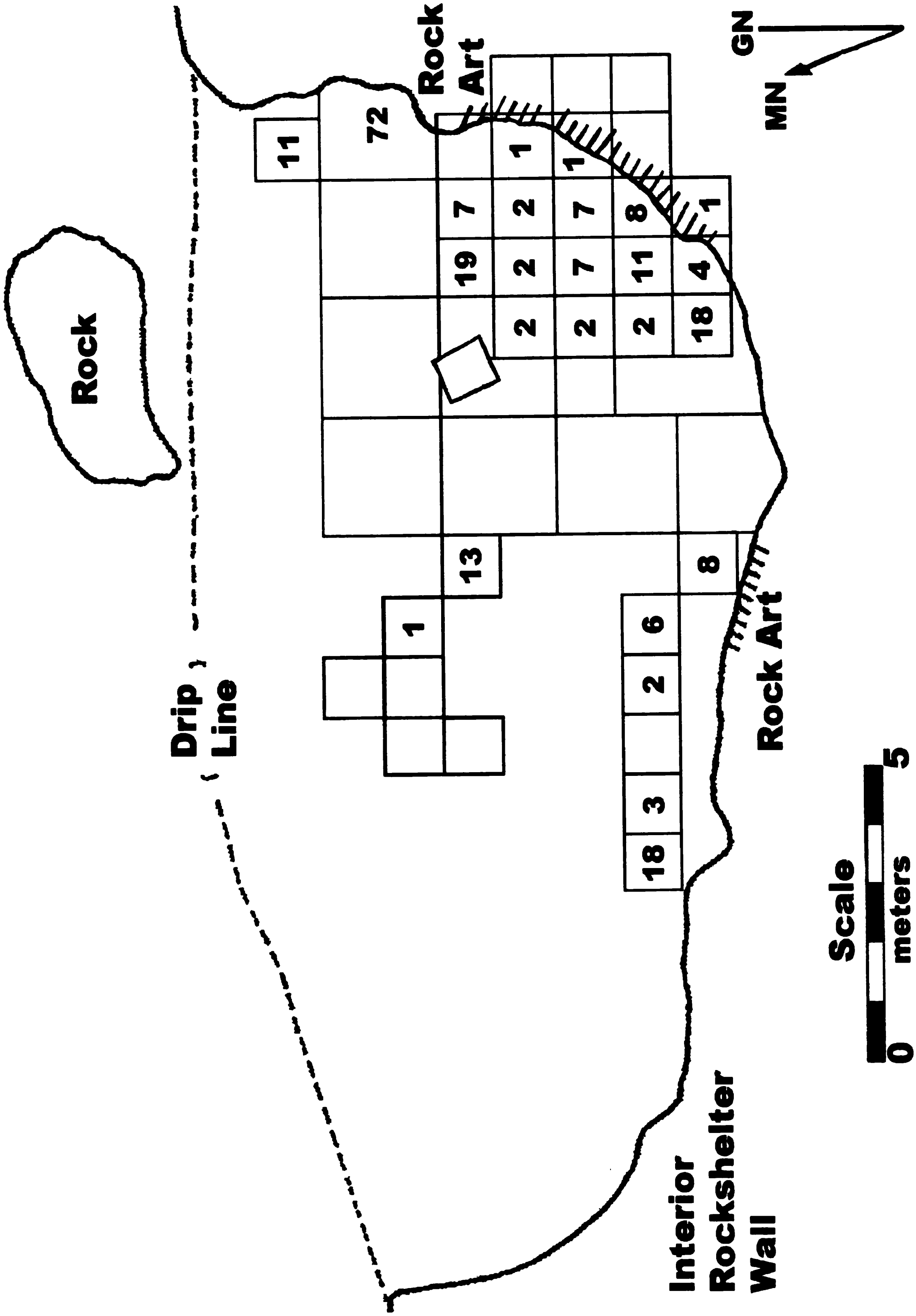

Figure F.12: Distribution of E Zone Debitage

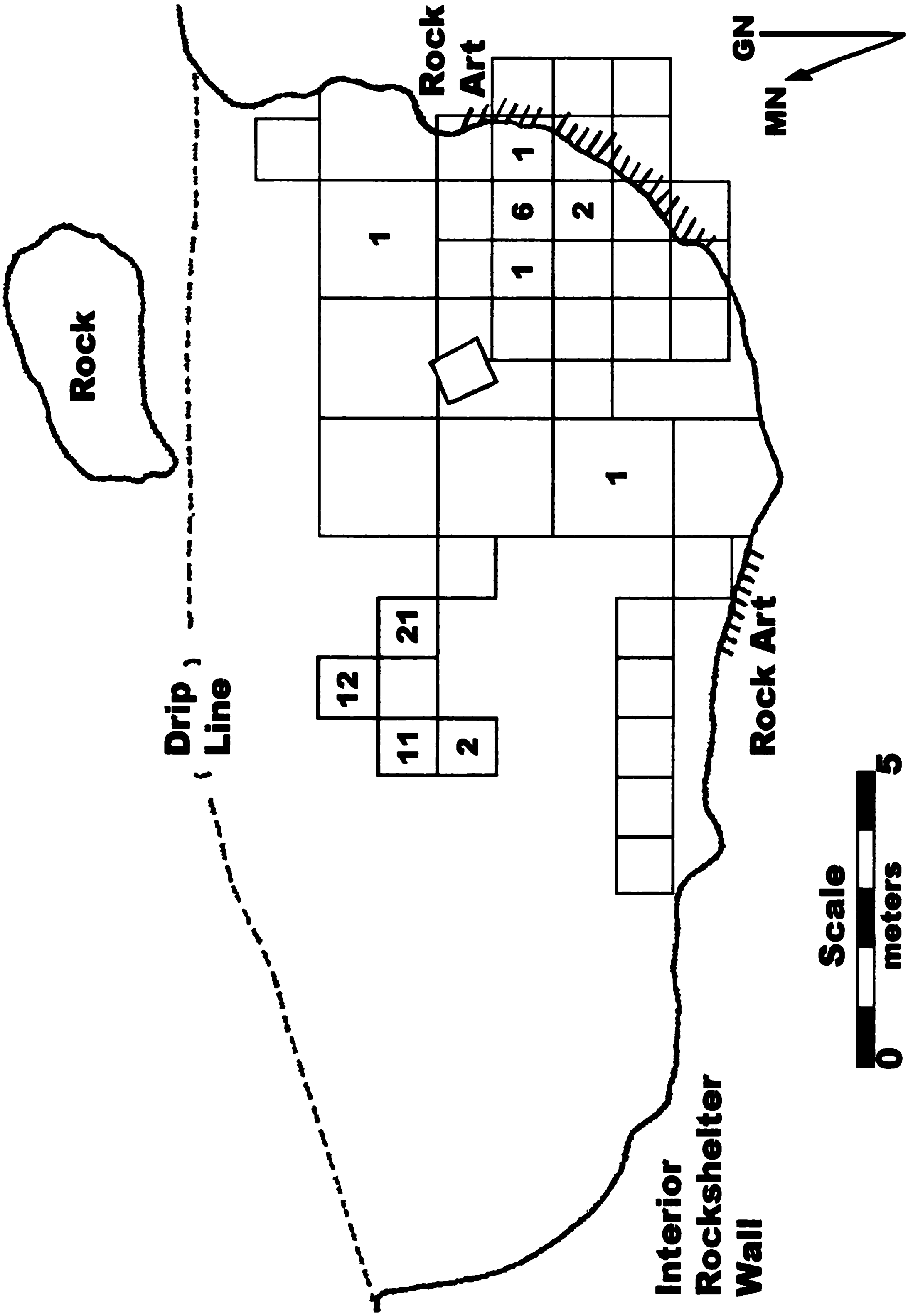

Figure F.13: Distribution of G Zone Debitage

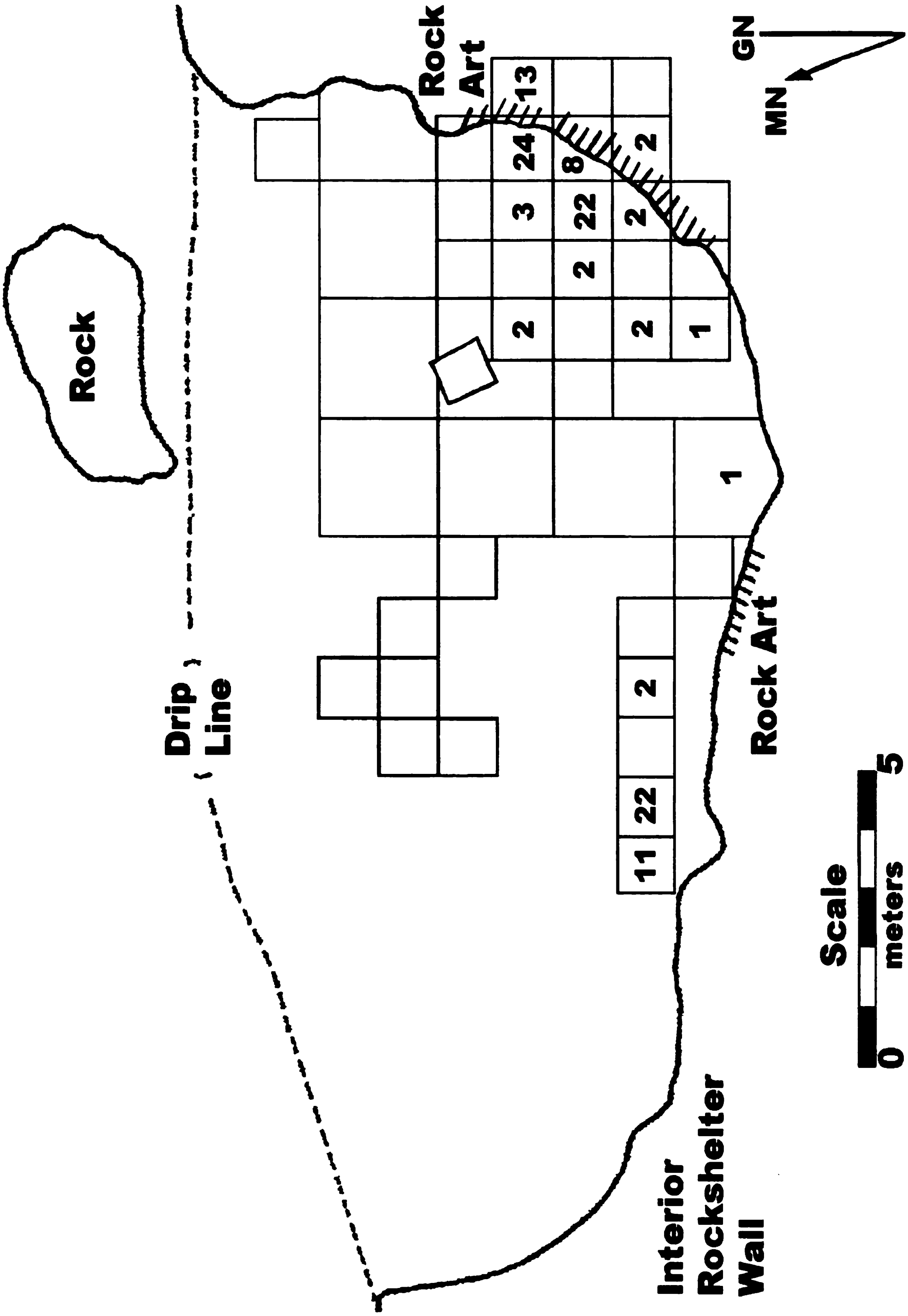

Figure F.14: Distribution of H Zone Debitage

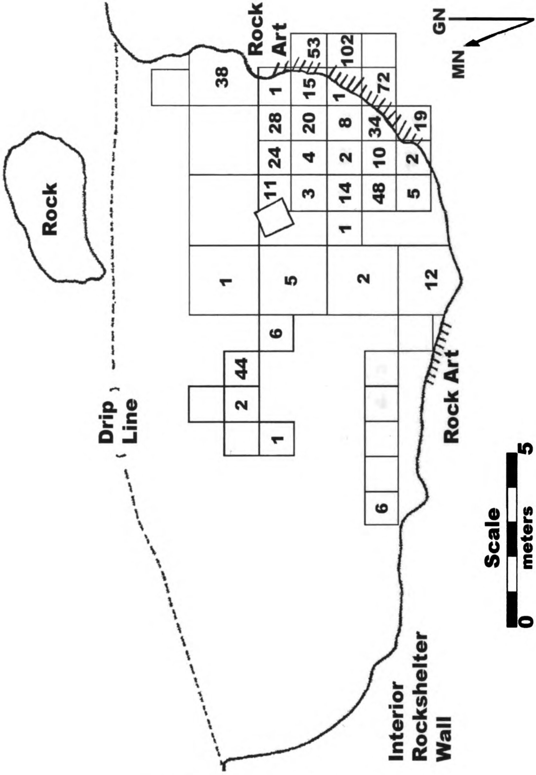

Figure F.15: Distribution of I Zone Debitage

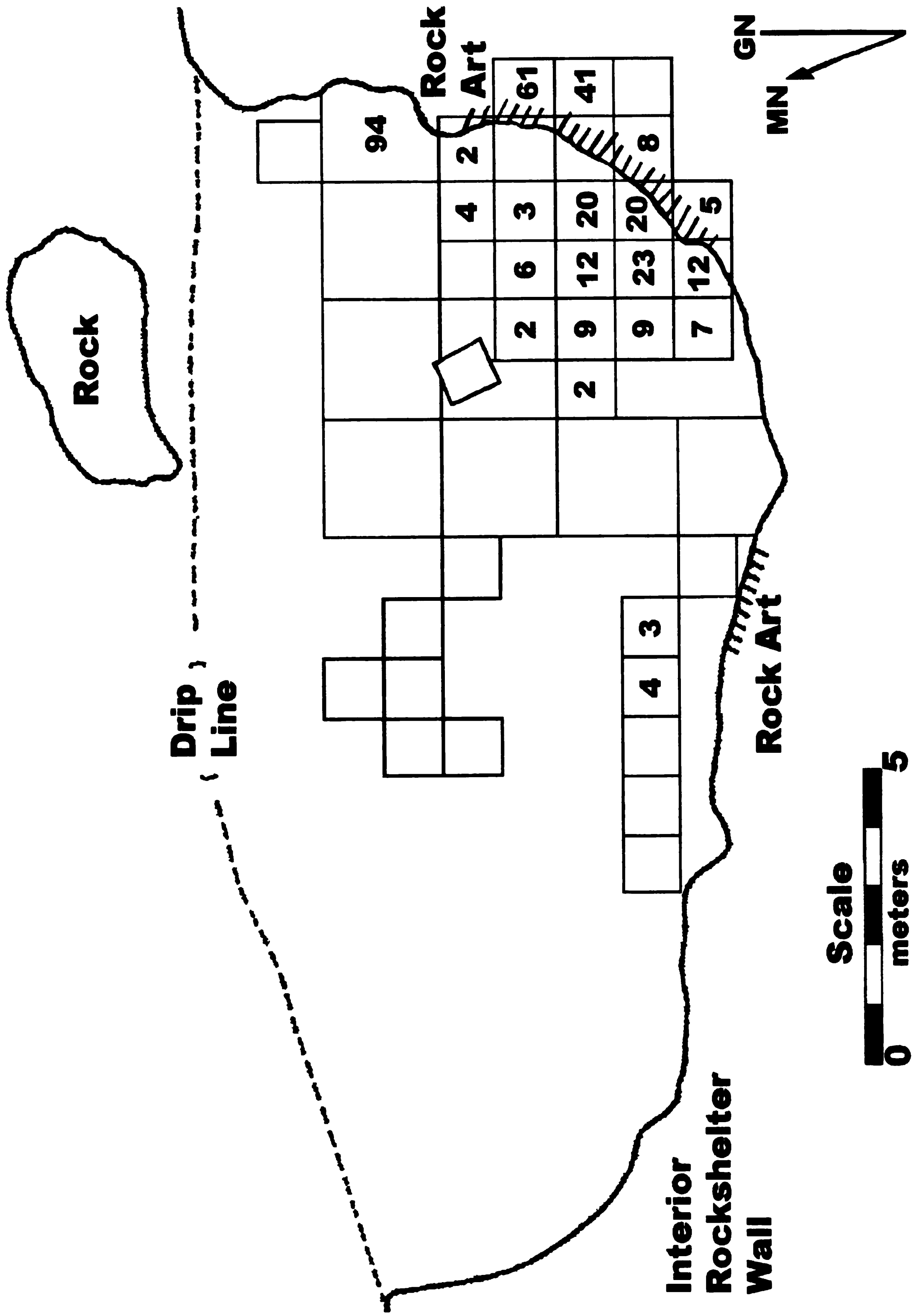

Figure F.16: Distribution of J Zone Debitage

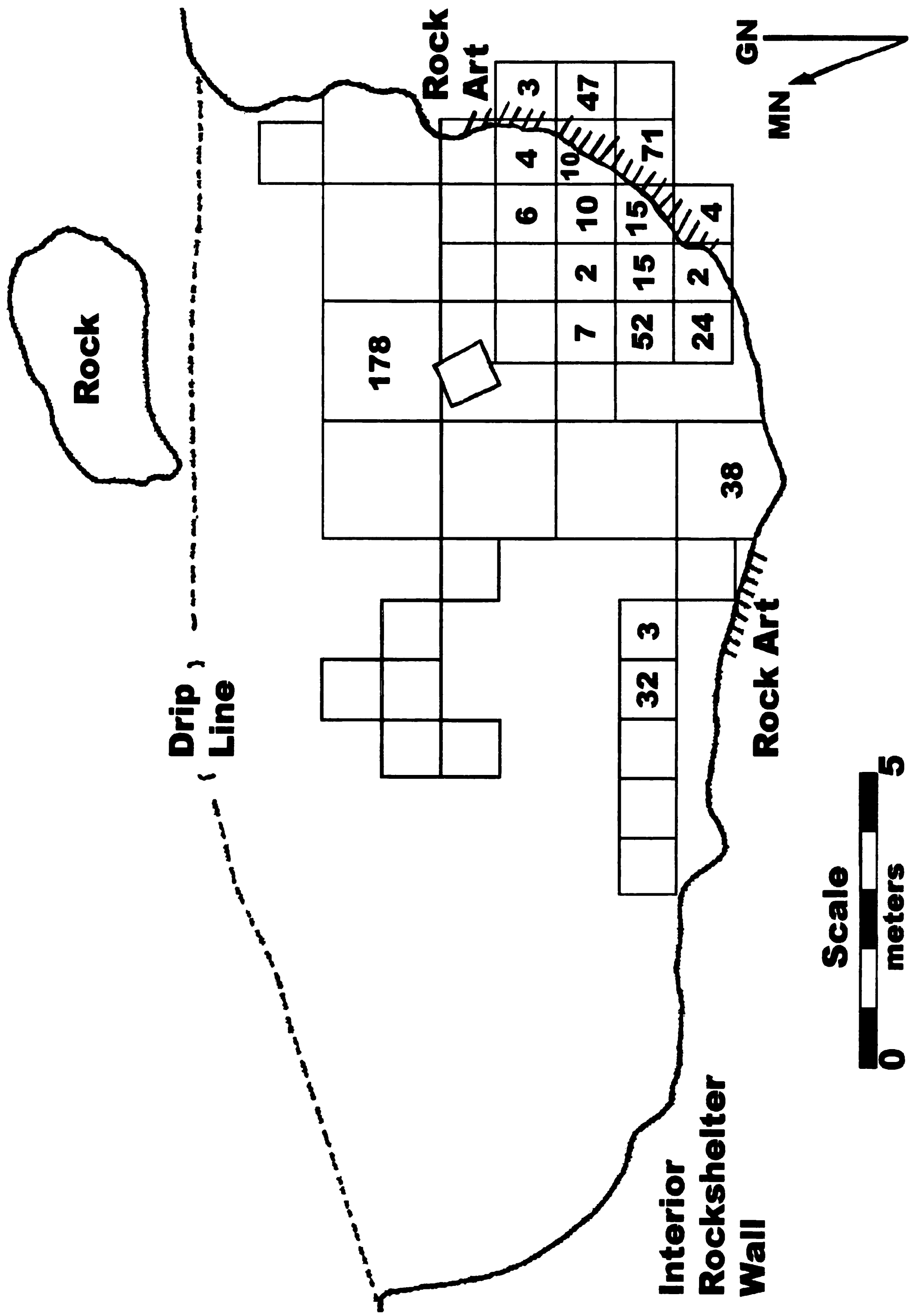

Figure F.17: Distribution of K Zone Debitage

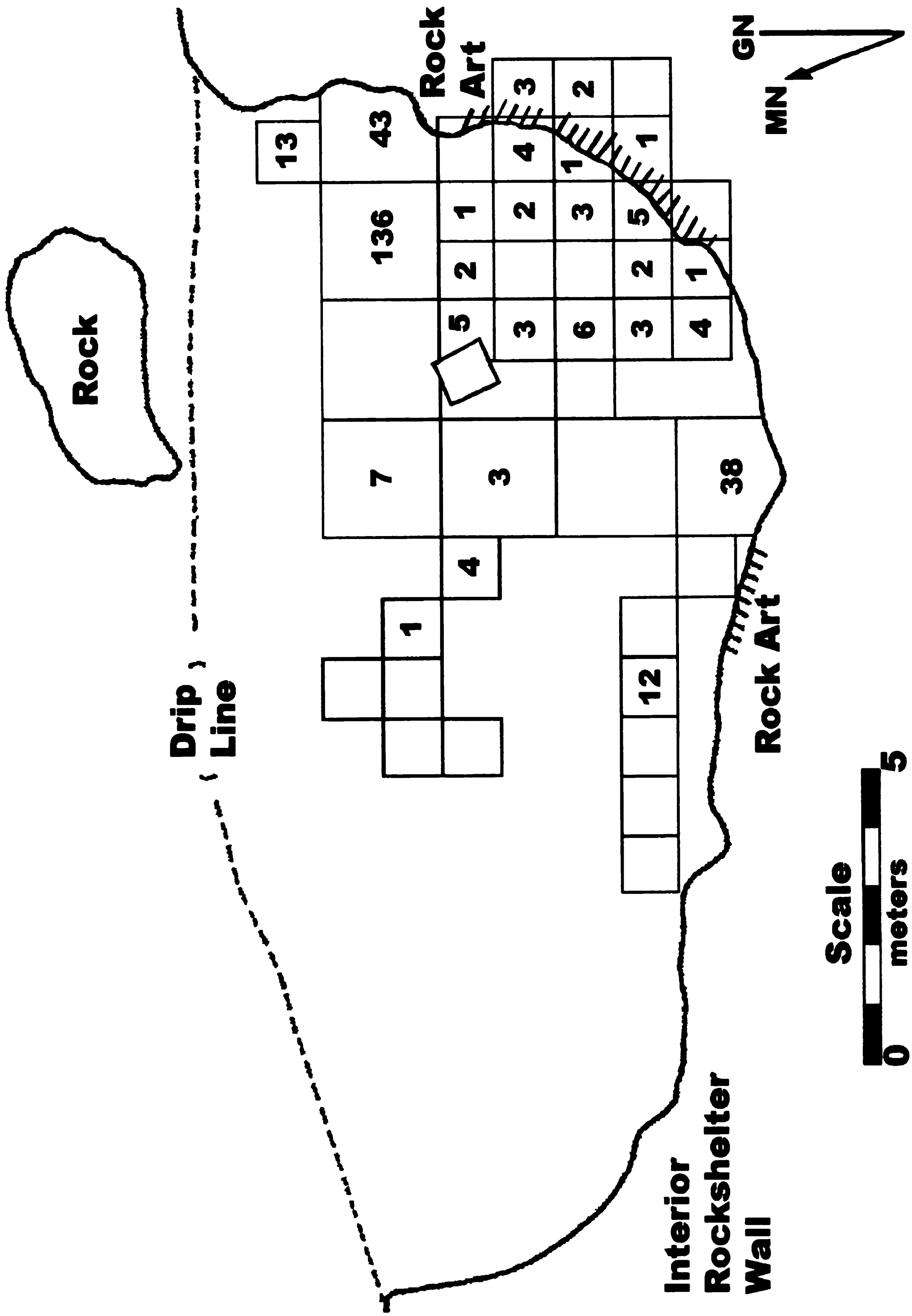

Figure F.18: Distribution of L Zone Debitage

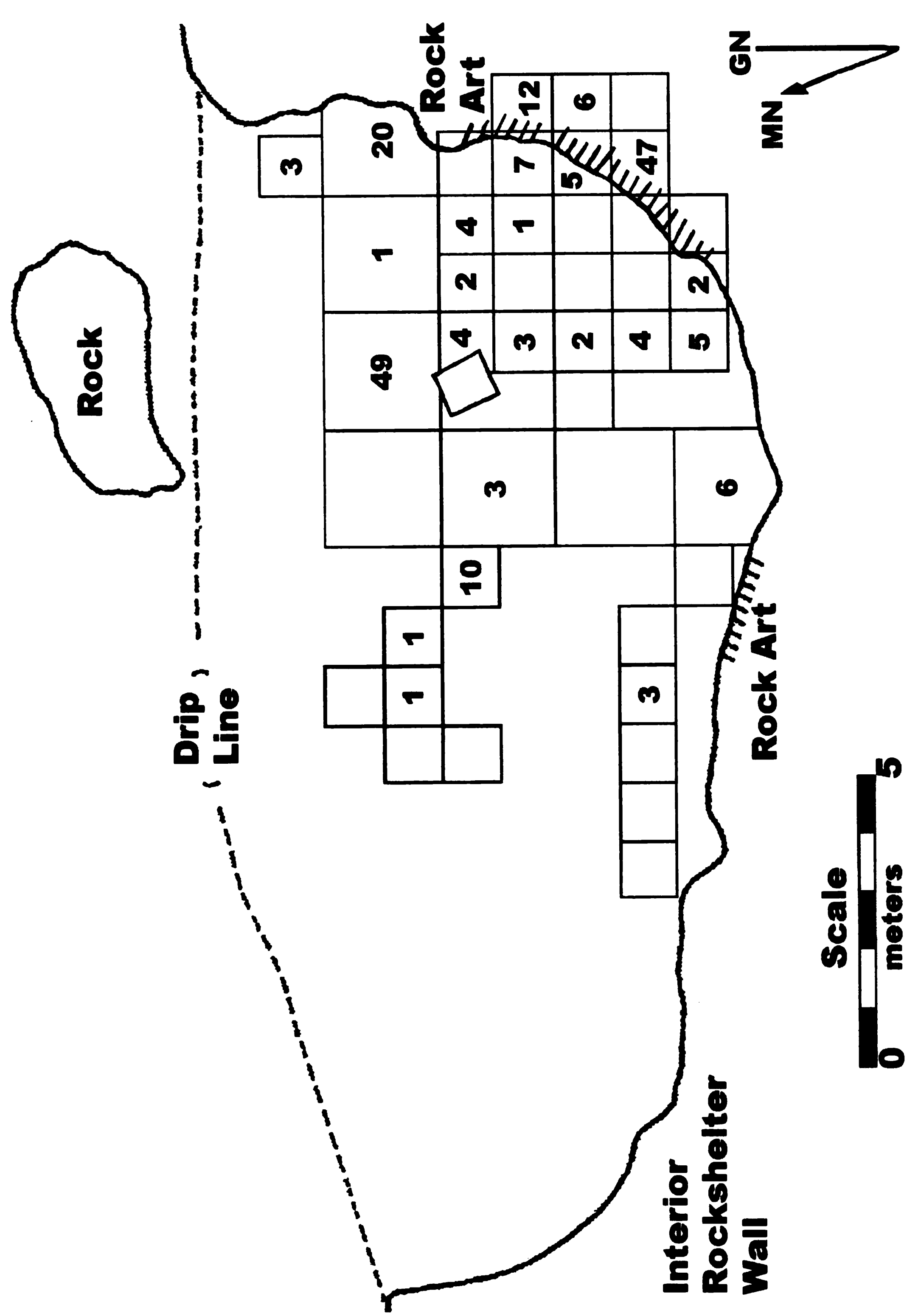

Figure F.19: Distribution of O Zone Debitage

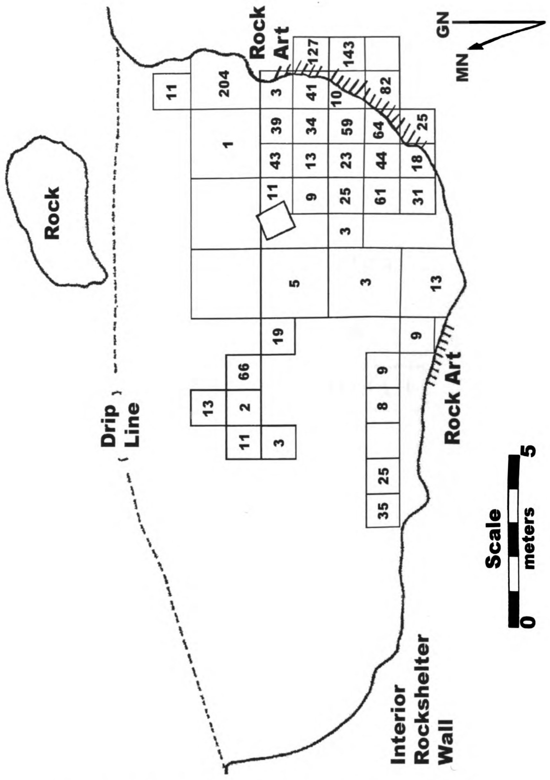

Figure F.20: Distribution of combined E, G, H, I and J Zone Debitage

APPENDIX G: MASTER FEATURE LIST

Compiled by Robert Salzer and amended by Aaron Naumann

