An Analysis of the Archaeological Collection from the Jaketown (22HU505) site at The University of Mississippi

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ABSTRACT

Jaketown (22HU505) is a significant prehistoric site that is located in the Lower Mississippi Valley. A collection from the University of Mississippi was found in storage and contained an amalgamation of surface collections from Jaketown undertaken during the 1950s and 1970s that were never analyzed and reported. Analysis of the artifacts that constitute the UM Collection may have a meaningful impact on our understanding of Jaketown's importance. Analysis enabled the identification of the number of Poverty Point attributes, diagnostic features of the Poverty Point culture period, present in the collection. Future research may lead to new knowledge about prehistoric settlement in Mississippi and provide new information about the Jaketown site.

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CHAPTER 1: INTRODUCTION

Jaketown (22HU505) is a multicomponent archaeological site located in Humphreys County, Mississippi. The first documentation of the site was in 1908 by Clarence B. Moore, an American archaeologist who recorded a vast array of prehistoric Indian sites along the Mississippi River (Moore et al. 1998[1908]:1). Based on recent investigations by a team from Washington University, it can be concluded that Jaketown was a regional center during the Poverty Point period, a culture period that lasted from approximately 2200 to 400 B.C. (Arco 2010). Jaketown is a significant site in the Lower Mississippi Valley and in American Archaeology.

In 2014, a collection of materials was found in storage at the University of Mississippi and this collection exhibited both the new and old site numbers of Jaketown (22HU1 and 22HU505 respectively). Additional boxes containing materials from Jaketown were found in the spring of 2015. There is little provenience information for the collection other than the knowledge that it is a surface collection, and contextual information has been provided by notes written on the original bags and boxes. Within the collection, bags marked "Lake George" were also discovered and separated for individual analysis. Lake George (22YZ557) is a prehistoric site in Mississippi located in Yazoo County, south of Humphreys County. Lake George contains a large Mississippian mound center and is located in the southern Yazoo Basin (Johnson 2002:187). Though the University of Mississippi collection is lacking in contextual information, it can still provide a great deal of information and serve

as a valuable resource for instructional purposes as it reflects the extensive occupation of Jaketown, as well as Lake George.

This thesis grew out of an undergraduate course in archaeological laboratory techniques, Anthropology 408: Laboratory Methods in Archaeology, which used a neglected, but rich archaeological collection to instruct students how to properly identify and analyze prehistoric material culture. In the process, students salvaged information from the collection, made it accessible for future research, and prepared it for proper long term storage and curation under the direction of Dr. Matthew Murray. In the spring of 2015, as part of an individual study course (Anthropology 541), work on the University of Mississippi Jaketown collection was continued by three students: Nikki Mattson, Robert Waren, and myself.

The research presented in this thesis is an analysis of the University of Mississippi Jaketown Collection that includes the salvage, classification, and characterization of the "lost" collection at the University. Through classification and analysis, I will determine whether there are materials, specifically ceramics, present for each of the time periods Jaketown was occupied during prehistoric times. Analysis of previous collections from Jaketown has shown that it contains 23 diagnostic features from one of its major occupations, the "Poverty Point" culture (2200-400 B.C.). Analysis and categorization of archaeological materials will make it possible to determine if the University of Mississippi Jaketown collection contains all, or any, of the 23 attributes that previous documentation has shown it contains. Analysis of prehistoric ceramics and the determination of pottery types present in the collection will allow me to determine if the entire ceramic chronology of the Lower Mississippi Valley (400 B.C.–A.D. 1800) is present in the University of Mississippi Jaketown collection.

Archaeology in Mississippi

Professional archaeology began in Mississippi in 1901, with the excavations of Charles Peabody, a member of the Peabody Museum (Yale University), at the Edwards and Dorr Mounds in western Mississippi (Johnson 2002:183). This project marked the beginning of a long tradition of fieldwork in Mississippi. Clarence B. Moore also made several trips to Mississippi during the first decade of the 20th century, but he met with little success (Johnson 2002:183). From 1907 until the spring of 1911, he visited and excavated sites along the Mississippi River and its major tributaries (Moore et al. 1998[1908]:1). The next major project in Mississippi was carried out in the Natchez Bluffs in 1924 by Warren K. Moorehead, a professional American archaeologist also known as the Dean of American archaeology (Johnson 2002:184). In 1925, Henry B. Collins and personnel from the Mississippi Department of Archives and History (MDAH), established in 1902, conducted surface collections and excavations at prehistoric and historic period sites along with two MDAH employees, James Ford and Moreau Chambers (Johnson 2002:185).

Ford's 1936 publication on the ceramics of Mississippi and Louisiana established the baseline on which the chronology for the Lower Mississippi Valley was built (Ford 1936:4). The Lower Mississippi Survey (LMS) was established in 1940 and continued until 1947, based on seven months of fieldwork carried out by Philip Phillips (Harvard University) in 1940, James Griffin, (University of Michigan), and additional LMS leaders along with graduate students (Johnson 2002:186). The LMS established the chronology and ceramic typology for the entire Yazoo Basin of western Mississippi and much of eastern Arkansas (Johnson 2002:186). The locations of the Mississippi Alluvial Valley and Yazoo basin are illustrated in Figure 1. In addition to the emphasis on setting up ceramic types and phases, the

report provided an exceptional first look at the prehistory of the Yazoo Basin (Johnson 2002:187).

Ford and Phillips had planned to work elsewhere in the Yazoo Basin in the summer of 1951, but were convinced by William Haag, then on the faculty at the University of Mississippi, to take advantage of an extensive profile exposed by a Mississippi Highway Department borrow pit at Jaketown, a large Poverty Point period site near Belzoni (Ford et al. 1955). The Jaketown project was important for numerous reasons. First, it led to the excavations at Poverty Point. The Jaketown project also set the stage for subsequent excavations that revealed Jaketown's extensive ceramic chronology. In the southern Yazoo Basin, the LMS and excavations at Jaketown provided the outline of the culture history of western Mississippi.

Figure 1: Location of the Yazoo Basin in northwestern Mississippi (Klimas et al. 2011:2)

Jaketown Site (22HU505)

Seven documented investigations have occurred at Jaketown. Clarence B. Moore originally recorded Jaketown; however, he was not granted permission to do testing of the site or excavate the mounds. On the western side of Wasp Lake, he documented six mounds present in the immediate area and

a few smaller mounds in the distance (Moore et al. 1998[1908]:273). Moore characterized the mounds as follows:

> Two are large, quadrangular mounds with summit plateaus and evidently domiciliary; one, a low flat mound; another through which a road has been cut; while two are mounds from 3 to 5 feet in height, which have been considerably reduced in diameter to make way for a railroad.
>
> One of these mounds apparently had contained many burials, as fragments of human bones were scattered about and a large part of a skeleton laid exposed.

These observations are very insightful. Unfortunately, most of these mounds were destroyed before excavations could be properly carried out. Figure 2 shows the location of Jaketown in the Yazoo Basin.

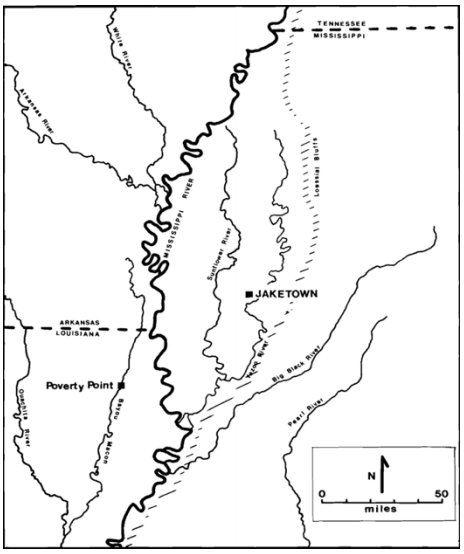


Figure 2: Location of Jaketown, (22HU505) in the Yazoo Basin, Mississippi (Lehman 1982:2)

James B. Griffin revived interest in the site during the 1941 field season of the LMS (Ford et al. 1955:13). Evidence from Jaketown shows that its occupation extended through the entire ceramic chronology, the pottery phases previously determined by the Lower Mississippi Survey, from 500 B.C. to A.D. 1900. The cultural periods of the well-established Lower Mississippi Valley are provided in Chapter 3, Figure 10. At the site, Griffin collected pottery fragments from the entire Lower Mississippi Valley cultural sequence, but Griffin did

not have enough time to complete the necessary stratigraphic tests. In 1946, archaeological testing was carried out at the site by Philip Phillips and Paul Gebhard (Harvard University) (Ford et al. 1955:13).

In the summer of 1950, the Mississippi State Highway Department relocated and widened the Belzoni-Ittabena highway, also known as Highway 7, cutting into remnants of three mounds, leaving only small fragments of their western sides (Ford et al. 1955:14). Belzoni is located in Humphreys country near Jaketown and is shown in Figure 3. William Haag (University of Mississippi), Phillips, and Ford collaborated on the report of excavations conducted in 1951 and their monograph stands as the definitive work regarding the site (Lehman 1982:8). In the early 1980s, an analysis of surface collections was conducted by Geoffrey Lehman (MDAH) (Lehman 1982:3). In 2007, a team from Washington University did extensive fieldwork, including excavations and coring, in order to better understand Jaketown's Poverty Point occupation (Arco 2010).

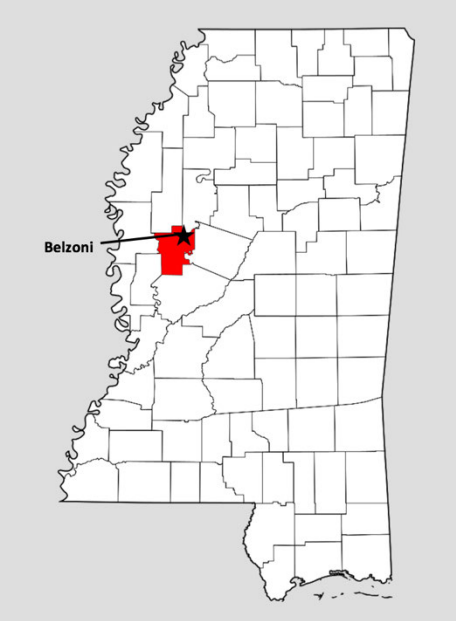
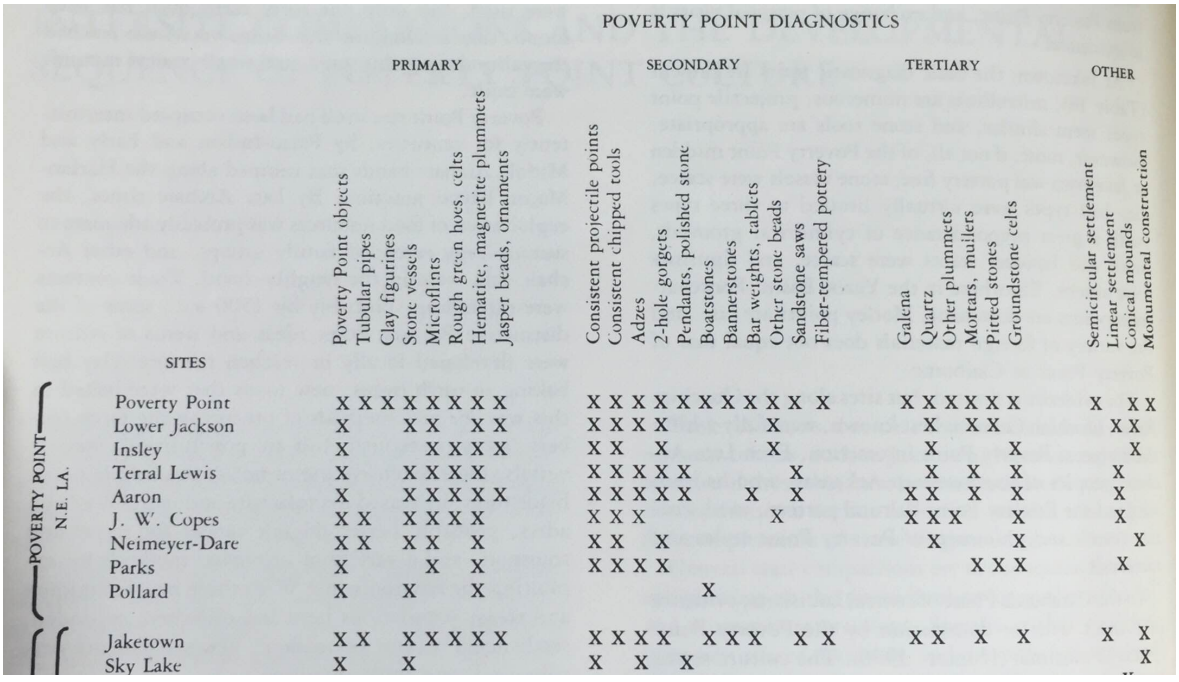


Figure 3: Community of Belzoni within Humphreys County (red) in the state of Mississippi (Wikipedia 2015)

Jaketown was nominated to the National Register of Historic Places on November 14, 1972 and listed in the register on June 19, 1973 (McGahey 1972:1). According to the National Register, Jaketown contained the only evidence of a house pattern for the Poverty Point period, which made the site extremely noteworthy. This feature consists of a small circular arrangement of post molds and suggests that people lived in small round houses (McGahey 1972:2). Also, another small circular house pattern of the following Tchula period

(400 B.C.–A.D. 0) was located at the site, which indicates that this pattern may have been the preferred house form for several hundred years (McGahey 1972:2). Jaketown is the second largest Poverty Point culture occupation with an abundance of Poverty Point Objects, which is of great significance (Kidder et al. 2008:1).

Poverty Point culture is a "pre-ceramic" time period in prehistory. The society was a mobile food foraging society that created very large monumental earthworks that are some of the earliest in North America. Poverty Point sites can be identified based on their artifacts, and a comprehensive list has been developed that contains 29 Poverty Point attributes. Figure 4 displays all 29 attributes along with the main sites from this period and their defining characteristics. According to Saunders and Allen (2003:155), Jaketown includes the third largest number of Poverty Point attributes, of all the main Poverty Point sites, with 22 diagnostic traits of sites from the period (Saunders and Allen 2003:155). Washington University research suggests that Jaketown may be a precursor to the more famous Poverty Point site (Arco 2010).



POVERTY POINT DIAGNOSTICS

	SITES	PRIMARY								SECONDARY												TERTIARY						OTHER			
		Poverty Point objects	Tubular pipes	Clay figurines	Stone vessels	Microflints	Rough green hoes, celts	Hematite, magnetite plummets	Jasper beads, ornaments	Consistent projectile points	Consistent chipped tools	Adzes	2-hole gorgets	Pendants, polished stone	Boatstones	Bannerstones	Bar weights, tablets	Other stone beads	Sandstone saws	Fiber-tempered pottery		Galena	Quartz	Other plummets	Mortars, muilers	Pitted stones	Groundstone celts		Semicircular settlement	Linear settlement	Conical mounds	Monumental construction
POVERTY POINT N.E. LA.	Poverty Point	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X		X		X	X
	Lower Jackson	X			X	X		X	X	X	X	X	X					X					X		X	X				X	X	
	Insley	X				X	X	X	X	X	X		X					X					X				X				X	
	Terral Lewis	X			X	X	X	X		X	X	X	X	X					X				X		X		X			X		
	Aaron	X			X	X	X	X	X	X	X	X	X	X			X		X			X	X		X		X			X		
	J. W. Copes	X	X		X	X	X	X		X	X	X						X				X	X	X			X			X		
	Neimeyer-Dare	X	X		X	X		X		X	X		X										X				X				X	
	Parks	X				X		X		X	X	X	X													X	X				X	
	Pollard	X			X			X							X																	
	Jaketown	X	X		X	X	X	X	X	X	X	X	X			X	X	X		X	X		X	X		X		X		X		X
	Sky Lake	X			X					X		X		X																		X

Figure 4: Diagnostic traits at Poverty Point complex sites. X = Trait Present (Webb 1982:70)

The Poverty Point period has been characterized by numerous artifacts, most notably by shaped clay balls now referred to as Poverty Point objects (PPOs) (Phillips 1970:869). These objects were so abundant at Poverty Point and nearby residential encampments that they have become a hallmark of Poverty Point culture (Gibson 1996:112). Poverty Point objects have been recovered at many sites throughout the Southeastern area. Poverty Point objects were used to help cook food and control temperature when placed inside earth ovens (Connolly 2014:87). The shape of the objects affected oven temperature when other conditions were held constant (Gibson 1996:114). The four most common types of PPOs make up four of the five general types identifiable at Jaketown. The most common types found at Jaketown are spheroid, biconical, cylindrical-grooved, melon-grooved, and cross-grooved (Webb 1982:21).

Jaketown is archaeologically significant for numerous reasons. The site has been occupied almost continuously since 1000 B.C., and these occupations span from the Poverty Point Period through all subsequent archaeological periods of the Lower Mississippi River Valley (LMV) (McGahey 1972:3). Jaketown is a product of the geological landscape of the Lower Mississippi Valley. The floodplains of the LMV shaped the landscape of the areas that were settled but also may have led to the demise or dissolution of the Poverty Point occupation at Jaketown. In the pre-ceramic period, Poverty Point objects were created and used in this area due to the lack of stone and the abundance of clay. The lack of stone in the area forced prehistoric people to create trade routes. The LMV landscape not only promoted occupation but also stimulated later archaeological excavations.

CHAPTER II: LITERATURE REVIEW

The culture of Lower Mississippi Valley sites is linked to geology. A description of Jaketown's physical setting, the periods it was occupied, and the Poverty Point culture period provide a background for analysis of the University of Mississippi collection. A history of the collection follows, to provide background needed to interpret its analysis.

Lower Mississippi Valley

The Lower Mississippi River and its alluvial valley extend approximately 1,000 river miles from Cape Girardeau, Missouri, in the north to the Gulf of Mexico in the south (US Army Corps of Engineers 2016). The Lower Mississippi Valley is a wide and fertile region. The lower valley varies in width from 25 to 125 miles and includes parts of seven states: Missouri, Illinois, Tennessee, Kentucky, Arkansas, Mississippi, and Louisiana (US Army Corps of Engineers 2016). This 22-million-acre floodplain is one of the most productive ecosystems in North America (LMVJV 2016). Throughout this entire area, the river meanders its way south and over time, has

Figure 5: River Valleys of the Middle US, including the Lower Mississippi Valley (Dennison 2014)

continually changed its course, leaving behind numerous oxbow lakes (The Gale Group 2003). An oxbow lake occurs when there is a curve in a river where a lake forms as the river finds a different, shorter course (National Geographic 2016). Archaeological methods in the Lower Mississippi Valley are strongly influenced by geological concepts of flood plain evolution (Kidder 2008:1259).

Physical Description

The Lower Mississippi Valley epitomizes a complex and highly dynamic landscape where human settlement and associated behaviors were intimately tied to the geologic evolution of landforms (Kidder 2008:1255). The alluvial valley in lower Mississippi includes the present-day flood plain of the Mississippi River and those of its tributaries that merge and can be included in a generalized boundary (Phillips et al. 2003 [1951]:7). Lee Arco and Tristram Kidder (2006:592) discuss how the complexity of the Lower Mississippi Valley can be attributed to the presence of numerous superimposed Arkansas and Mississippi River channels, distributaries, and meander belts. The present day Mississippi meander belts have blocked off large flood-plain areas including the St. Francis, Tensas, and Yazoo Basins (Phillips et al. 2003 [1951]:9).

The Yazoo Basin, a flood plain within the Lower Mississippi Valley, extends for 200 miles from Memphis, Tennessee to Vicksburg, Mississippi (Phillips et al. 2003 [1951]:16). The Yazoo meander belt is a complex group of minor ridges and basins that has been occupied in successive periods by the combined Mississippi-Ohio River (Phillips et al. 2003 [1951]:16). The Yazoo Basin is extremely fertile and has been settled throughout prehistory (Lehman 1982:3).

A large percentage of the land in the Yazoo Basin is under cultivation and therefore sites are often unearthed, though they can be damaged this way. Also, since most of the land is flat, archaeological architecture and artificial constructions such as mounds are conspicuous. Most occupation in the Lower Mississippi Valley, including Jaketown, was near, or adjacent to, water sources such as rivers, lakes, and streams. The complex relationship between landscape stability, climate change, and associated human responses in the Lower Mississippi Valley can be explained by the intricate interaction between changes in the physical environment and consequential effects on human behavior (Kidder 2008:1267).

Chronology and Culture History

The Lower Mississippi Survey (LMS) was originally intended to record archaeological sites over a large portion of the Mississippi Valley (Phillips et al. 2003 [1951]:5). The region actually covered by the survey included an area of the Lower Mississippi Valley from Northeast Arkansas to the southern part of the Yazoo Basin in Mississippi (Williams 2002). The purpose of the LMS was to establish a ceramic chronology for the area (Johnson 2002:186). Determining a ceramic chronology would allow archaeologists to better attempt reconstruction of cultures of the Lower Mississippi Valley. Culture history is difficult to determine because one must attempt to reconstruct societies that are no longer present in an environment that only exists in a profoundly modified state (Phillips et al. 2003 [1951]:36).

The environment of the Lower Mississippi Valley insured there was great variability in the timing of when archaeological sites were discovered (Dunnell 2008:19). Oxbow lakes,

that are formed as the rivers change course, gradually fill up to become swamps and are targeted by archaeologists because they afford favorable conditions for the preservation of sites as well as possible means of dating them (Phillips et al. 2003 [1951]:8). Most of the evidence for human occupation of the LMV is confined to surface finds on Pleistocene-age "braided" stream surfaces, courses of the rivers that existed long before the occupations we observe today, such as in the parts of the Yazoo Basin to the east (Kidder 2008:1258). Braided streams form where the sediment load is so heavy that some of the sediments are deposited as shifting islands or bars between river channels. These islands and bars provide a place along the river for site occupations. What we know about the Mississippi River valley is largely a product of our increased understanding of site formation processes and the nature of archaeological descriptions (Lipo and Dunnell 2008:165).

Lower Mississippi cultural periods include Jaketown, Tchula, Marksville, Baytown, Coles Creek, and Mississippian, as shown in Table 1, a cultural and chronological chart for the Lower Mississippi Valley. The Jaketown period (700–400 B.C.) is characterized by Poverty Point components, including Poverty Point objects, small mounds, and an occupation throughout the entire ceramic chronology listed above (Morgan 1996:85–86). Diagnostic artifacts from the Tchula period (400 B.C.–A.D. 0) are predominantly ceramic and include two distinctive ceramic series: Tchefuncte and Alexander (Hammond 2013:60). The culture shift to the Marksville period (A.D. 0–400) is marked by the abrupt appearance of conical burial mounds and a distinctive set of ceramic decorations (Hammond 2013:64). The Baytown period (A.D. 400–800) is the interval between the decline of the Hopewellian culture and the consolidation of Coles Creek culture in the southern half of the Lower Mississippi Valley (Phillips 1970:901). During this period there is a quantitative and

qualitative decline in decorated wares; however, there seems to be an increase in cord marking and red filming as a decorative treatment (Hammond 2013:72).

Table 1: Cultural and Chronological Chart for the Lower Mississippi Valley and Yazoo Basin (Hammond 2013:57).

Lower Mississippi Cultural Periods	Lower Yazoo Phases	Lower Yazoo Dates
Mississippian	Russell	A.D. 1700–1800
	Wasp Lake Lake George Winterville	A.D. 1200–1700
Coles Creek	Crippen Point	A.D. 1050–1200
	Kings Crossing	A.D. 950–1050
	Aden	A.D. 800–950
Baytown	Bayland	A.D. 600–800
	Deasonville	A.D. 400–600
Marksville	Issaquena	A.D. 200–400
	Anderson Landing	A.D. 0–200
Tchula	Tuscola	400 B.C.–A.D. 0
Jaketown	Poverty Point	700–400 B.C.
-		2200–700 B.C.

The Coles Creek period (A.D. 800–1200) is a culture that emerged out of the Baytown period and led to the Mississippian culture (Hammond 2013:80). As a cultural period, it was devised by Ford based upon the ceramics recovered from the original Coles Creek site, and it has also been defined by distinctive ceramic types (Hammond 2013:81). The Middle Mississippian (A.D. 1200–1750) appears to be the core of the classic Mississippian culture area; containing large ceremonial mounds and residential complexes, sometimes enclosed within earthen ditches and ramparts or a stockade line (National Park Service 2012). The Lower Mississippi River Valley contains the Plaquemine Mississippian

culture area. Plaquemine Mississippian earthworks sites are similar in appearance to Middle Mississippian complexes, except the former are ceremonial in nature and usually lack a residential aspect (National Parks Service 2012).

Jaketown (22HU505)

Location

Jaketown is located in the Lower Mississippi valley in the Yazoo basin of west-central Mississippi, approximately 5.5 km north of the community of Belzoni in Humphreys County (Saunders and Allen 2003:155). The site sits in the flood plain of the Yazoo basin and occupies over 200 acres (Lehman 1982:5). More specifically, Jaketown is on the west bank of Wasp Lake, between the present day courses of the Yazoo and Sunflower rivers, as shown in Figure 7, on the right. The Poverty Point component is on the point bar deposit of the Yazoo River, which remains the modern

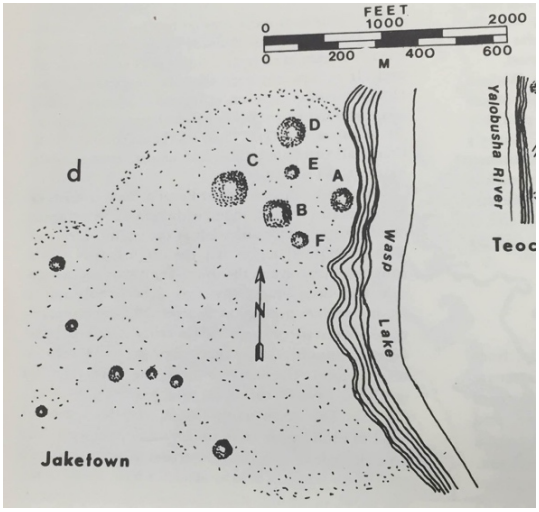


Figure 6: Jaketown (22HU505) located on the west bank of Wasp Lake (Webb 1982:10)

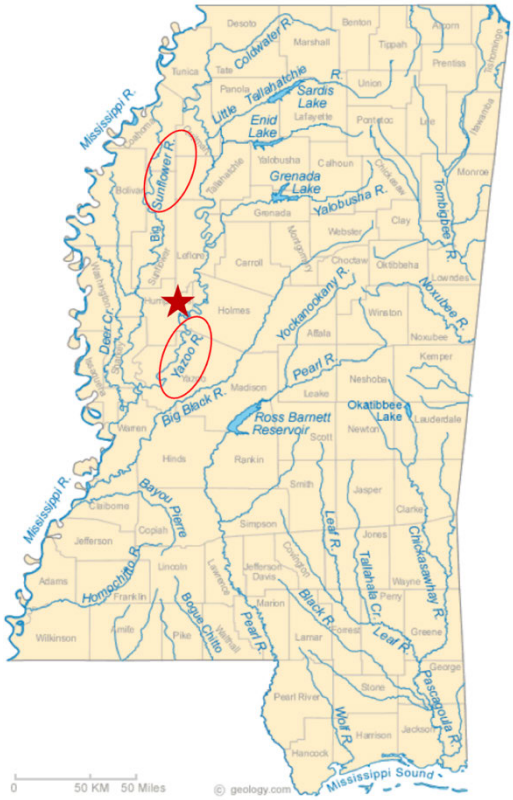


Figure 7: Jaketown (22HU505) located between present day courses of the Yazoo and Sunflower rivers (Geology.com 2016)

surface along the south-southwestern edge of the site (Saunders and Allen 2003:155). Much of the site is exposed and there are several roads that provide access to Jaketown, so it is no surprise that archaeologists and collectors are so interested in the site. Jaketown has undergone years of erosion and numerous excavations, but there is still much to be discovered.

Physical Description

Jaketown is comprised of mounds on a low ridge and is crossed by both a paved highway and a gravel road (Lehman 1982:3). Two prominent flat-topped rectangular mounds are present at the Jaketown site today (National Park Service 2011). Mound B, the largest mound, measures about 150 by 200 feet at its base and is 23 feet high, and Mound C, northwest of B, is about 15 feet high (National Park Service 2011). While neither mound has been excavated, distinctively styled pottery fragments in the surrounding area indicate that the mounds are probably Mississippian period earthworks, dating to between A.D. 1100-1500 (National Park Service 2011). Numerous smaller mounds at Jaketown, which may date to the Late Archaic Poverty Point period (1500-1000 B.C.) have been destroyed by plowing and highway construction (National Park Service 2011). The mounds are covered with dense underbrush as shown in Figure 8, below and to the right.

Figure 8: Jaketown mound covered in underbrush (Weiser 2016)

History of Investigations

Clarence B. Moore, on his first visit to Jaketown, labeled the site as "mounds near Wasp Lake" and described two large platform mounds (Mounds B and C), two smaller mounds impacted by a railroad (Mounds D and E), one low flat mound (Mound F), and one mound bisected by a highway (Mound A) (Moore et al. 1998 [1908]:273). During the middle of the 20th century, Jaketown received considerable research interest. James B. Griffin revived interest in the site in 1941 during the Lower Mississippi Valley Archaeological Survey (Lehman 1982:6). Griffin's surface collection indicated an occupation throughout all the ceramic-producing cultural periods (400 B.C.–A.D. 1800) and consequently Philip Phillips and Paul Gebhard returned to the site to do testing with stratigraphic cuts (Lehman 1982:6).

Phillips and Gebhard's excavations yielded important information that confirmed occupation during the Tchula through Mississippian ceramic sequence (400 B.C.–A.D. 1800) (Saunders and Allen 2003:156). In 1950, the Mississippi Highway Department moved Highway 7 in Humphreys County into the abandoned Belzoni-Ittabena Railroad bed (Saunders and Allen 2003:156). In 1951 Ford, Phillips, and Haag took advantage of the extensive profile of mounds exposed by the Mississippi Highway Department at Jaketown and concluded there was a pre-ceramic (1700 B.C.–A.D. 400) occupation at the site (Lehman 1982:7). On June 19, 1973, Jaketown was listed in the National Register of Historic Places (McGahey 1972:1).

In 1982, an analysis of surface collections from Jaketown was published by Geoffrey Lehman. The site was declared a National Historic Landmark in 1990 and it is now managed by the Archaeological Conservancy and the Missouri Department of Archives and History

(Arco 2010). Joe Saunders and Thurman Allen (2003:155) recovered soil cores from Jaketown in 2001 and compared their findings to the findings of Phillips, Ford, and Griffin (1951) and Ford, Phillips, and Haag (1955). The information Saunders and Allen (2003:161) obtained from each of the three cores proved that the radiocarbon dates obtained by Ford, Phillips, and Haag (1955) were too recent. Saunders and Allen (2003:161) suggest, based on the radiocarbon dating of their collected cores, that the Poverty Point cultural component at Jaketown (2000–1400 B.C.) overlaps the temporal span of the occupation at Poverty Point in Louisiana (1700–1200 B.C.).

Major archaeological investigations were conducted in Jaketown in 2007 when researchers from Washington University in St. Louis, Missouri, began a multi-year project involving excavation and coring of the site (Arco 2010). The objectives of the researchers included defining the site's chronology, examining its mound construction history, and analyzing soils/sediments to determine how frequent flooding from the Mississippi River and its tributaries affected Jaketown's prehistoric inhabitants (Arco 2010). The stratigraphy of the site was also examined to help reconstruct changes in the site's landscape and environmental setting during different phases of prehistoric human occupation (Arco 2010). The report of the fieldwork at Jaketown is available through the Mississippi Department of Archives and History, but was not accessible for my thesis research.

Chronology and Occupations

The prehistoric occupation in the southeastern United States is divided into six major stages: Paleo-Indian, Archaic, Gulf Formational, Woodland, Mississippian, and Protohistoric. The discussion of the occupational periods in this thesis is limited to Archaic, Gulf Formational, Woodland, and Mississippian, because ceramics at Jaketown and a pre-ceramic

component found below the ceramic chronology have been determined to extend from the Archaic period to the Mississippian period. Jaketown is a multicomponent site that was occupied in the Archaic period and was occupied continuously from the Tchula period, around 500 B.C., into the Mississippian period (A.D. 1300–1800).