The table presented in this appendix represents the comprehensive summary list of all the features thus far observed at the Gottschall Rockshelter.

TABLE G.1: MASTER FEATURE LIST

No.	Location	Origins	Comments
1	South wall of S18W16	Bottom of E Zone*	Hearth
2	Southwest corner of S18W16	Bottom of E Zone*	Hearth
3	South quad of S22W16	Bottom of C Zone	Refuse dump, small sandstone, burned
4	Northeast corner of S12W27	Bottom of D Zone*	Dark area (edge of pit?) non-cultural
5	S11W25	?	non-cultural
6	SW corner of S22W16 & S24W16	Base of C Zone*	Small, shallow pit with jackknife in it.
7	West wall of S18W12	G Zone	Charcoal concentration (a pile of it)
8	Center of S18W12	Top of J Zone	Refuse (in a storage?) pit
9	Southwest corner of S18W12	Top of I Zone	Large, shallow post mold (target-type)
10	Northeast quad of S20W16	Top of D Zone	Hearth
11	East wall of S20W16	Top of D Zone	Erosion gully cut in D Zone (non-cultural)
12	Center of S20W16	Top of G Zone*	Hearth
13	Northwest corner of S24W16	Top of D Zone	Erosion cut from 1984 flood -(non-cultural)
14	Northeast quad of S24W16	Top of E Zone*	Hearth
15	West wall of S24W16	Top of E Zone*	Garbage dump in cleft between roof-fall and wall-fall
16	Center of S18W14	10 cm below top of L Zone	Hearth (Millville Phase)
17	East edge of S18W14	Base of L Zone (Top of N Zone?)	Rock pile and hearth
18	Southeast corner of S18W14	Top of Q Zone	Hearth (Late Archaic - Durst Phase)
19	North center of S18W12	Base of J Zone (Top of L Zone?)	Hearth (Millville Phase)
20	Southwest corner of S20W12	Middle of B Zone	Shallow basin, not much in it,
21	East wall of S21W13	Upper middle B Zone, Has C Zone on south edge	Oval (n-s) small pit? Post mold? (Recent Historic) Superimposed on: Fea. 20
22	Southwest corner of S20W11	Rock in C Zone, level 6	Flat-lying sandstone with red crushed sandstone on it (non-cultural)

TABLE G.1: MASTER FEATURE LIST continued