The ceramic chronology of the Lower Mississippi Valley encompasses five cultural periods with corresponding cultures and "phases," as characterized by Michelle Hammond in her Master's thesis about the Clark Lake Site (22SH535) (Hammond 2013:57). Pre-ceramic artifacts include those before the first cultural period of the ceramic chronologies (1700–400 B.C.). The five cultural periods are Tchula (400 B.C.–A.D. 0), Marksville (A.D. 0–400), Baytown (A.D. 400–800), Coles Creek (A.D. 800–1200), and Mississippi (A.D. 1200–1800) (Hammond 2013:57). Excavations at Jaketown have yielded continuous evidence that the site was occupied during not only a pre-ceramic period but also during each subsequent period of the ceramic chronology in the Lower Mississippi Valley; Tchula to Mississippian.

Table 2: Lower Mississippi Ceramic Periods and dates (simplified version of Table 1)

Lower Mississippi Ceramic Periods	**Dates**
Mississippian	A.D. 1200–1800
Coles Creek	A.D. 800–1200
Baytown	A.D. 400–800
Marksville	A.D 0–400
Tchula	400 B.C.–A.D. 0
Pre-Ceramic	1700–400 B.C.

T

oward the end of the Archaic Period in eastern North America, earthen mound

Figure 9: Relation of Poverty Point, LA to Jaketown, MS (Ar 2010)

construction, extensive distance trade, and technological developments reached unprecedented scales among the hunter-gatherers of the Poverty Point culture (Arco 2010). The Poverty Point culture flourished throughout the Lower Mississippi Valley between 1800–1000 B.C., and it is named after its largest site, the Poverty Point State Historic Site, located in northeast Louisiana (Arco 2010). Jaketown in west-central Mississippi is the second largest extant Poverty Point settlement and it is more than twenty times larger than the next biggest Poverty Point site (Arco 2010). Figure 9 shows the relation of Poverty Point to Jaketown.

Most settlement at Jaketown was located on a semicircular point bar formed within a loop of an ancient major river, originally thought to have been the C Stage Ohio, but now considered more likely to have been the Mississippi-Ohio River (Webb 1982:19). The loop was severed, filled in, and then approached again by the Wasp Lake channel (Webb 1982:19). The flood plain of the Mississippi River contributed to the occupations at Jaketown. Based on excavations at Jaketown in 2008 and 2009, Lee Arco of Washington University has determined that Jaketown's Poverty Point occupation lasted from about 2150 to 1250 B.C., predating the earliest occupation of the Poverty Point site in Louisiana (Barnett 2012:23).

After the Poverty Point pre-ceramic period, Jaketown was inhabited throughout every ceramic cultural period. Jaketown has Woodland (A.D. 600) and Mississippian (after A.D. 1000) components (Arco 2010). From roughly A.D. 1100 to 1500, Jaketown was inhabited by a Mississippian culture and during this time period its two large mounds, Mounds B and C, were built (Weiser 2016). Mounds B and C are flat-topped rectangular mounds that once

contained ramps, which were used as stairways (Weiser 2016). It is presumed that both of these mounds had ceremonial temples or elite residences on their summits (Weiser 2016).

Significance

Within the Yazoo Basin, the site most associated with Poverty Point culture is Jaketown (Morgan 1996:85). Jaketown was a complex regional trade center that was inhabited and developed during the Poverty Point culture within the Late Archaic period of the United States (Barnett 2012:22). Samuel Brookes has emphasized that out of a multitude of Poverty Point era sites in Mississippi, Jaketown seems to have been participating fully in the Poverty Point trade network, based upon the array of artifacts that have been discovered (Barnett 2012:23). To date, the excavations at Jaketown provide the only convincing data concerning Poverty Point house structures (Morgan 1996:85).

Jaketown was occupied during the pre-ceramic period and through the ceramic chronology of the Lower Mississippi Valley (Saunders and Allen 2003:156). This extensive occupation lasted from approximately 2000 B.C.–A.D. 1400, through the cultural periods shown above, in the discussion of the Lower Mississippi Valley, in Table 1. Excavations completed by Washington University have revealed that the Poverty Point occupation at Jaketown may have predated Poverty Point. Jaketown's existence as a regional center suggests that trade occurred with Poverty Point in Louisiana. The Poverty Point site contains the largest assemblage of Poverty Point Objects to date. Excavations at Poverty Point revealed extensive information about the Poverty Point period.

Poverty Point Culture

The Poverty Point Site

Poverty Point was built between 1700 and 1100 B.C. (Connolly et al. 2014:2). The Poverty Point site is situated on Macon Ridge, a low, almost level, terrace-like elevation that extends for 100 miles north and south along the western side of the Mississippi Alluvial Valley (Ford and Webb 2009 [1956]:14). Native Americans made the site's first mounds around 1700 B.C, during the Late Archaic period (Connolly et al. 2014:3). Archaeologists were unsure how Poverty Point fit into Southeastern prehistory, but now understand that the site serves as proof that mound building did not just develop from simple to more complex (Connolly et al. 2014:3). The most prominent feature, the great Poverty Point Mound, lies on the ridge about

Figure 10: Poverty Point site is located near Epps, Louisiana in West Carroll Parish. Poverty Point was the "cultural capital" of the region (Connolly et al. 2014:2)

one-half mile from the 15-foot bluff that separates Macon Ridge from the lower flood plain of the Mississippi to the east (Ford and Webb 2009 [1956]:14). There are six mounds present at the site along with six ridges that are shaped in a semi-circle against the Bayou Macon, as shown in Figure 11. Recent evidence has suggested that Poverty Point may have been a place of pilgrimage (Kidder 2015:142).

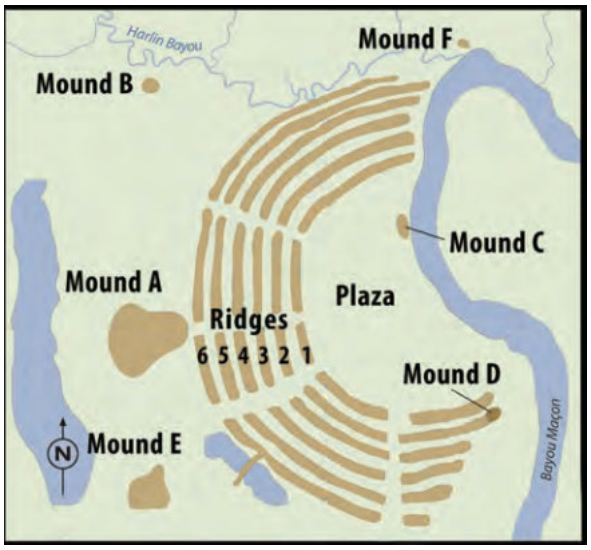


Figure 11: Depiction of the Poverty Point site in Louisiana including the locations of the six mounds, Mounds A - F, and the six ridges (Connolly et al. 2014:2)

Poverty Point has been occupied since 3600 B.C. and the site's history of occupation is complex and marked by construction events and reorganizations (Kidder 2015:149). Poverty Point was at the heart of an enormous exchange network, due to its location and the elevation of Macon Ridge (Connolly 2014:5). According to the viewpoint of Poverty Point as an "integrated community or closed society," the regional center's absorption of the surrounding population could account for the spike in population seen in the Late Archaic (Kidder 2015:148). The only major drawback of the site was that there were no rocks near the area and therefore, without trade or travel, people at Poverty Point would not have been able to make the things that they needed to survive, including stone tools (Connolly 2014:5). In order to even acquire "local chert" (Citronelle gravel) an inhabitant would have to travel in excess of 50 km to the east or the west (Kidder 2015:153). Even without rock, the people of Poverty Point came up with other ways to cook their food, using Poverty Point Objects. Inhabitants of the Poverty Point site used the soil on

Macon Ridge to make the site's most common artifact: Poverty Point Objects (PPOs) (Connolly 2014:6).

Poverty Point in Louisiana is the largest Poverty Point site. The occupation of Poverty Point during the Late Archaic ended at approximately 1000 B.C. (Gibson 1996:2). Recent studies in northeast Louisiana have identified evidence of catastrophic flooding and large-scale changes in the Mississippi River system between 1000 and 500 B.C., which have been implicated in the dissolution of the Poverty Point Culture (Arco 2010). These events are also believed to be linked to a 500-year gap in the occupation of many areas of the Lower Mississippi Valley and to the pronounced cultural differences between Poverty Point inhabitants and the succeeding Early Woodland inhabitants of the region (Arco 2010).

Chronology and Characteristics

Poverty Point culture is an archaeological picture of how certain Lower Mississippi Valley peoples lived between approximately 1730 and 1350 B.C. (Gibson 1996:2). Archaeologists have identified aspects of this way of life over a large area of the Lower Mississippi Valley, extending from the present junction of the Mississippi and Arkansas Rivers to the Gulf coast. This area includes portions of Louisiana, Mississippi, and Arkansas. Archaeologists identify Poverty Point culture by its characteristic artifacts and the nonlocal rocks used to make them (Gibson 1996:2). Imported rocks and minerals include various cherts and flints, soapstone, hematite, magnetite, slate, galena, and copper (Gibson 1996:2). The date of the arrival of substantial amounts of these trade materials is a convenient point to define the onset of Poverty Point culture, and their disappearance, a good point to mark its end (Gibson 1996:2).

Characteristic Poverty Point-style artifacts include hand-molded baked clay cooking objects, simple thick-walled pottery, and stone vessels (Gibson 1996:2). Other representative artifacts are chipped stone tools, such as spear points, adzes, hoes, drills, perforators, edge-retouched flakes, and blades (Gibson 1996:2). Typical artifacts and trade materials existed for approximately three to four centuries or until around 1350 B.C. Dozens of sites are located within a 25-mile radius of the Poverty Point site in Louisiana and appear to have resulted from the direct influence of Poverty Point, which was also important to distant communities scattered throughout the Lower Mississippi Valley. Evidence of the mound building Poverty Point culture has been found at more than 100 sites.

Poverty Point Objects

During the Poverty Point culture, food was cooked in open hearths and earth ovens. A hole was dug in the ground, hot "clay balls" were packed around the food, and the pit was covered (Gibson 1996:4). It is now well understood that Poverty Point Objects were used in cooking due to them being food in pits with ash, not only in the Yazoo Basin, but also in other culture areas (Gibson 1996:4). The clay balls, also known as Poverty Point Objects, were hand-molded by fingers, palms, and sometimes tools in order to fashion dozens of different styles (Gibson 1996:4). These objects are distinguishing hallmarks of Poverty point culture. The different shapes and the number of Poverty Point objects used helped to control how hot the pits got and how long they stayed hot (Gibson 1996:4). Using different shaped objects was a means of controlling temperature, as proven by Gibson. There are common shapes that appear throughout Poverty Point sites including biconical, cylindrical, cross-grooved, spheroidal, and biscuit shaped (Ford and Webb 2009 [1956]:39).

University of Mississippi Collection

History

The Jaketown Collection at the University of Mississippi is the result of surface collections by William Haag, C. Childress, V. Hood, B. Lilly, and someone with the initials D.M. In 1950, William Haag was part of the Department of Sociology and Anthropology at the University of Mississippi (Ford et al. 1955:14). Haag worked with Ford and Phillips at Jaketown in 1950 and 1951 (Johnson 2002:187). It is plausible that some of the materials Haag recovered were put into storage at the University of Mississippi and forgotten. Additional bag information from Childress, Hood, and Lilly is dated to 8/27/1977.

Mississippi historical site 22-HU-505, known as Jaketown, occupies over 200 acres and currently consists of 6 mounds. The University of Mississippi Jaketown Collection was rediscovered in 2014. The collection contains surface collection artifacts from the cultivated fields and it was never properly catalogued or curated. The only provenience information that is known regarding the collection is what was written on the bags and boxes. The materials collected by Childress, Hood, and Lilly are marked "8/27/1977" and give the location "East Side Hwy 7." Through a series of three semesters, the master catalog for the entire UM Jaketown collection was created and finalized. This catalog includes all of the artifacts that were present within the collection and breaks them down by classes that reflect their industries.

According to Jay Johnson and Janet Ford, retired faculty from the University of Mississippi, Victor Hood (V. Hood) worked as a field director for Robert Thorne during the 1970s on some of the early Upper Yazoo surveys. The Center for Archaeological Research was founded in the early 1970s by Robert Thorne in order to take advantage of the

extraordinary research opportunities provided by the construction of the Tennessee-Tombigbee waterway (Johnson 2004). Janet Ford also stated that during the time of the Upper Yazoo surveys, Victor Hood and Robert Thorne were hiring local high school students from Yazoo City. There is a possibility that C. Childress and D. Lily were local teenagers who helped with artifact collection. There is no background information that has been found on the individual with the initials D.M.

Academics

I first encountered the University of Mississippi Jaketown Collection during the fall of 2014 in the course Anthropology 408 (Laboratory Methods in Archaeology). During this undergraduate course, students used a poorly documented, rich archaeological collection to learn how to properly identify, analyze, and catalog prehistoric material culture. The collection had been neglected for many years in storage at Kinard, a building that used to house the University of Mississippi anthropology lab. During the course, eight students learned about Jaketown through the curation and cataloging of the "forgotten" collection. Dr. Matthew L. Murray provided the class with ample literature to read and use as a guide for proper documentation, cataloguing, and curation of the assemblage.

Three students, including the author, continued working with the collection in Anthropology 541: Individual Study in the spring of 2015. Much of our time was spent reviewing the catalog and ensuring that materials were properly documented. We reexamined the artifacts and attempted to uncover as much information about each one that we could. In addition to cataloging and documenting the artifacts, the collection was properly curated with non-biodegradable materials. I continued individual work on the collection during the summer and fall of 2015 specifically for my thesis.

The University of Mississippi Jaketown Collection is very significant to the archaeological community and, more specifically, archaeology in Mississippi. The collection was analyzed using methods as described in Chapter III. Laboratory methods included recording and accessioning, preliminary sorting, specific analyses, and curation.

CHAPTER III: LABORATORY METHODS

This thesis grew out of an archaeological laboratory course at the University of Mississippi that directed student learning on the salvage, organization, and documentation of the lost collection. Work was conducted within the framework of archaeological ethics and curation (Sutton and Arkush 2009:27). Characterization studies provide detailed information about the particular site in question, such as cultural affiliations and activities undertaken at the site. The Jaketown (22HU505) collection is a combination of surface collections from 1950 to 1951 and 1977. There are a multitude of time periods represented within this collection, ranging from the Poverty Point period (1000–400 B.C.) to the end of the Mississippian period (A.D. 1200–1750).

The basic goals and methods of archaeological laboratory analyses are to determine what objects exist within the collection and then to analyze the specific industries. Results from the analysis of this collection can be compared to previous analyses undertaken by Ford, Phillips, and Haag (1955), Webb (1982), and Lehman (1982) for Jaketown. In the lab, an inventory record was made for the 33 bags that comprise the collection and pictures were taken of the artifacts that were present. An artifact is any object created for a practical purpose that is typically an item of cultural or historical significance. Artifacts can be separated into classes based on their defining attributes, which makes analysis of any collection as a whole simpler. The Jaketown collection was in relatively good condition, but it did not appear to have been properly curated as the items were all covered in dirt and dust,

and the boxes and bags were falling apart.

After inventory records were created, a basic documentation of the items in the collection, a preliminary sort was undertaken for each bag. A preliminary sort is the separation of similar materials into groups, also known as classes, with further separation based on morphological characteristics. First, items have to be defined as artifact, ecofact, unidentified, or unmodified. Artifacts include handmade objects such as tools and pottery. An ecofact is organic material found at an archaeological site that carries archaeological significance. Unidentified materials include any material that has been modified, but may be degraded, making identification impossible. Unmodified materials include rocks that have not been worked and show no signs of modification. After each bag was sorted, the materials were cataloged. During cataloging, each group of artifacts, ecofacts, or unmodified materials was sorted and labeled as well as described on catalog sheets. Proper sorting of objects is essential for later analysis.

Artifacts were sorted into ceramic and lithic industries and historic materials. Ceramics are prehistoric clay artifacts that have been fired. Lithics are prehistoric stone materials that have been modified, typically in the creation process of stone tools. Historic materials are objects which have their origin in modern times, and therefore, do not relate to prehistoric occupations. All of these objects are placed in groups based on like "attributes", such as morphology, material, and stylistic features. The groups of similar items were provided a catalog number. For most groups, each individual item was given a sub-catalog number for reference purposes. However, for stone materials, large groups of unidentified objects, and large groups of similar items, no sub-catalog numbers were created. Individual items were bagged based on sub-catalog numbers, and all of these individual bags were

placed within one large bag that referred to their original "box" location, and they number 1-33. In Anthropology 408, after completion of a basic catalog, each student selected an individual bag from the 33 present, and analyzed the materials further. Once cataloging was complete, I then began work of my "adopted" bag (13) to delve more deeply into analysis.

Through analysis, especially with our individual bags, students were able to better understand the collection as a whole. A smaller subset of items provided the opportunity to learn more about archeological analysis, cataloging, and curation. I was able to investigate the artifacts present in Bag 13 and study ceramics from Jaketown's occupations in order to determine which pottery types were present. This was the primary data used to test the hypothesis that this Jaketown collection contained many of the Poverty Point attributes.

Recording and Accessioning

The purpose of an archaeological catalog is to identify, classify, and record the attributes of all materials recovered from an archaeological project (Sutton and Arkush 2009:27). A record can then be created from the information related to each of the items recovered from the site. An archaeological catalog is a permanent record of a site's recovered artifacts, ecofacts, and other essential elements that allows information to be easily searchable. For the University of Mississippi Jaketown collection, we first created a paper copy catalog and then transferred the information into an electronic spreadsheet for ease of use.

Each object or group of objects from a site is assigned an individual number using the Smithsonian Trinomial Site System. This number is the code that indicates where the

information about the particular item is located in the catalog (Sutton and Arkush 2009:27). No two items or group of items in a catalog will have the same number. A catalog number consists of at least two, and sometimes more, sets of numbers (Sutton and Arkush 2009:27). The first number is the accession number, or a code for the site (Sutton and Arkush 2009:27). The accession number related to this collection is 22HU505, referring to the state, county, and site number in the county. The lot number, also known as the unit number, provides information about where the item was found. The lot number for this collection relates to the numbered bag that each group of materials was discovered in and where it was discovered in the Jaketown collection, the bags number 1 through 33. The actual catalog number is usually the final number in the series and it distinguishes an item from all others. Thus, the accession number designates the site, the lot number designates a general location in the site, and the catalog number designates the item. Each bag has this information recorded on it and an item from Bag 31, catalog number 2, sub-catalog number 3 would be recorded as: "22HU505–UM31–2–3."

When material is cataloged, each item is assigned a catalog number that is recorded on a piece of archival paper and placed in a plastic bag with the item. Information for each individual item, or group of items, such as material, measurements, weight, and characteristics, is recorded in the catalog. All records must be stored properly, which requires paying careful attention to details. The acid content of paper, environment of storage facilities, and the accessibility of records can affect future research (Sutton and Arkush 2009:34).

Preliminary Sorting

When the UM Collection was rediscovered, items were stored in degrading paper bags and cardboard boxes. Before sorting and quantification could begin, the collection had to be transferred to proper curation materials such as chemically inert plastic bags. Photocopies were made of information recorded on the boxes in order to retain contextual information of the original storage containers and photographs were taken. Each individual bag was given a lot number, such as UM1, and all bags were organized accordingly. After the collection was stabilized, preliminary sorting began. Materials were organized on trays into basic class 1 categories: artifacts, ecofacts, unmodified, and unidentified. As materials are sorted, the process of classification begins.

Preliminary sorting is conducted prior to cataloging and analysis in order to discover and organize different kinds of materials in a collection, organize the collection by sorting into major classes, assess the basic quantity and quality of a collection, and gain an overview of the range of variation present in material categories (Murray 2014a:1). The morphology of artifacts is the most basic means of subdividing an archaeological assemblage. Table 3 shows the preliminary sorting categories used for the collection: Class 1, Class 2, and Class 3. Class 1, the most basic class for organizing materials, includes artifact, ecofact, unmodified, and unidentified. Class 2 artifacts include industries such as lithic, ceramic, bone and antler, and shell as well as the temporal category of historic materials. Industries are frequently repeated assemblages of a particular material or function. Class 2 ecofacts include bone, shell, and plant. Class 3 categories represent the specific technologies that are available in the broader industries.

Table 3: Preliminary Sorting Categories (Murray 2014a:1)

Class 1	***Class 2***	***Class 3***
Artifact	Lithic Industry	*Chipped Stone*
		Ground or *Polished Stone*
		Other worked stone
		Fractured (indeterminate) Rock
	Ceramic Industry	*Pottery*
		Shaped Clay
		Daub
		Indeterminate
	Bone and Antler Industry	(Must be worked)
	Shell Industry	(Must be worked)
	Historic Materials	*Glass* *Metal* *Other*
Ecofact	Vertebrate	*Unburned* or *Burned* (calcined)
	Invertebrate	Shell
	Flora	Carbonized seeds, nuts, charcoal
Unmodified	Rock	
Unidentified		

Artifacts are items that have been made or used by people. The ceramic industry is composed of clay artifacts that are often fired. The lithic industry encompasses any stone that has been modified at a site during the time of occupation. Historic materials are those that post-date LMV cultural periods and are associated with recent or modern times. Ecofacts are divided into three major categories: vertebrate, invertebrate, and plant remains. In cases which plant or animal remains are modified, they are then considered to be artifacts. Ecofacts are those unmodified remains, such as food remains, that can result from cultural activities (Sutton and Arkush 2009:38). Human remains, which would be listed under vertebrate, are the biological remains of humans, primarily skeletal, including preserved tissues.

After subdivision of materials using Class 1 and Class 2 categories, materials can then be further arranged into Class 3 categories. Class 3 categories are based on specific technologies within each industry (Murray 2014a:1). Ecofacts are arranged into vertebrate (bone), invertebrate (shell), and flora (plant materials). Unmodified refers to objects that are in the collection, but reveal no trace of direct human manipulation (Murray 2014a:1). Unidentified materials are those that cannot be securely placed into any of the other categories.

Specific Analyses

Classification of archaeological material is a fundamental way to organize data. It is the subdivision of rough, preliminary categories into meaningful archaeological classes. The classification system used for the Jaketown Collection is based on the preliminary sorting guide, but adds additional detail to Class 3 and creates a fourth classification, Class 4, for cataloging. Class 4 is the most detailed level of analysis in the category. Each artifact industry and other Class 1 categories can be divided into sub-classes based on individual attributes of the industry of each item or group of items. Lithics are subdivided into chipped stone, hammerstone, ground or polished stone, other, and fractured (indeterminate) rock. Ceramics are subdivided into pottery, shaped clay, daub, and indeterminate. Historics can be subdivided based on the technology: pottery, tile, glass, metal, other, and indeterminate. After each item is placed in its corresponding Class 3 category, further analyses are completed to identify Class 4 attributes. Catalog sheets for detailed analysis can be found in the appendix. Study collections were created by Dr. Murray and placed in the lab in order for

students to see examples of Class 3 and Class 4 materials. These study collections were used as guiding tools to help students classify materials.

Table 4: Classification of Materials for the Archaeological Catalog (Murray 2014b:3)

Class 1	***Class 2***	***Class 3***	***Class 4***
Artifact	*Lithic*	*Chipped Stone*	*Tool* (or tool fragment), *Core*, *Tester*, *Debitage* (debris such as flakes, blades, and shatter), *Other*, and *Indeterminate*
		Hammerstone	
		Ground or *Polished Stone*	*Celt*/*Adze*, *Whetstone*, *Abrader*, *Saw*, *Mortar*/*Pestle*, *Pitted Stone* (Nutting Stone), *Stone Vessel, Other*, *Indeterminate*
		Other (includes lapidary industry and worked ores)	*Pendant*, *Bead*, *Tablet*, *Bannerstone*/*Gorget* (atlatl weight/ceremonial object), *Plummet* (sinker), *Other* (partially worked Iron or Lead Oxide or other raw material), *Indeterminate*
		Fractured Rock (Indeterminate)	Generic broken rock; may include fire-cracked rock (FCR)
	Ceramic	*Pottery*	Vessel *form* (rim, base, body, lug/knob/handle, indeterminate); *decoration* (plain, incised/combed, impressed); *surface treatment* (cord-marked, slipped)
		Shaped Clay	*Poverty Point Object, Pipe*, *Bead*, *Figurine*, *Other*, *Indeterminate*
		Daub	(Impressions of cane/wattle)
		Indeterminate	(Generic blobs of fired clay)
	Bone or *Antler*	(Must be worked)	*Pendant*, *Bead*, *Awl*/*Needle*, *Punch*, *Hammer*, *Other, Indeterminate*
	Shell	(Must be worked)	*Pendant*, *Bead*, *Other, Indeterminate*
	Historic	*Pottery, Tile, Glass, Metal, Other, Indeterminate*	Various
Ecofact	*Vertebrate* (Bone)	*Unburned, Burned* (calcined), *Indeterminate*	Genus/species; skeletal element
	Invertebrate (Shell)	*Mollusk, Snail, Indeterminate*	Genus/Species
	Flora	*Seed* (carbonized), *Nut* (carbonized), *Charcoal, Other, Indeterminate*	Genus/Species
Unmodified	*Rock*	*Iron Ore*, *Lead Ore* (Galena), *Sandstone*, *Slate*, *Soapstone*, *Chalk*, *Quartz*, *Chert*, *Basalt/Pumice*, *Other*, *Indeterminate*	Iron Ore: *Limonite*, *Hematite*, *Magnetite*, *Indeterminate*
Unidentified			

Chipped Stone

Tools are defined as objects that have been intentionally shaped, have at least one prepared edge, or show macroscopic evidence of use (Murray 2014b:4). Stone tools are produced through a process called flint knapping. During analysis of the collection, chipped stone was subdivided into tools or tool fragments (such as bifaces or other pieces with intentionally worked edges), cores, testers, and debitage (debris such as flakes, blades, and shatter) (Murray 2014b:4). The process of forming a stone tool is shown below in Figure 12.

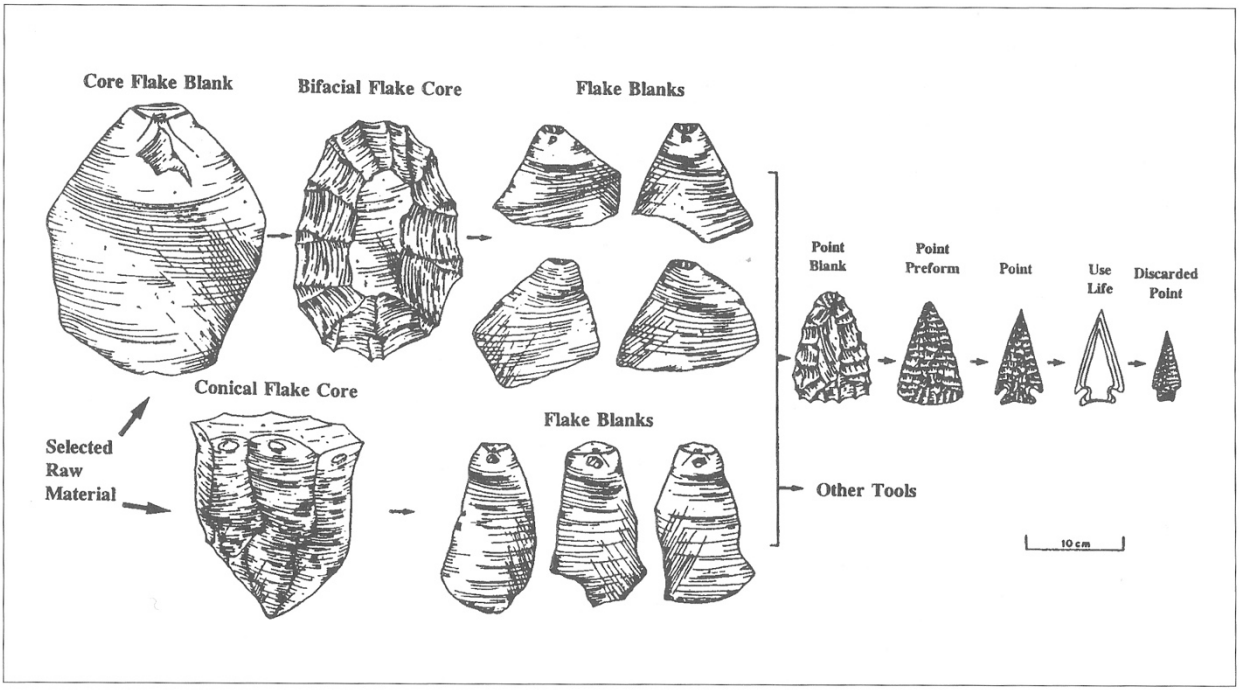


Figure 12: Reduction sequence of a core into a stone tool (Murray 2014c:13)

Chipped stone technology can be divided into two main categories, debitage and flaked stone tools (Sutton and Arkush 2009:49). Debitage is more commonly known as the debris of stone created through the flint knapping process. Debitage can include flakes, shatter, and other debris from the manufacture or maintenance of flaked stone tools. Debitage has not always been considered to be important in lithic analysis, but it can provide important information about production and reduction strategies. Figure 13 provides an example of a debitage flake and its attributes.

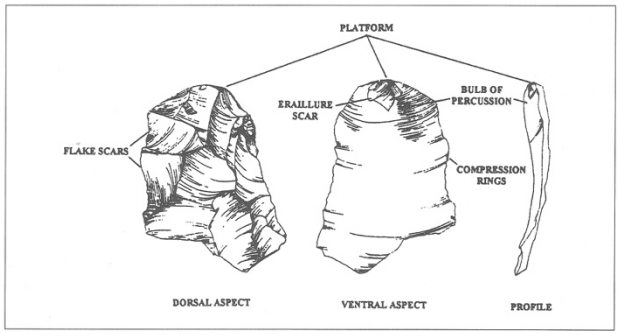


Figure 13: Typical debitage flake and its attributes (Murray 2014c:2)

Cores and testers are important in the reduction sequence when creating chipped stone tools. Whether or not a stone would be used to create a chipped stone tool was based on its qualities. Examples of chipped stone cores are displayed in Figure 14. There are many types of materials used to create chipped stone tools, including chert, obsidian, and quartzite. Materials can also be treated in a variety of ways including heat treatment, which can change the color of the raw materials and improve fractery qualities to enhance control of shaping. Heat treatment also results in a waxy or glossy appearance as opposed to a raw stone that looks dull (Sutton and Arkush 2009:47).

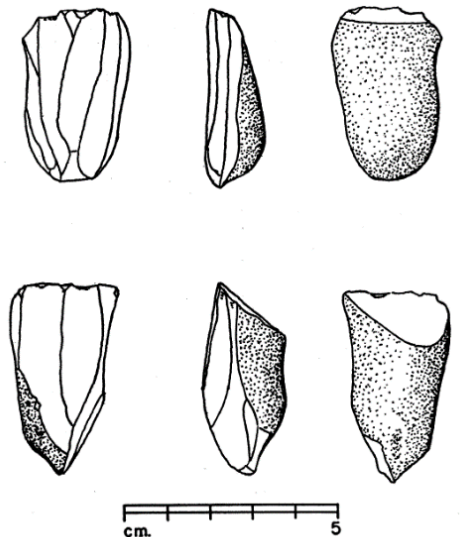


Figure 14: Example of chipped stone cores (Murray 2014c:5)

A biface is defined as any lithic material flaked alternatively on two sides or surfaces, producing a series of platforms along a single line known as a margin, or the edge of the tool (Sutton and Arkush 2009:51). Bifaces could be used as ranged weapons, attached to spears and arrows, or used as hand-held devices. Unifaces are stone artifacts that are worked only on one side and which are made using flakes (Sutton and Arkush 2009:54). According to Sutton and Arkush (2009:56), cores are the lithic mass from which flakes are removed. Testers are also the lithic mass from which flakes are removed, but they are defined as having less than three flake scars whereas cores have three or more flake scars. Classifying cores and testers can provide the archaeologist with information about which techniques were used in the creation of chipped stone tools.