23	Center of S21W13	C Zone, Level 22	Cache(?) of round nails, vertical and horizontal orientation. Pail? Burning and charcoal (Historic ca.. 1880)
24	North center of S21W13	D Zone, level 1	Hearth, extends into S20W13. (Late Oneota?)
25	East 1/3 of S20W12 and north 1/2 of S20W11	E Zone, level 2?, Base of G Zone? Late H Zone?	Shallow, basin-shaped pit with garbage, including shell-tempered plain surface pottery (Early Oneota?)
26	Center of S21W13	Base of C Zone	Irregular post hole with post mold inside Associated with Fea. 23? (Historic)
27	Center of S24W16	L Zone, level 2*	Hearth under upper roof fall and coarse sediments: 2.99 m below surface (Late Archaic. Pre-Durst?)
28	Northeast quad of S21W14	Top of E Zone*	Pit (?) with irregular outline
29	Southwest quad of S20W11 & eastern edge of S21W11	G Zone	Dark (reduced) area with multiple Small irregular burned (oxidized) areas. 102 cm below surface.
30	East edge of S20W11	Top of Feature 25 & top of H Zone	Stack of plain, shell-tempered body-sherds. Partly under Fea. 29
31	Center of S20W11	H Zone, level 6	Pigment (blue-grey) @ 98.5 cm below surface
32	East edge of S19W11	I Zone, level 1	H Zone deposit extending to the east
33	South wall of S24W16	Q Zone? R Zone	Oxidized/reduced area (non-cultural)
34	Center of S21W11	B Zone, level 1	Hearth (very recent Historic ~1975)
35	Southwest quad of S21W11	B Zone, level 1	Concentration of wood and charcoal, probably associated with Fea. 34 (recent historic)
36	West center of S21W11	B Zone, level 2	Hearth, charcoal, probably associated with Fea. 34 (recent historic)
37	Southwest part of S18W10	L Zone	Refuse dump (Millville Phase)
38	East central part of S18W10	L Zone	Refuse dump (Millville Phase)
39	Southeastern 2/3 of S21W11	Base of C Zone	Sandstone cobbles & pebbles, charcoal (similar to Fea. 3 & 39?: Historic)
40	Southeastern 2/3 of S22W13	Base of C Zone	Sandstone cobbles & pebbles, charcoal (similar to Fea. 3 & 39?: Historic)

TABLE G.1: MASTER FEATURE LIST continued

41	Southeast corner of S18W10	M Zone?	I Zone-like dirt, similar to Fea. 37 & 38 (non-cultural)
42	Center of S wall of S18W10	Top of L Zone(?)	Circular (?) hearth in profile wall
43	Center of S19W11	Top of I Zone, level 10	Pigment (blue-grey) with calcined bone
44	Not assigned		
45	S21W11	D Zone, level 2	Burned area
46	East part of S18W10	Base of J Zone, Top of L Zone	Large storage pit (Millville Phase)
47	West center of S19W11	Top of I Zone, level 12	Pigment (extends into S19W12)
48*	Northwest quad of S18W10	Top of OC Zone	Hearth, no rocks (Late Archaic Durst Phase?)
49	S22W13		Error, non-cultural
50	S22W13	Top of E Zone (or on the "false" H Zone)	Small, irregular burned areas, red (oxidized), similar to Fea. 29.
51	S18W10	8 cm below Top of S Zone	Badly eroded hearth (Late Archaic)
52	S19W12	Top of I Zone, level 5	Hearth
53	S18W10 & S18W8	Top of N Zone	Refuse/storage pit (early Millville)
54	Center of east wall of S18W10	Top of N Zone	Pigment (3 splotches of yellow)
55	Southeast corner of S18W10	Top of N Zone	Pigment (blue-grey)
56	Center of N wall of S18W10	Top of M Zone	Hearth in profile, on top of rocker stamp Linn Ware sherd (early Millville)
57	South wall of S18W14	Top of I Zone	Hearth, burned sandstone & earth with charcoal and ash.
58	West 1/2 of S19W13	B Zone	UW-Platteville test pit
59	Southeast corner of S22W13	Top of IB Zone in S22W12	Small, irregular burned areas, red (oxidized), similar to Fea. 29.
60*	Northwest corner of S19W11	Top of OC Zone	Heath (?), not heavily burned, small shallow basin (Late Archaic - Durst)
61	East part of S21W10	Top of HB Zone, level 2	Red-pink sand layer (sanding debris) associated w/ the paintings
62	Southeast corner of S18W8	Top of L Zone, covered by JXB Zone	Refuse/storage pit (Millville Phase)
63*	West part of S18W8	Top of OC Zone	Hearth with pile of OC dirt and rocks (Late Archaic - Durst?)
64*	West part of S18W8	Top of OC Zone	Hearth, iregular shape only light burning (Late Archaic - Dust)

TABLE G.1: MASTER FEATURE LIST continued

65*	Southwest corner of S18W8	Top of OC Zone	Hearth, iregular shape, no rocks, little charcoa (Late Archaic)
66*	North part of S18W8	Top of OCA Zone	Hearth, iregular shape, no rocks, little charcoa (Late Archaic)
67*	North central part of S18W8	Top of OCA Zone	Hearth, small, iregular shape, rocks and good charcoa (Late Archaic)
68*	South central part of S18W8	Top of OCA Zone	Hearth, small, iregular shape, rocks and good charcoa (Late Archaic)
69	SE corner of 8 40 cm bench in S18W	Top of OCA Zone	Hearth, small, iregular shape, rocks and good charcoa (Late Archaic)
70	SE corner of 40 cm bench in S18W	Top of P Zone	Hearth, burned earrth, chert core, burned bone, burned sandstone, big charcoal, roughly circular in shape (Late Archaic - Durst Phase).
71	Northwest corner of S19W17	B Zone	Circular (?) pile of B Zone material that has been heavily burned.
72	Center of S16W10	Base of C Zone	Hearth. Burned C Zone on top of D Zone against a large rock (historic)
73	Center of east wall of S21W11	HB Zone, level 8	Bright orange sand (sanding from the preparing of the paintings)
74	North wall of S19W12	J Zone, level 2	Hearth (north 1/2 was lost due to wall collapse)
75	S edge of 40 cm bench in S18W8	2.0 cm below top of T Zone	Hearth with burned rocks, charcoal and oxidized earth (Late Archaic, pre-Durst?)
76	Southeast wall of S18W8	4 cm below top of T Zone	Hearth (Late Archaic, pre-Durst?)
77	East wall of S22W13	Top of KB Zone, level 4	Hearth (no charcoal)
78	Northeast corner of S16W7.5	MA Zone	Basin-shaped (?) pit (Millville Phase)
79	Northwest corner of S19W17	Top of M Zone, level 2	Hearth. Shallow, small, burned earth and charcoal.
80	W center of N wall of S18W18	Top of G Zone, level 4	Hearth, small edge of burned earth.
81	Center of north wall of S18W8	Top of M Zone, level 1	Hearth, small, circular shape, no rock or charcoal.
82	North center of S18W18	Top of I Zone, level 4	Pit. Circular grey area.
83	Northwest corner of S18W18	Top of I Zone, level 4	Pit. Circular grey area.
84	Northwest quad of S18W18	Top of I Zone, level 4	Pit. Small, irregular with ask and charcoal conentration.
85	SW quad of S18W18 & S18W19	Top of I Zone, level 4	Pit. Stratified earth oven with associated burned sandstone.
86	Southwestt corner of S18W18	Top of I Zone, level 4	Pit (?). Circular grey area.
87	Southeast center of S19W12	Top of T Zone	Hearth. Small, lightly burned, burned sandstone, charcoal (Late Archaic - pre Durst)
88	Northeast quad of S21W13	L Zone, level 7	Oxidized M Zone (non-cultural)

TABLE G.1: MASTER FEATURE LIST continued

89	East center of S18W19	Top of I Zone	Burned sand pile (similar to Fea. 71)
90	Northwest quad of S18W18	Base of I Zone	Pit. Basin-shaped, superimposed on Fea. 85 and by Fea. 83.
91	East center of S18W18	Base of I Zone, level 6	Hearth. Irregular sheet of ash and charcoal, w/oxidized/ & reduced underlying dirt, on top of Fea.3
92	West center of S19W20	?*	Sheet of mostly unburned sandstone, similar to Fea. 3, 23 & 39.
93	Southwest corner of S22W13	LAA Zone, level 1	Edge of pit or post, unusual concentration of debris.
94	Southeast corner of S21W11	Top of K Zone, level 5 - on top of "pure K"	Hearth, ash, charcoal, burned sandstone.
95	North edge of S18W19	Base of I Zone (pre-I)	Pit, extraction pit? Supeimpossed on Fea. 85 and superimposed by I Zone.
96	South center of S16W10	Top of R Zone, level 2	Hearth. Small, burned sandstone, burned earth, small flecks of charcoal (Late Archaic)
97	South center of S16W10	Top of S Zone, level 3	Hearth. Small, burned sandstone, burned earth, small flecks of charcoal (Late Archaic)
98	Center of S21W11	Top of KA Zone, level 3	Hearrth. Oxidized/reduced area, burned K Zone, no charcoal, little ash.
99	S wall of S21W11	L Zone*	Pile of clay(?).
100	Southest corner of S21W11	Top of L Zone	Hearrth. Oxidized K/L mixed dirt.
101	East Center S23W17	D Zone, level 2	Small, lightly burned hearth, disturbed with burned sandstones charcoal. Cut by C Zone - filled crack, (Oneota?)
102	S18W19 & E part of S18W20	Bottom of I Zone	Extraction pit dug into Fea. 85?
103	North center S20W13	Top of D Zone, level 2	Slightly oxidized and rduced hearth area, no charcoal (Onoeota?)
104	S20W13 SW corner	Top of D Zone, Bottom of D/Top of E level 3	Brightly oxidized hearth - under Fea. 24.
105	S23W13 NW corner	Top of fill Layer	Hearth, reduced earth, post JB Zone, Bottom of JA Zone
106	S22W12 SW quad	Top of E Zone, level 3	E Zone burning, irregular shape, associated with underlying H Zone?
107	S20W13 NE corner	Top of J Zone	Disturbed by Fea. 58, Hearth, SE edge of this hearth was removed as IB Zone in S19W13