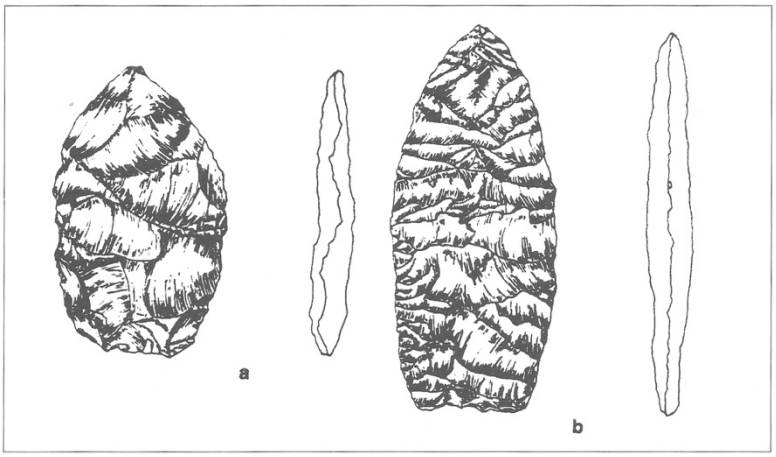


Figure 15: Example of a biface (Murray 2014c:8)

Once chipped stone objects were identified, the count, weight (in grams), and measurements of all shaped tools, cores, and testers were acquired and recorded individually. In the catalog, maximum length, width, and thickness were recorded to provide a three-dimensional record of each item (Murray 2014b:5). Size grading is the process of sorting

debitage based on mass or size. All debitage was sorted into size grades by using sorting screens and each individual item's size grade was recorded on the catalog (Murray 2014b:5). Nesting screens are screens of different sizes that sit within each other and separate out chipped stone based on size in inches. The common diameters of size grades are displayed in Figure 15. Any additional identifying characteristics including color, material, and heat treatment were recorded if known.

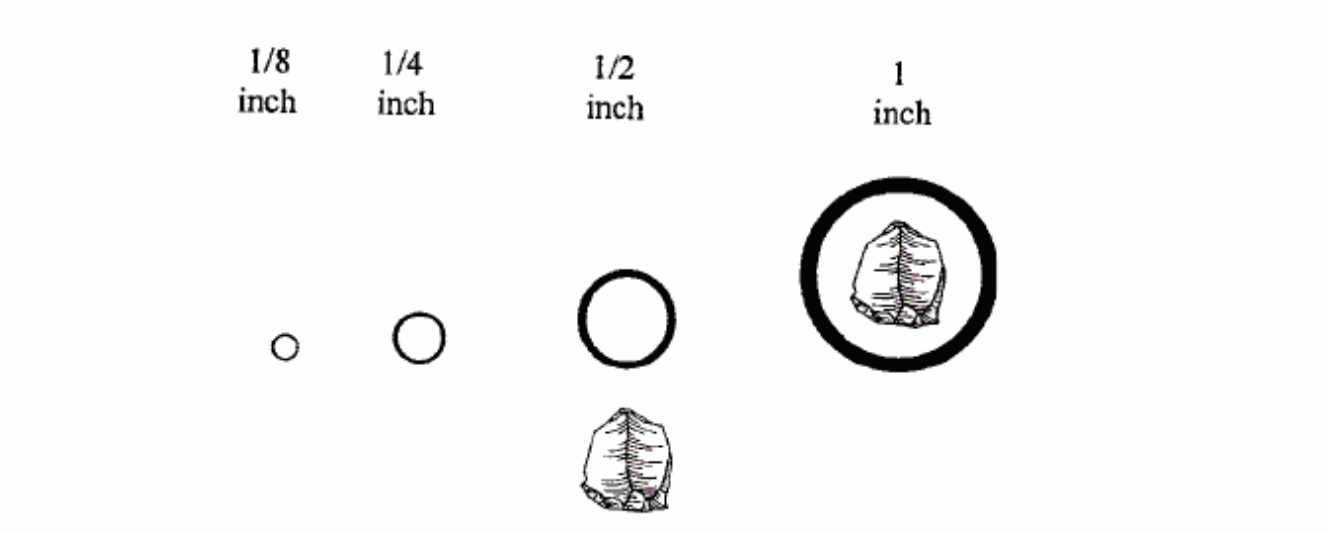


Figure 16: Flake size grades in dimension of 1 inch, 1/2 inch, 1/4 inch, and 1/8 inch. The specimen shown is graded at 1/2 inch because it is smaller than the 1-inch grade and is greater than the 1/2-inch dimension grade (Murray 2014c:17)

Hammerstone, Ground or Polished Stone, Other, Fractured Rock

One type of lithic material that is a common artifact and is used in the production of chipped stone is a hammerstone. According to Sutton and Arkush (2009:48), hammerstones are often fist-sized cobbles with evidence of multiple impacts or unusual wear on one or more ends, and their presence or absence at a site may provide information about stone-working activities. Aside from hammerstones, other categories that make up the lithic

industry are ground or polished stone, fractured rock, and other modified stones. Ground (polished) stone artifacts fall into two general categories: tools that were used to process various substances by grinding, pulverizing, crushing, smoothing, or scraping and thus become ground and/or polished through use; and objects that were purposely ground or

polished to produce a smooth finish (Sutton and Arkush 2009:76). Description of ground

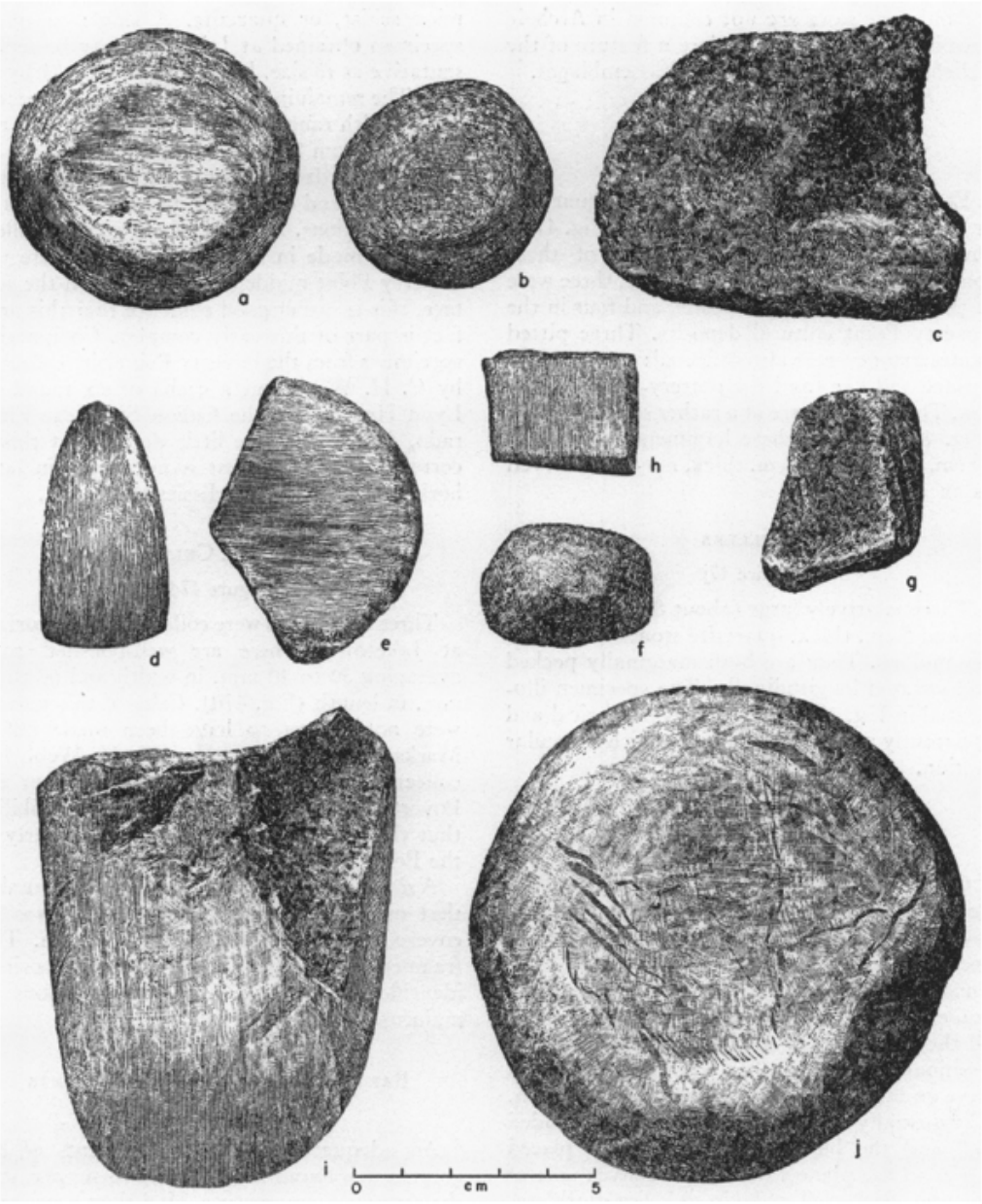


Figure 17: Ground stone tools (a-c), hammerstones (d), and other lithics (Murray 2014c:10)

stones is based on the material type and how each individual stone was used in the past.

Fractured rock is generic broken rock and also includes fire-cracked rock (FCR). Generic broken rock is any type of rock that has been purposely cracked or fragmented. Fire-

cracked rock is a rock of any type that has been altered and split as the result of deliberate heating. Other stones include worked ores, indeterminate stones, and those used in the lapidary industry. The lapidary industry is the cutting, engraving, or polishing of stones. Lapidary stones can be representative of currency or can be used ornamentally. Worked ores include iron and lead ore and they can be treated for removal of their components. All lithic artifacts were counted, weighed, and measured and the collected data was recorded within the archaeological catalog.

Pottery

Sutton and Arkush (2009:111) state that the analysis of ceramic vessel remnants can provide important information concerning site chronology as well as both technology and prehistoric trade patterns. It is common that most ceramics uncovered at a site will be broken pieces. When ceramic vessels broke, the broken sherds would be thrown into trash middens and preserved. Initially, ceramics in the collection were separated based on vessel morphology: rim, neck, body, and base. The rim is the top portion of a vessel and its defining characteristic is a lip, or rim edge, where the interior and exterior of the vessel meet. The neck is the portion between the rim and the body that connects the two. The body is the main portion of the vessel where materials would be stored and it links the neck to the base. The base of the vessel is the part on which the vessel rests. Occasionally, vessels

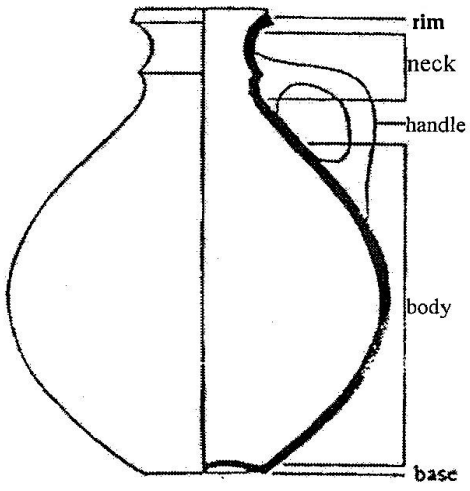


Figure 18: Diagnostic vessel parts (Murray 2014d:2)

can have a handle, spout, or lug.

Next, sherds were categorized based on their decorative techniques. A large quantity of the ceramics in the University of Mississippi Jaketown collection had decorative treatments such as incising, carving, impressing, punctuation, and stamping. Decoration and surface treatment can be assessed both qualitatively and quantitatively. Figure 19 provides examples of ceramic surface treatments. Quantitative analysis focuses on the measurement of surface characteristics and decorative elements, including thickness and depth of incised lines and width of impressed cordage. The color of each ceramic piece was observed and the presence and absence of slip, which is suspension that can be applied on the outside of pottery for protection or coloring, was recorded.

Temper, or inclusions, are additions to the clay matrix, which may enhance certain characteristics of the raw material. Common temper types found within the University of Mississippi Jaketown collection include grog, fiber, shell, and a combination of grog and shell. There were also many ceramics lacking decoration, temper, and color. There are many kinds of temper that can be used when creating pottery, including grog, shell, grit and fiber. Grog temper is a paste that has large angular pieces of crushed pottery that are often dark in color whereas shell temper is paste that has flakes of crushed shell. Grit temper is paste that contains grains of sand and other forms of grit. Fiber temper differs from the other types because the paste that is chalky and smooth with voids. Pottery can also have no temper, in which the paste is exceptionally chalky and smooth with no evident voids or grains.

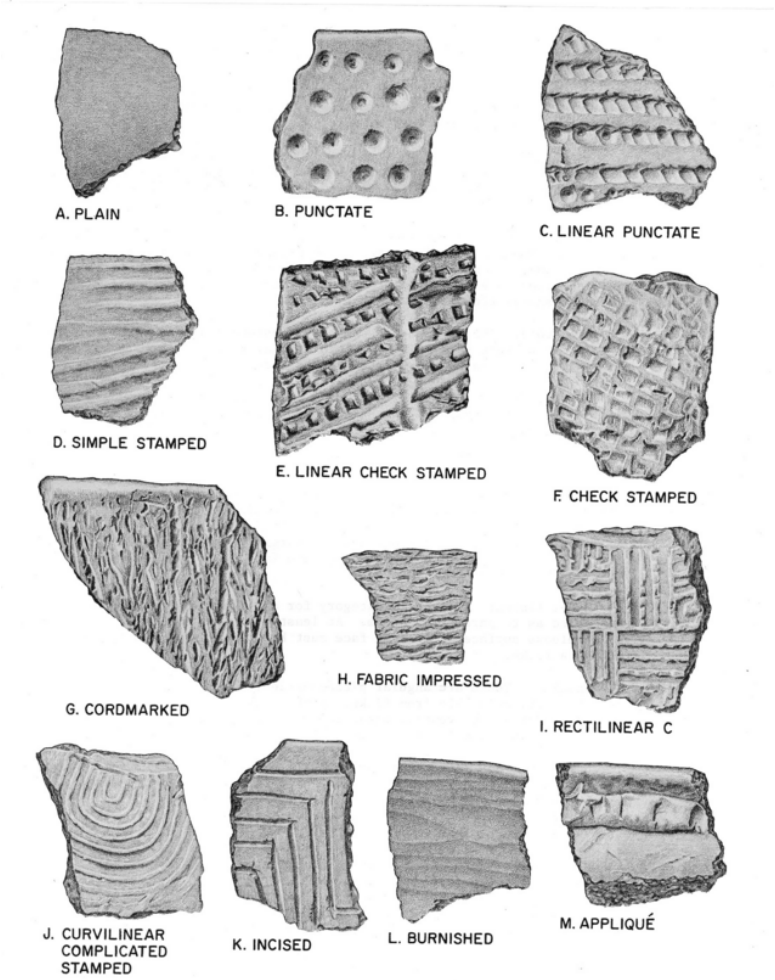


Figure 19: Ceramic surface treatments (Diachronic Research Foundation 2015)

Shaped Clay and Daub

Shaped clay includes fired clayed objects such as Pottery Point Objects or figurines and daub is a type of clay that is used in the construction of buildings. Poverty Point Objects were abundant in the Jaketown collection at the University of Mississippi. At least five general types of Poverty Point Objects were identified at Jaketown: spheroid, biconical, cylindrical-grooved, cross-grooved, and melon-grooved. Poverty Point objects were separated based on their shapes and placed into one of the five general types. After all of the

Poverty Point Objects were typified, they were measured and weighed, and this data was recorded. Daub results from the intentional or unintentional firing of architecture features and it is identifiable through impressions of cane and other forms of woven "wattle" used in wall infrastructure. Remaining shaped clay items were sorted into groups. Large items were sorted individually, but smaller items with similar characteristics and size were recorded as groups. Many of the smaller fragments were broken Poverty Point Objects, daub, or other fired clay remains.

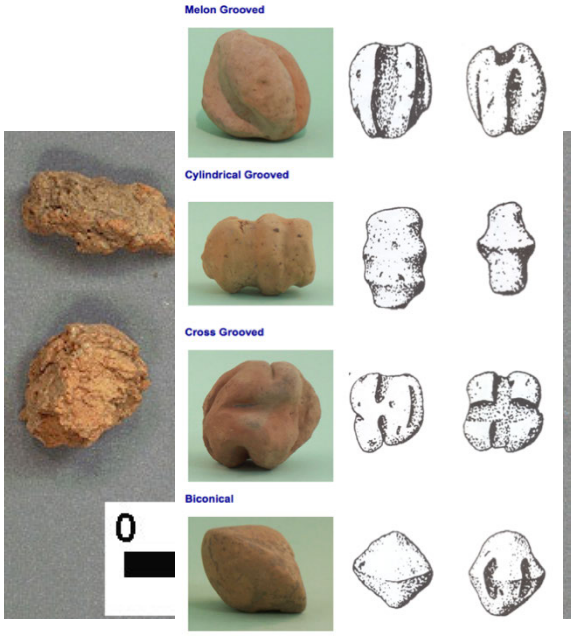


Figure 20: Examples of clay daub (UNC 1998)

Figure 21: Common Poverty Point Object types (Murray 2014d:3

Historics

Historic materials are those that post-date Mississippian period use of Jaketown. There were few historic objects in the collection and they were not a focus of the laboratory work that was conducted. These objects were recorded and described at a relatively basic level. Analysis of historic artifacts included determining what each artifact was, weighing the

artifacts, and recording all of the data. Some of the historic materials found include ceramic dishes, metal chain links, and a fishing hook.

Ecofacts

Ecofacts are any flora or fauna material found at an archeological site that has not been technologically altered but has cultural relevance. Ecofacts are sorted by general material, such as bone, shell, and flora. Bone can be sorted into general animal categories. Burned (calcined) and unburned bone should be separated and treated as distinct materials. The length, width, and thickness for notable, large pieces of bone were recorded and animal category was indicated.

Unmodified and Unidentified

Unmodified materials are those which have not been changed in any way. Unidentified materials are those that are too degraded or broken to be identified. Unmodified materials in the collection include different types of stone such as iron ore, lead ore, citronelle, sandstone, slate, quartz, chalk, chert, basalt, and pumice. Chert is a high quality, fine-grained stone that was imported for the creation of chipped stone tools. Quartz often appears smooth due to weathering, but also has a distinct "sugary" texture. Metal ores were often used for tools and ornaments. They can be distinguished based on magnetism, color, and hardness (Murray 2014f:9). Slate was used for lapidary objects such as bannerstones, tablets, and beads. Pumice and basalt were used for polished axes and adzes as well as other ground stone or polished tools. Sandstone and chalk have been recorded at Jaketown, but their specific purpose is unknown.

Metal ores can be subdivided into four categories, magnetite, hematite, limonite, and galena, based on the distinguishing traits previously mentioned (Murray 2014f:15). Magnetite is typically dark gray in color and is the only iron ore that is magnetic. Hematite is not magnetic and is dark gray in color. However, hematite leaves an oxidized red stain when streaked. Limonite is yellow brown in color and has the same colored streak. Galena, the only lead ore in the collection, has a white colored cortex, or outer layer, and a gleaming metallic interior. Galena is much heavier than the iron ores. Objects listed as unmodified or unidentified were sorted into groups based on visual similarities. Color and other qualities were used to distinguish between different metal ores and other stones. The count and weight of each group of similar materials was analyzed and recorded in the catalog.

Curation

Once a collection has been cataloged and analyzed, it must be stored. The long-term storage of collections is often referred to as curation (Sutton and Arkush 2009:39). Curation is an ongoing process. The preparation of an archaeological collection for curation begins with the creation of a catalog, which typically takes place during the analysis phase. Proper curation of materials includes ensuring all artifacts are cleaned, sorted by provenience, and properly labeled (Murray 2014g:3). All cultural material, field notes, project records, and photographs should be curated appropriately, on acid-free paper (Sims 2001:6). Objects should be accumulated in polyvinyl bags, and bags should be stored in archival boxes. The proper packaging and storage of objects and associated records is essential for their long-term preservation.

CHAPTER IV: ANALYSIS

The UM Collection

The Jaketown (22HU505) collection at the University of Mississippi contains a total of 9,808 objects. The following analysis breaks down the collection by class and provides raw counts, weights, and proportions. The Class 1 classifications present in the collection are artifact, ecofact, unidentified, and unmodified. After analyzing basic classifications, the collection can be subdivided into Class 2 industries and materials, Class 3 specific technologies, and Class 4 specialties as shown previously in Table 4 on page 35.

Class 1 Division

Analysis began with the separation of objects into their respective Class 1 categories. Table 5 displays the quantities, weights, percent quantities, and percent weights for the entire collection as a whole. The majority of the collection is categorized as *artifacts*, 9,385 objects or 95.7%. The weight of artifacts is 84,885.4 grams and they make up 89.8% of the entire collection's weight.

Table 5: Proportion of Class 1

Classification	Quantity	% Quantity	Weight	% Weight
Artifact	9385	95.7%	84,885.4 g	89.8%
Unmodified	365	3.7%	8,991.8 g	9.5%
Ecofact	33	0.3%	314.2 g	0.3%
Unidentified	25	0.3%	387.5 g	0.4%
Total	**9,808**	**100%**	**94,578.9 g**	**100%**

The second largest number of objects in the collection is "*unmodified*" which account for 365 or 3.72% of the collection. The weight of unmodified objects in the collection is 8,991.8 grams which is 9.5% by weight.

There are also 33 *ecofacts* present, accounting for 0.3% of the collection and 25 unidentified objects, representing 0.3% of the collection. Ecofacts represent a greater number of objects than unidentified objects, but the objects in this category weigh more. Ecofacts weigh 314.2 grams and constitute 0.3% weight of the total materials. *Unidentified* objects compose 0.4% of the collection and weigh 387.5 grams.

The total quantity of Class 1 materials is 9,808 and the total weight is 94,578.9 grams. Figure 22 illustrates the total quantity of objects present in each of the four Class 1 categories. Figure 23 displays the total weight of objects present in each of the four Class 1 categories. The quantities and weights of the categories appear to be relatively consistent.

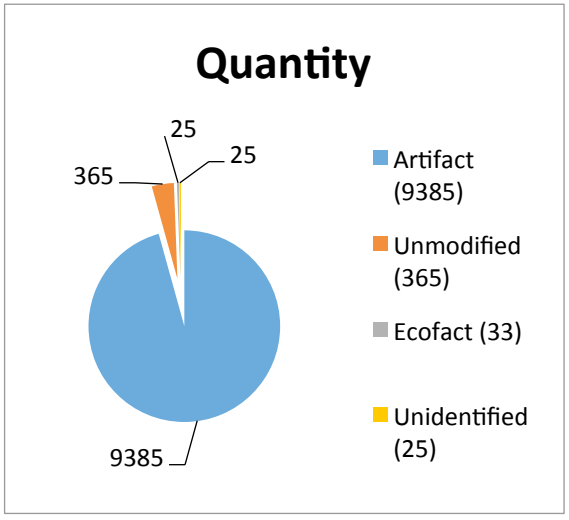


Figure 22: Class 1 Quantity

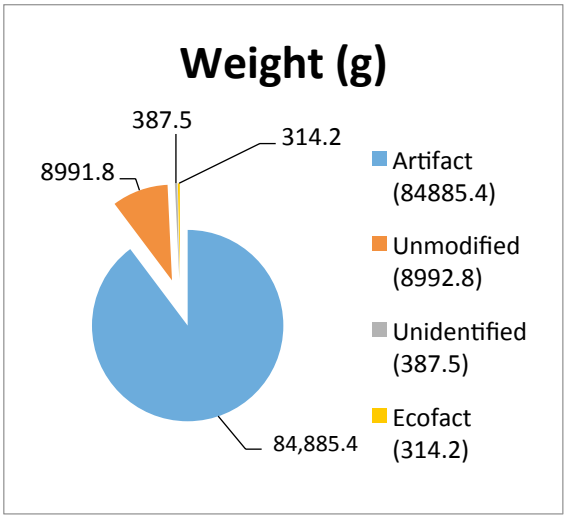


Figure 23: Class 1 Weight (g)

Class 2 Artifact

The "artifacts" are subdivided into prehistoric *ceramic* and prehistoric *lithic* industries and *historic* materials. There is no modified bone or antler present in the collection. Ceramics include any material made from fired clay. Lithic artifacts are those created using different types of stone. Historic materials are those which are of recent or modern times, and include metal and plastic technologies. Table 6 provides the proportions of both the quantities and weights of the different artifacts as well as the percentages of each category.

Table 6: Proportion of Artifacts

Classification	Quantity	% Quantity	Weight	% Weight
Lithic	5,575	59.4%	31,513.1 g	37.1%
Ceramic	3,705	39.5%	51,841.5 g	61.1%
Historic	105	1.1%	1,530.8 g	1.8%
Total	**9,385**	**100%**	**85,885.4 g**	**100%**

The lithic industry has 5,575 objects and makes up 59.4% of the quantity of artifacts. The lithic industry is 31,513.1 grams and 37.1% of the artifacts by weight. The ceramic industry is composed of 3,705 ceramic objects, comprising 39.5% of the collection. The ceramic industry has the largest weight in the collection at 51.8 kilograms, which amounts to 61.1% by weight.

Historic materials account for 105 objects and 1.1% of the artifact quantity and 1,530.8 grams or 1.8% of the weight of artifacts.

There is an abundance of lithic artifacts in the collection, but the majority of the weight is made up by the ceramic artifacts. Figure 24 displays the quantities of each type of artifact, Figure 25 shows the weights of each category present.

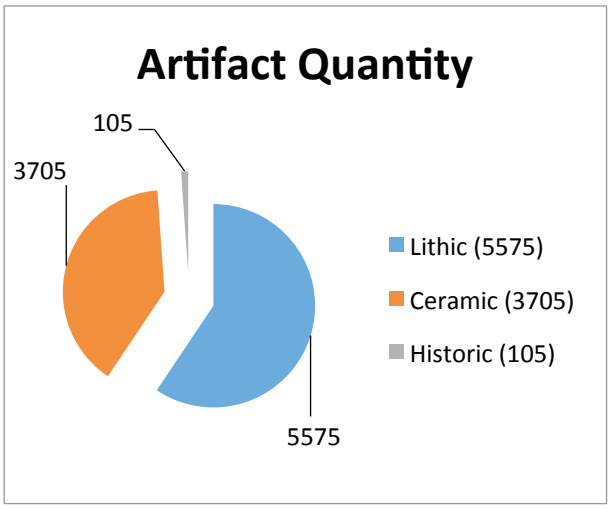


Figure 24: Artifact Quantity

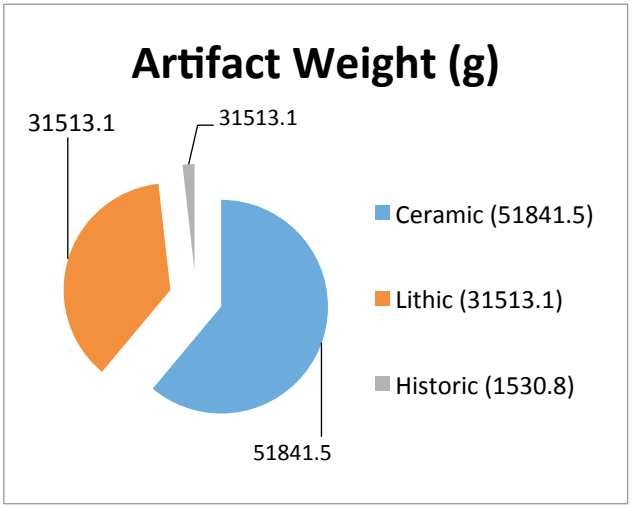


Figure 25: Artifact Weight (g)

Class 3 Ceramic Industry

The ceramic industry can be subdivided into *pottery*, *shaped clay*, *daub* and *indeterminate*, as indicated in Table 7. The majority of the ceramics in the collection are sherds, or fragments, of pottery. There are 2,768 objects in the ceramic industry that can be classified as pottery, constituting 74.7% of ceramics. The weight of pottery in the ceramic industry is 29.9 kilograms (57.8%). Pottery was the largest category in the ceramic industry by both quantity and weight.

Table 7: Proportion of Ceramic Industry

Classification	Quantity	% Quantity	Weight	% Weight
Pottery	2,768	74.7%	29,974.8 g	57.8%
Shaped Clay	890	24.0%	20,693.0 g	39.9%
Daub	36	1.0%	1,030.8 g	2.0%
Indeterminate	11	0.3%	142.9 g	0.3%
Total	**3,705**	**100%**	**51,841.5 g**	**100%**

Shaped clay constitutes 890 objects or 24% of the total quantity of ceramics. The weight of shaped clay objects is 20,693 grams or 39.9% of the ceramic industry by weight. The ceramic industry includes 36 pieces of daub, which constitutes 1.0% of ceramics. The weight of daub in the ceramic industry is 1,030.8 grams or 2% of the ceramic category. The indeterminate category is representative of 11 objects in the ceramic industry or 0.3% of the industry. The weight by percent of the indeterminate category is 0.3% and is 142.9 grams.

The total number of ceramics present in the collection is 3,705 items and the total weight of the ceramic industry is 51,841.5 grams. Figures 26 and 27 below exhibit the numbers and weights of each of the categories present.

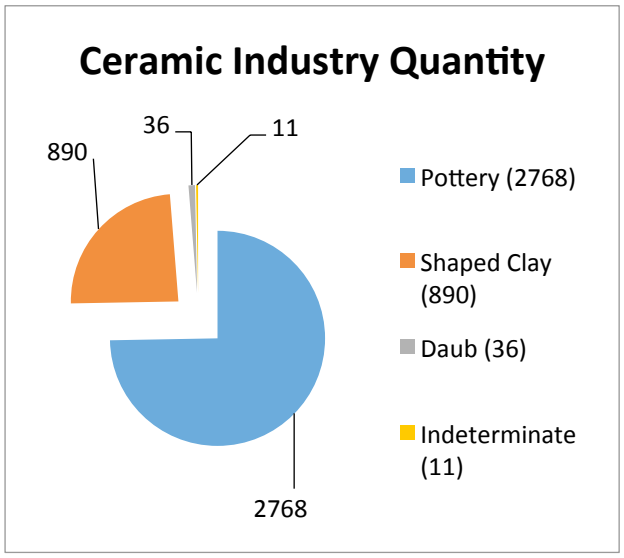


Figure 26: Ceramic Industry Quantity

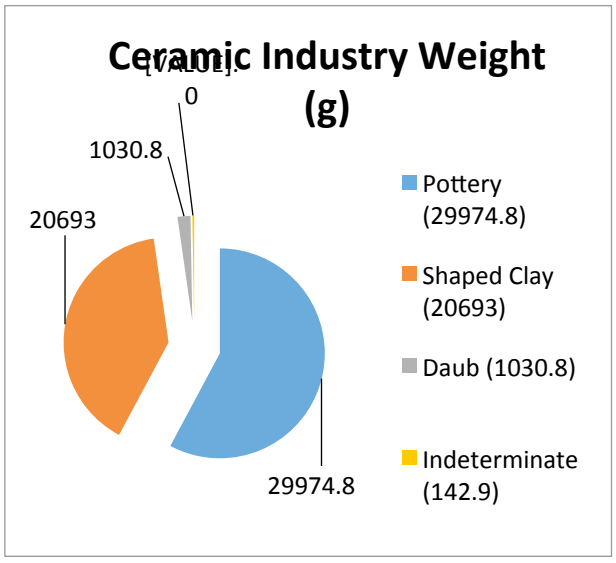


Figure 27: Ceramic Industry Weight (g)

Class 4 Ceramic Technology –Pottery

Pottery vessel form includes *rim*, *base*, *body*, *neck/shoulder*, *near rim*, and *indeterminate* categories, as displayed in Table 8. Rim sherds are pottery fragments that formed the rim of a vessel. Body sherds are pottery fragments that made up the body of a vessel. Neck/shoulder sherds are pottery fragments that made up the neck of the vessel, between the body and the rim. Near rim sherds are pottery fragments that were located just below the vessel opening. Indeterminate sherds are those for which the location on a vessel cannot be determined.

Table 8: Proportion of Pottery Vessel Forms

Classification	Quantity	% Quantity	Weight	% Weight
Body	2,103	76%	20,372.4 g	68.0%
Rim	621	22.4%	8,909.6 g	29.7%
Indeterminate	22	0.8%	173.3 g	0.5%
Base	14	0.5%	461.7 g	1.5%
Near Rim	7	0.2%	51.2 g	0.2%
Neck/Shoulder	1	0.1%	6.5 g	0.1%
Total	**2,768**	**100%**	**29,974.8 g**	**100%**

Body sherds make up the largest quantity of vessel form (76%), followed by rim sherds (22.4%), base sherds (0.5%), indeterminate sherds (0.8%), near rim sherds (0.2%), and one neck/shoulder sherd account for 0.1% of the pottery vessel forms.

The largest amount, by quantity and weight, of vessel form was body sherds. The total number of pottery vessel forms is 2,768 and the total weight of pottery vessel forms is 29.974.8 grams. The quantity and weights of pottery vessel forms are listed below in Figures 28 and 29.