TABLE G.1: MASTER FEATURE LIST continued

108	S20W10 Center	Top of I Zone	Hearth, charcoal, reduced earth, charred nut (under H Zone)
109	S20W10 Center	Top of I Zone, level 5	Hearth, burned area, oxidized and reduced earth.
110	S20W13 south-center	Top of MA Zone, level 2	Hearth (Early Millville)
111	S23W13 Sw quad	Top of L Zone	Burned floor, similar to Fea. 77 (Early Millville)
112	S22W11 east edge	Top of J Zone	Hearth, capped with pure anthrosed
113	S21W12 cener	Top of J Zone, Bottom of I Zone	Pit
114	S222W18 SW quad	G Zone	Burning
115	S21W12 SW corner	Top of KF Zone	Pit
116	S22W18 South center	G Zone	Burned G Zone with H Zone cap
117	S22W18 South center	Under H Zone	Burning of "G" Zone
118	S20W10 NE quad	Top of L Zone	Small circular pit, lots of limestone associated w/ NE corner of Fea. 100
119	S20W10 NE quad	Top of L Zone	Small circularr pit, no limestone, burned sandstone, associated w/ NE corner of Fea. 100
120	S22W12 center	Bottom of J Zone	Fragments of a water eroded hearth w/ charcoal, oxidized and reduced dirt.
121	S22W12 center	Top of KE Zone (K Zone)	Substancial section of a good hearth w/ pure anthrosed cap
122	S22W11 SW corner	Top of KG Zone (Under KC Zone)	Hearth, circular w/ tightly associated charcoal (C14 Sample 96-C-3)
123*	S20W10 center	NBC Zone	Hearth (Millville?, Durst?) (C14 Sample 96-C-1 & 96-C-2)
124	S21W10 SE corner	Top of IC Zone	Small oxidized/reduced anthrosed pile, no charcoal (Late Millville or Early Effigy Mound)
125	S21W10 N center	Top of J Zone	Hearth, irregular-shaped oxidized/reduced area, mix of J Zone and pure anthrosed, no charcoal
126	S22W11 W center	Top of KG Zone	Small circular pit
127*	S20W10 SE quad	Bottom of N Zone	Hearth with darkish red oxidized/reduced area, no charcoal.
128	S21W10 SW quad	Top of J Zone (?)	Circular hearrth, capped with pure anthrosed, no charcoal.
129	S21W10 SE quad	Top of J Zone (?)	Circular hearrth, capped with pure anthrosed, no charcoal. Likely Features 112, 128 and 129 are all part of the same event.

TABLE G.1: MASTER FEATURE LIST continued

130	S22W12 center	Top of Fea 77	Predates Fea 121 and had KG Zone over its edges. Circular burning underr Fea 121, Fea. 100 Top of L Zone the reduced portion of Fea. 127 (Late Archaic?)
131*	S20W10 SE Quad	Top of O Zone	Hearth, oxidized surface under (Bottom of N Zone?)
132*	S20W10 NE Quad	Top of NBD Zone	Hearth with oxidized pure anthrosed pile with reduced edges.
133	S22W11 center	Top of KG Zone, level 2	Small circular pit (post mold?)
134	S22W12 W edge	Top of K Zone, level 2	Small circular pit (post mold?) with many small bones.
135	S22W11 SE corner	KI Zone, level 1	Small circular pit (post mold?)
136*	S20W10 NW wall	NBD Zone, level 1	Small pit with caps of burning and pure anthrosed
137*	S20W10 SE corner	Top of NC Zone?, NBD Zone'	Hearth, appeared on top of NBD Zone, level 2 associated with Fea. 148 (Late Archaic - Durst)
138	S23W13 SE corner	O Zone, level 8	Hearth, severly reworked by water (17 cm below top of O Zone)
139	S22W11, S21W11	Top of L Zone, dug done before Fea. 100	Hearth of shallow basin-shaped pit.
140*	S20W10 NE corner	Top of NC Zone, level 5	Hearth reworked by water, oxidized/reduced NC Zone with some OC Zone mixed dirts(Late Archaic)
141	S21W10 N center	Top of L Zone, Fea. 100	Circular pit, dug before Fea. 100, burned and then filled with pure K Zone with some OC Zone mixed
142	S22W19 SE corner	Top of EC Zone, level 3	Hearth, under Fea. 116
143	S22W19 S center	Top of EE Zone	Small burning on top of pure antrosed (H Zone)
144	S21W12 S center	Top of L Zone, level 8	Small pit?, post?, (badly disturbed by burrows) Likely a series of superimposed pits with origins in the M Zone?
145	S21W10 SE quad	Top of LC Zone, level 5	Large post or a small pit. (Early Millville, similar to K zone, level 5
146	S22W11 NW quad	KH Zone, level 2	Small pit, pile of scrolls in bottom (Millville)
147	S22W11 NW Quad	KHA Zone	Small pit, superimposed by Fea. 146
148	S21W10 SW Quad	Top of O Zone, level 7	Hearth, oxidixed/reduced
149*	S21W10 SW Quad	Top of O Zone, level 7?	Burning with pure anthrosed cap in proximity to Fea. 148 (Late Archaic)
150*	S21W10 SE Quad	Top of O Zone, level 6?	Burning that has been eroded by sheet flow (Late Archaic)