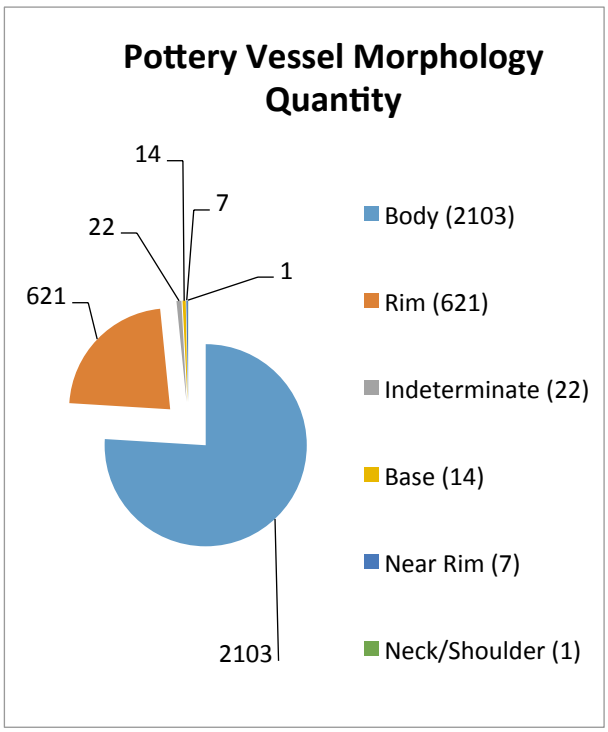


Figure 28: Pottery Vessel Morphology Quantity

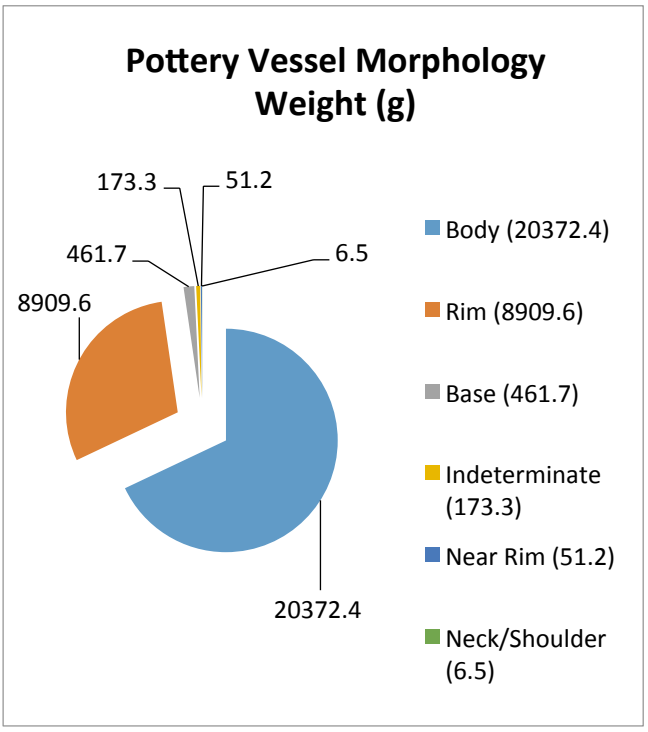


Figure 29: Pottery Vessel Morphology Weight (g)

Pottery decoration can be subdivided into *undecorated*, or plain, and *decorated*, consisting of a design or surface treatment. Surface treatments include cord-marking and slips and have been included as a decoration for ease of analysis. Table 9 displays the proportions of quantity and weight.

Table 9: Proportion of Pottery Decoration

Classification	Quantity	% Quantity	Weight	% Weight
Decorated	1,587	57.3%	17,974.5 g	60.0%
Undecorated	1,181	42.7%	12,000.3 g	40.0%
Total	**2,768**	**100%**	**29,974.8 g**	**100%**

Decorated pottery accounted for 57.3% of the pottery category and 1,587 objects by quantity. The weight of the decorated pottery was 17,974.5 grams and by weight, was 60% of the total amount of pottery. Undecorated pottery represents 1,181 objects or 42.7% of all

pottery items. By weight, undecorated pottery accounts for 40% of the total pottery or 12,000.3 grams. Figures 30 and 31 illustrate the quantity and weight of decorated and undecorated pottery.

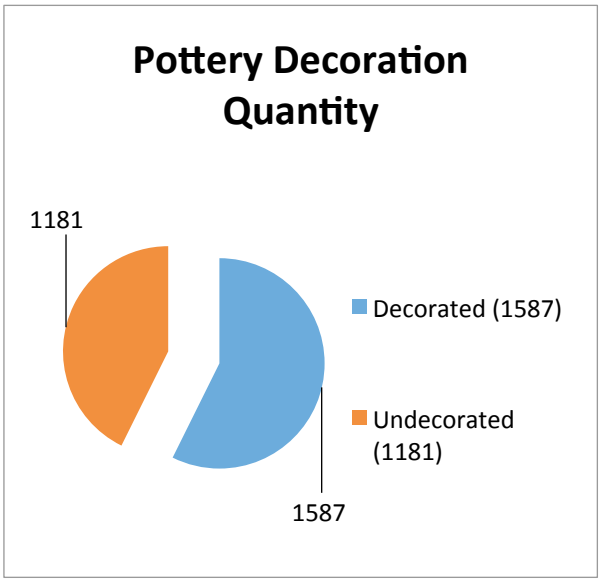


Figure 30: Pottery Decoration Quantity

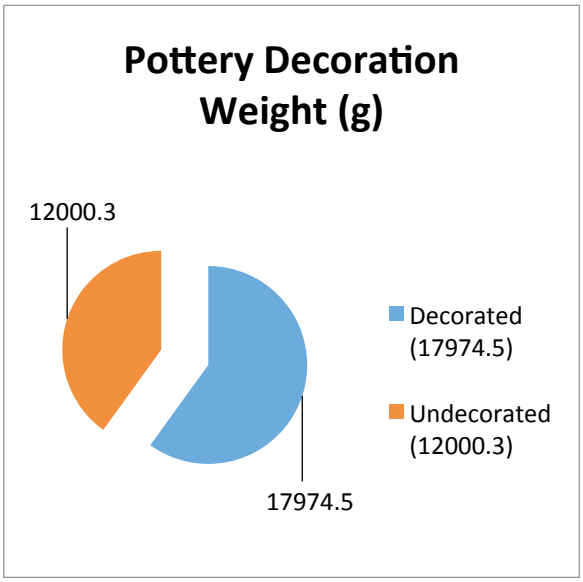


Figure 31: Pottery Decoration Weight (g)

Pottery decorative types in the collection include *indeterminate*, *incised*, *slipped*, *impressed*, *striated*, *stamped*, and *punctated*, as shown in Table 10. Due to the sheer number of ceramics in the collection and a lack of time, not every decoration type could be determined. Cord-marking is a surface treatment and it has been listed under "impressed" ceramics. The ceramics that were not yet analyzed or had decoration that was eroded were placed in the "indeterminate" category. Therefore, only approximately 20% of all of the decorated pottery was adequately analyzed enough to determine a decorative type. There is 79.8%, or 1,266 items, of pottery decorative types that have yet to be determined or are too eroded to be typed.

Table 10: Proportion of Pottery Decorative Types

Classification	Quantity	% Quantity	Weight	% Weight

Indeterminate	1,266	79.8%	14,290.1 g	79.5%
Incised	144	9.1%	1,697.1 g	9.4%
Slipped	88	5.5%	866.6 g	4.8%
Impressed	45	2.8%	753.4 g	4.2%
Striated	19	1.2%	117.4 g	0.7%
Stamped	14	0.9%	149.4 g	0.8%
Punctated	11	0.7%	100.5 g	0.6%
Total	**1,587**	**100%**	**17,974.5 g**	**100%**

The main decorative type that has been found, thus far, is "incised," making up 9.1% of the 20% of pottery that has been analyzed (n=144). Slipped pottery (5.5%), impressed pottery (2.8%), striated pottery (1.2%), stamped pottery (0.9%), and punctated pottery (0.7%) are also represented in the 20% of pottery that has been analyzed so far. Figures 32 and 33 display the relative quantity and weights of the pottery decorative types.

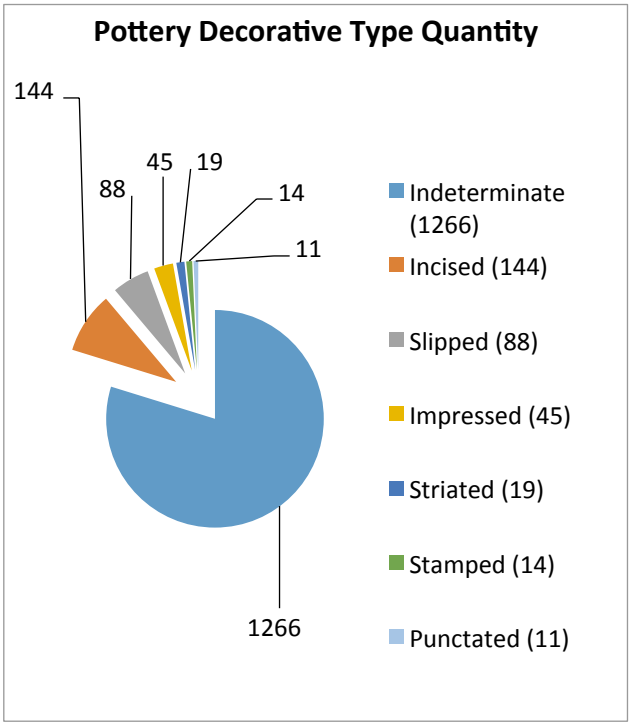


Figure 32: Pottery Decorative Type Quantity

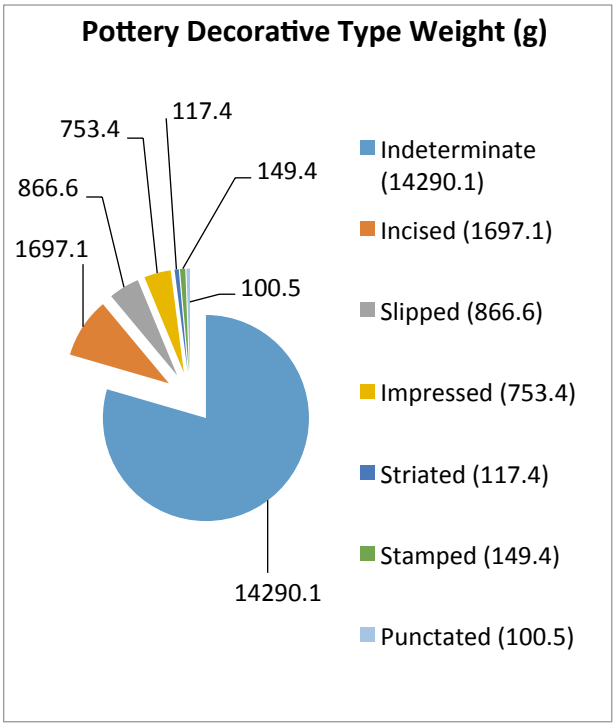


Figure 33: Pottery Decorative Type Weight (g)

Pottery temper types for the collection include *grog*, *shell*, *fiber*, *grog and shell*, *none* and *indeterminate*. "Indeterminate" includes temper types that have yet to be analyzed. Approximately 15% of the collection's pottery was analyzed for temper and the proportions are listed above in Table 11. "Indeterminate" constitutes 83.2% of all pottery or 2,303 objects. The weight of "indeterminate" pottery is 26,015.4 grams or 86.8%.

Table 11: Proportion of Pottery Temper

Classification	Quantity	% Quantity	Weight	% Weight
Indeterminate	2,303	83.2%	26,015.4 g	86.8%
Grog	298	10.8%	2,823.6 g	9.4%
Shell	86	3.1%	441.5 g	1.5%
Grog and Shell	45	1.6%	331.8 g	1.1%
None	27	1.0%	27.0 g	0.1%
Fiber	9	0.3%	35.9 g	0.2%
Total	**2,768**	**100%**	**29,974.8 g**	**100%**

Grog temper pottery includes 298 objects, and comprises 10.8% of the 15% of analyzed pottery. The other categories of temper present with in the 15% of analyzed pottery include 3.1% shell temper, 0.3% fiber temper, 1.6% grog and shell temper, and 1% of pottery contained no temper. Figures 34 and 35 display the raw proportions of pottery temper by count and weight.

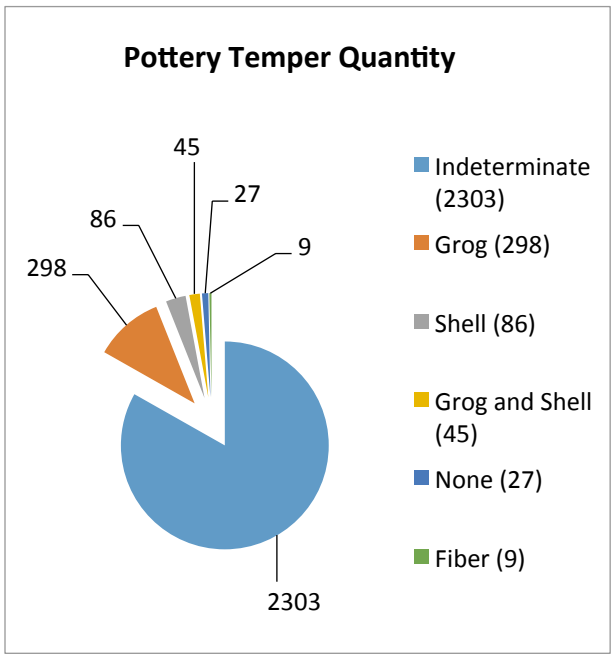


Figure 34: Pottery Temper Quantity

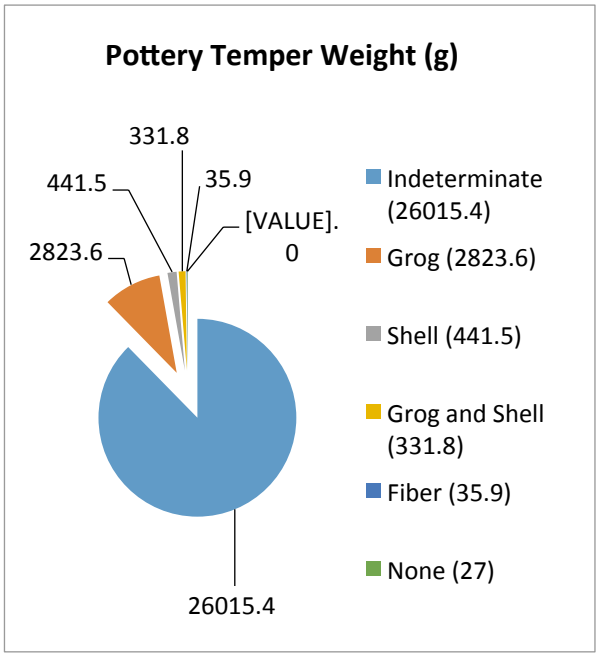


Figure 35: Pottery Temper Weight (g)

Pottery typology that is present in the collection include *Baytown*, *Larto Red*, *Tchefuncte*, *Parkin Punctated*, and *indeterminate*. Approximately 10% of the collection was typified. "Indeterminate" includes the pottery fragments or sherds that were not typified. Table 12 demonstrates the proportions of pottery typology.

Table 12: Proportion of Pottery Typology

Classification	Quantity	% Quantity	Weight	% Weight
Indeterminate	2,535	91.5%	26,558.8 g	88.7%
Baytown	132	4.8%	2,063.6 g	6.9%
Larto Red	56	2.0%	461.9 g	1.5%
Tchefuncte	34	1.2%	790.4 g	2.6%
Parkin Punctated	11	0.5%	100.5 g	0.3%
Total	**2,768**	**100%**	**29,974.8 g**	**100%**

The indeterminate category includes 2,535 objects representing 91.5% of all of the pottery in the collection. By weight, "indeterminate" pottery is 88.7% of pottery and weighs 26,558.8 grams. Baytown constitutes 4.8% of the pottery that was analyzed (~10%). Larto Red accounts for 56 objects or 2.0% of the 10% of analyzed pottery. Tchefuncte pottery (1.2%) and Parkin Punctated (0.5%) were also present in the 10% of pottery that was analyzed (Table 12). The quantity and weight of pottery types are displayed in Figures 36 and 37.