TABLE G.1: MASTER FEATURE LIST continued

151	S21W10 SW Quad	Top of O Zone, level 7?	Intense burning with pure anthrosed cap, superimposed by Fea. 149 (Late Archaic)
152	S23W12 N & S of S23W13	Top of L Zone	Rock pile, part of the revetment (Early Millville)
153	S23W12 & S. part of S22W12	LY Zone	Dumping of debris callled "LY Zone" in S22W12 (Early Millville)
154	S23W12	On top of Fea. 156	Rock pile/debris dumping
155	S22W18	Top of L Zone	Dense rock pile/debris dumping, part of the revetment?
156	S23W12 East end	Top of L Zone	Rock pile/debris dumping with bone.
157	S23W11 N center	KI Zone?	Small pit filled with KI Zone dirt, observed in S wall of S22W11 during profiling.
158	S20W9 NE corner	Top of I Zone	Small bone pile in a shallow pit
159	S23W11 N center	Top of IB Zone	Small bone pile
160	S22W10 Center	Top of HE Zone	"Blocky"sediment that looks to be trampeled
161	S20W9 west edge	I Zone, level 3	Dark, artifact-rich dumping
162	S23W11 NE corner	Top of IB Zone	Small, basin-shaped pit with stack of projectile points
163	S23W11 northern center	IC Zone	Massive bone pile (Feature is the IC Zone)
164	S20W9 SE Quadrant	I Zone	Post or small pit
165	S20W9	JX Zone, level 7	Deep, circular pit
166	S21W9 SE corner	Top of ICB Zone	A pitted block of snadstone that was set on the revetment and had dirt packed around it
167	S20W9	Top of JX Zone, level 9	Burned area with a K Zone cap (May extend into S21W8)
168	S22W19 SW corner	Top of EHB Zone	Burning in the K Zone with a pure anthrosed cap
169	S22W19, SW Quad	Top of L Zone, level 2	Burning w/ash or anthrosed cap over a thin oxidized and reduced area
170	S22W10 Center of South Wall	IC Zone, level 3	Sharply-defined circular pit(?) continuing into S23W10. Pothole(?) filled with anthroseds from the west
171	S22W19 NW corner	Top of L Zone, level 5	Burning extending into S21W19
172	S22W10, SE corner	Top of KC Zone	Edge of pit or part of the revetment?
173	S22W12 NE 2/3	Top of EA Zone	Large burned area that has been severly damaged by water
174	S22W21 SE corner	Top of EB Zone	Circular burning extending into adjacent units

TABLE G.1: MASTER FEATURE LIST continued

151	S21W10 SW Quad	Top of O Zone, level 7?	Intense burning with pure anthrosed cap, superimposed by Fea. 149 (Late Archaic)
152	S23W12 N & S of S23W13	Top of L Zone	Rock pile, part of the revetment (Early Millville)
153	S23W12 & S. part of S22W12	LY Zone	Dumping of debris callled "LY Zone" in S22W12 (Early Millville)
154	S23W12	On top of Fea. 156	Rock pile/debris dumping
155	S22W18	Top of L Zone	Dense rock pile/debris dumping, part of the revetment?
156	S23W12 East end	Top of L Zone	Rock pile/debris dumping with bone.
157	S23W11 N center	KI Zone?	Small pit filled with KI Zone dirt, observed in S wall of S22W11 during profiling.
158	S20W9 NE corner	Top of I Zone	Small bone pile in a shallow pit
159	S23W11 N center	Top of IB Zone	Small bone pile
160	S22W10 Center	Top of HE Zone	"Blocky"sediment that looks to be trampeled
161	S20W9 west edge	I Zone, level 3	Dark, artifact-rich dumping
162	S23W11 NE corner	Top of IB Zone	Small, basin-shaped pit with stack of projectile points
163	S23W11 northern center	IC Zone	Massive bone pile (Feature is the IC Zone)
164	S20W9 SE Quadrant	I Zone	Post or small pit
165	S20W9	JX Zone, level 7	Deep, circular pit
166	S21W9 SE corner	Top of ICB Zone	A pitted block of snadstone that was set on the revetment and had dirt packed around it
167	S20W9	Top of JX Zone, level 9	Burned area with a K Zone cap (May extend into S21W8)
168	S22W19 SW corner	Top of EHB Zone	Burning in the K Zone with a pure anthrosed cap
169	S22W19, SW Quad	Top of L Zone, level 2	Burning w/ash or anthrosed cap over a thin oxidized and reduced area
170	S22W10 Center of South Wall	IC Zone, level 3	Sharply-defined circular pit(?) continuing into S23W10. Pothole(?) filled with anthroseds from the west
171	S22W19 NW corner	Top of L Zone, level 5	Burning extending into S21W19
172	S22W10, SE corner	Top of KC Zone	Edge of pit or part of the revetment?
173	S22W12 NE 2/3	Top of EA Zone	Large burned area that has been severly damaged by water
174	S22W21 SE corner	Top of EB Zone	Circular burning extending into adjacent units

TABLE G.1: MASTER FEATURE LIST continued

175	S22W21 center	Top of EC Zone, level 3	Massive burning with an anthrosed cap and charcoal, extends into the south
176	S22W21 east half	Top of EE Zone	Big burning with a lighter anthrosed cap, calcined bone, goes under big rocks along the western edge of the unit
177	S20W9 east wall	Top of IX Zone	Edge of a shallow basin-shaped pit(?) in east profile with IXC Zone fill
178	S20W9 NE corner	Top of LC Zone	Circular small pit(?), large post(?), neck sherd from vessel #27?
179	S20W9 West edge	Top of L Zone	Circular small pit(?), large post(?)
180	S20W9 SE corner	Top of LC Zone, level 3	Large circular pit with yellow sand fill
181	S22W21 S center	Top of Fea 182	Med. Grey anthrosed cap on top of two posts
182	S22W22 (most)	Under Fea 181	Burning with anthrosed cap
183	S22W10 N center	Top of KH Zone	Large circular pit, dug as KCC Zone levels 1-6, under Fea. 94
184	S22W10 SE corner	Top of KIB Zone	Large circular pit with lumps of greenish clay, very close to where the top of the L Zone
185	S21W9 SE Quad	Top of J Zone*	Small pit or large post mold, capped with deer skull and projectile point
186*	S22W10 NW corner	Top of O Zone	Small pit or lage post mold with black fill and large clam valve
187*	S20W9 N 1/2	Top of O Zone, level 7	Large burning with tan to grey anthrosed caps, goes under large rock
188	S22W22 S center	Top of ED Zone	Medium size burning, no cap, heavily eroded by water
189*	S20W9 N 1/2	Top of OB Zone	Multipe superimposed burning reworked by sheetflow
190	S22W22 SW Quad	Top of EE Zone	Burning, uncapped, eroded by sheetflow
191	S21W9 center	Top of OB Zone	Burning, exodized OB Zone with anthosed cap
192	S22W10 NW corner	Top of OBA Zone	Oxidized/reduced burning with anthrosed cap
193	S20W9 N center	Top of OB Zone	Burning under Fea 189 w/out anthrosed cap
194	S22W10 C east wall	Top of OBA Zone	Burning, w/out anthrosed cap, eroded by sheetflow
195	S21W9 NW center	Top of OB Zone, level 4	Oxidized sand under Fea 191, eroded by sheetflow
196	S22W22 C & SE Quad	Top of L Zone	Oxidized/reduced area, lots of charcoal
197*	S22W10 N center	Top of OBB Zone, level 8	Oxidized/reduced area, burned sandstone, charcoal, eroded by sheetflow

* = The origins of these features need to be double checked

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