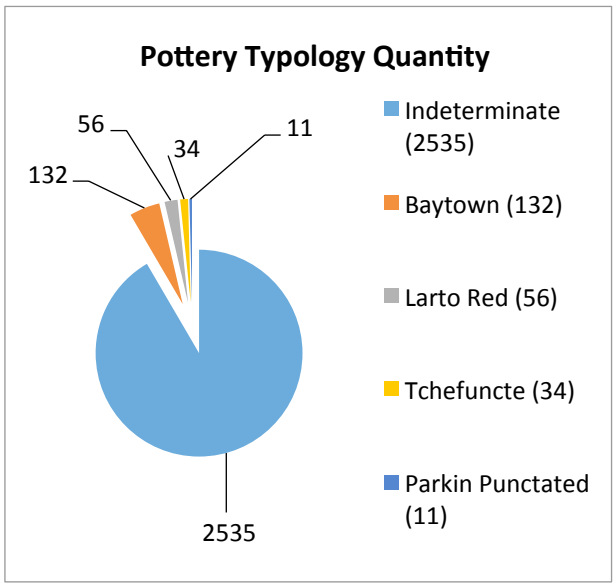


Figure 36: Pottery Typology Quantity

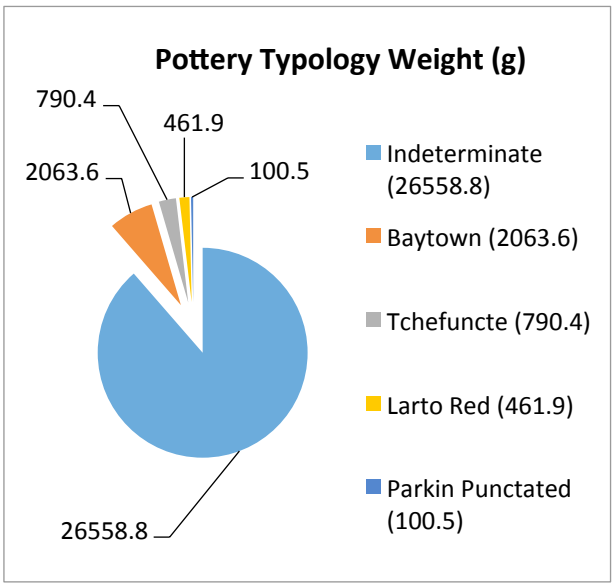


Figure 37: Pottery Typology Weight (g)

Class 4 Ceramic Technology –Shaped Clay

Shaped clay objects are those that have been shaped by hand and may or may not have been fired. Shaped clay objects include three categories: *Poverty Point Objects* (PPO), *other*, and *indeterminate* (Table 13). Poverty Point Objects are shaped clay objects that were created during the Poverty Point culture period and have distinct finger markings and shapes

(Gibson 1996:113). The "other" category includes shaped clay objects that did not fit into any of the distinct categories for shaped clay. Indeterminate objects could not be placed within a category due to being broken or deteriorated past the point of recognition.

Table 13: Proportion of Shaped Clay

Classification	Quantity	% Quantity	Weight	% Weight
PPO	633	71.2%	18,563.0 g	89.7%
Indeterminate	250	28.0%	1,938.6 g	9.4%
Other	7	0.8%	191.4 g	0.9%
Total	**890**	**100%**	**20,693.0 g**	**100%**

Poverty Point Objects represent 71.2% of shaped clay technology, followed by indeterminate items (28%), and other objects (0.8%). The most abundant shaped clay material are Poverty Point Objects. The total number of shaped clay items is 890 and the total weight is 20,693 grams. The quantity and weights of shaped clay categories are displayed in Figures 38 and 39.

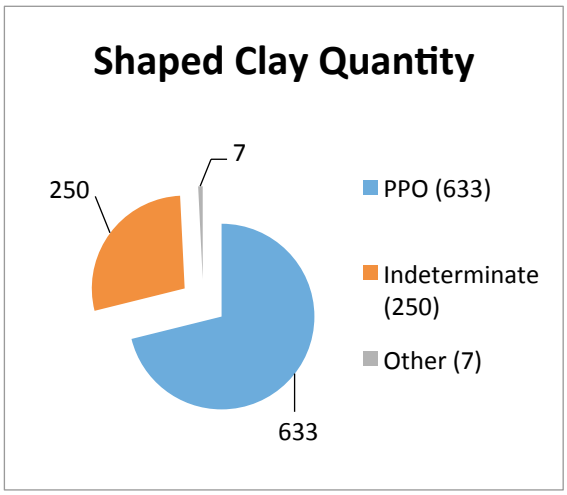


Figure 38: Shaped Clay Quantity

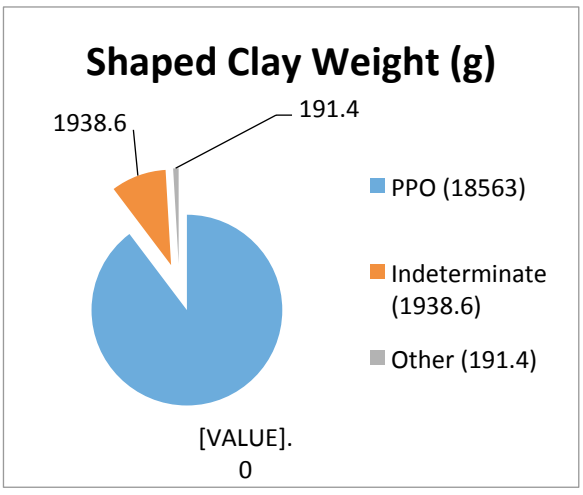


Figure 39: Shaped Clay Weight (g)

Poverty Point Objects are molded shaped clay objects that have been exposed to heat (Gibson 1996:114). There were ten main categories present in the collection including *biconical*, *modified biconical*, *biscuit*, *cross-grooved*, *cylindrical*, *modified cylindrical*, *melon-grooved*, *punctated*, *spheroidal*, and *indeterminate*, as shown in Table 14. The modified biconical category includes biconical extruded, grooved, and punched. The modified cylindrical includes cylindrical cross-grooved, grooved, and lateral grooved. Figure 40 displays common types of Poverty Point Objects.

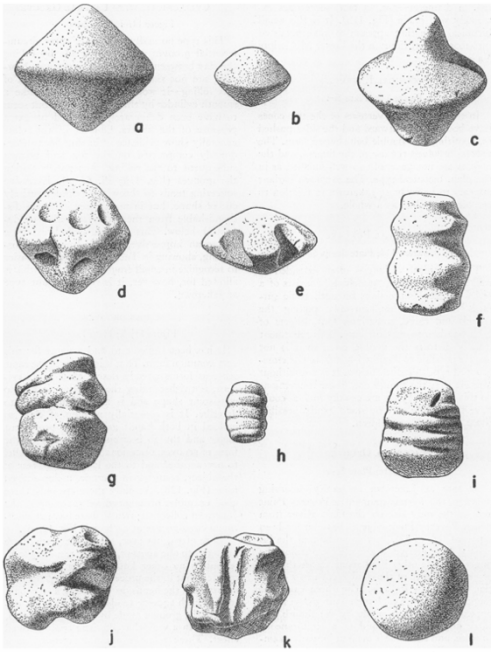


Figure 40: Common types of Poverty Point Objects. a-b. Biconical plain. c. Biconical extruded. d. Biconical punched. e. Biconical grooved. f-i. Cylindrical with lateral grooves. j-k. Cross-grooved. l. Spheroidal (Ford et al. 1955:42)

Table 14: Proportion of Poverty Point Objects

Classification	Quantity	% Quantity	Weight	% Weight
Indeterminate	416	65.7%	7,115.4 g	38.3%
Modified Cylindrical	115	18.2%	4,643.9 g	25.0%
Biconical	25	3.9%	3,474.7 g	18.7%
Cross-grooved	22	3.5%	909.1 g	4.9%
Modified Biconical	21	3.3%	759.9 g	4.1%
Melon-grooved	15	2.4%	848.5 g	4.6%
Spheroidal	12	1.9%	475.7 g	2.5%
Biscuit	4	0.6%	212.9 g	1.2%
Cylindrical	2	0.3%	93.6 g	0.5%
Punctated	1	0.2%	29.3 g	0.2%
Total	**633**	**100%**	**18,563.0 g**	**100%**

"Indeterminate" is the category with the greatest quantity of items, comprising 65.7% of the total Poverty Point types with 416 objects. Modified cylindrical (18.2%), biconical

(3.9%), cross-grooved (3.5%), modified biconical (3.3%), melon-grooved (2.4%), spheroidal (1.9%), biscuit (0.6%), cylindrical (0.3%), and one punctated type (0.2%) were found within the collection of Poverty Point Objects. Figures 41 and 42 show the quantity and weight of each Poverty Point type.

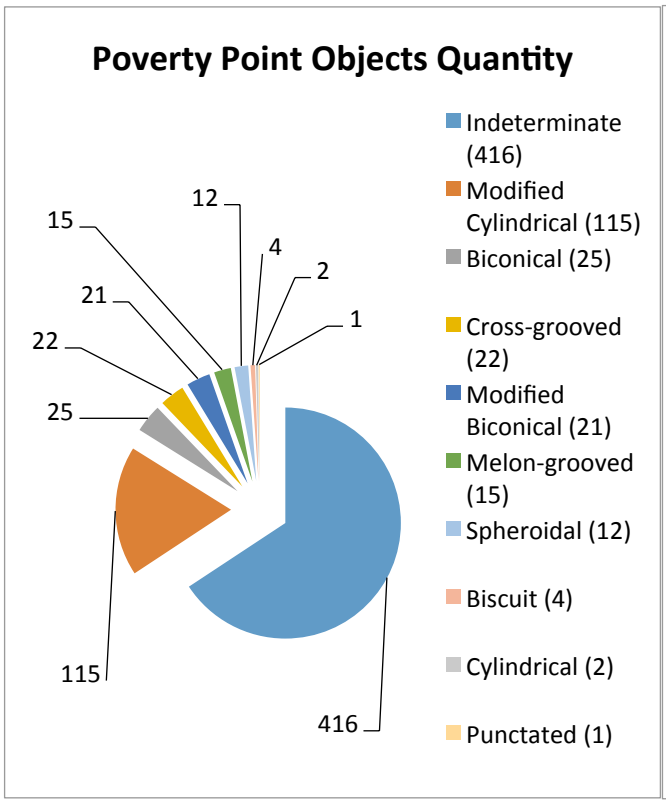


Figure 41: Poverty Point Objects Quantity

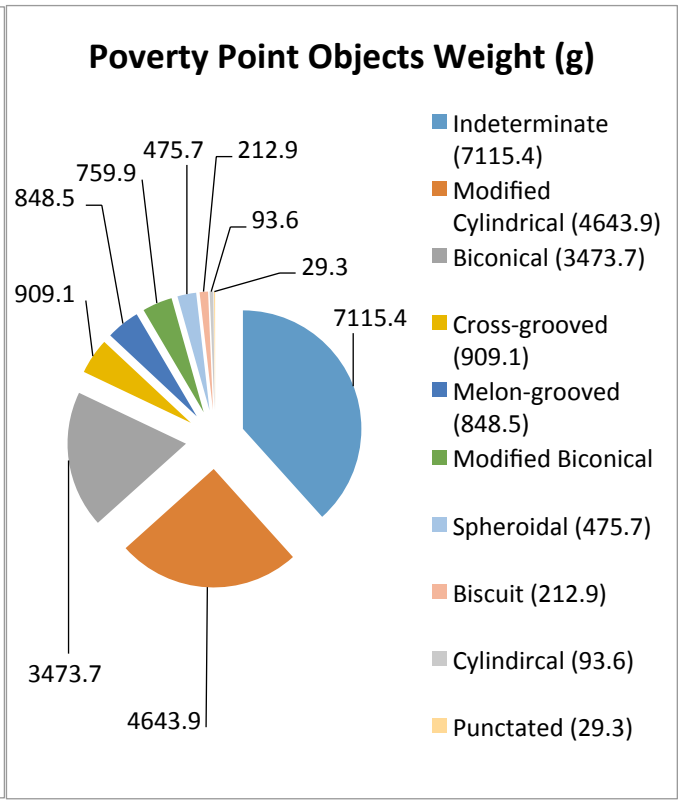


Figure 42: Poverty Point Objects Weight (g)

Class 3 Lithic Industry

The lithic industry has five categories of materials including *chipped stone*, *fractured rock*, *ground stone*, *hammerstone*, and *other*. The categories and their proportions are displayed in Table 15.

Table 15: Proportion of Lithic Industry

Classification	Quantity	% Quantity	Weight	% Weight
Chipped Stone	5,399	96.9%	26,031.8 g	82.6%
Fractured Rock	125	2.2%	3,995.1 g	12.7%
Other	34	0.6%	742.0 g	2.3%
Hammerstone	13	0.2%	259.3 g	0.9%
Ground Stone	4	0.1%	484.9 g	1.5%
Total	**5,575**	**100%**	**31,513.1 g**	**100%**

Chipped stone is the most abundant category in the lithic industry and it contains 5,399 objects, constituting 96.9% of the lithic industry. Fractured rock is the second most abundant (2.2%), followed by the other category (0.6%), hammerstones (0.2%), and ground stone (0.1%). The total number of lithics present in the collection is 5,575 items and the total weight of the lithic industry is 31,513.1 grams. The most abundant material in the collection for the lithic industry was chipped stone, as displayed below in Figures 43 and 44.

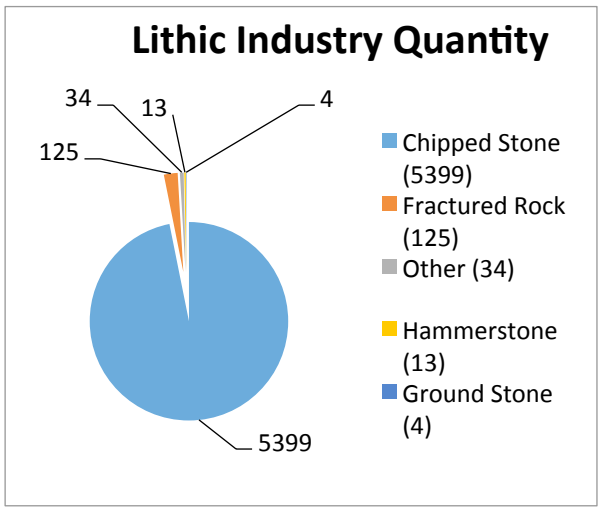


Figure 43: Lithic Industry Quantity

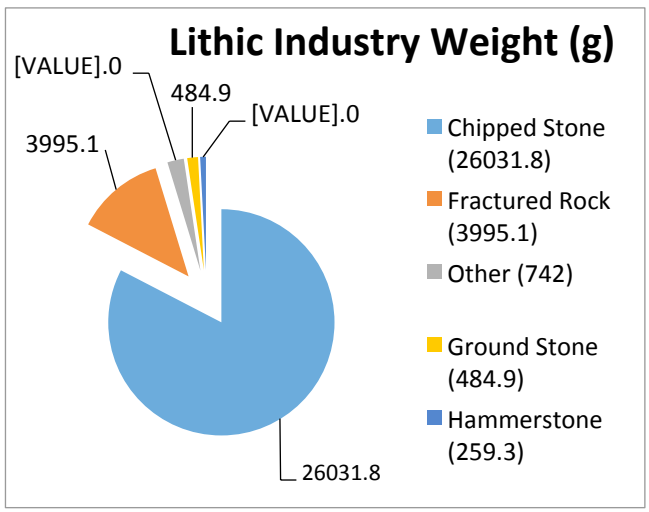


Figure 44: Lithic Industry Weight (g)

Class 4 Lithic Technology –Chipped Stone

There were five categories of chipped stone present in the collection: *tool*, *core*, *tester*, *debitage*, and *indeterminate* and their proportions are shown in Table 16.

Table 16: Proportion of Chipped Stone

Classification	Quantity	% Quantity	Weight	% Weight
Debitage	5,261	97.4%	21,473.5 g	82.5%
Core	69	1.3%	2,844.9 g	10.9%
Indeterminate	25	0.5%	550.5 g	2.1%
Tester	24	0.4%	977.3 g	3.8%
Tool	20	0.4%	185.6 g	0.7%
Total	**5,399**	**100%**	**26,031.8 g**	**100%**

Debitage represents 5,261 objects of chipped stone technology, or 94.7%. Cores comprise 1.3% of chipped stone. Indeterminate (0.5%), testers (0.4%), and tools (0.7%) are the least abundant categories of chipped stone. Debitage is by far the most extensive chipped stone category present. The total number of chipped stone technology in the collection is 5,399 items and the total weight is 26,031.8 grams. The quantities and weights of chipped stone categories are shown below in Figures 45 and 46.

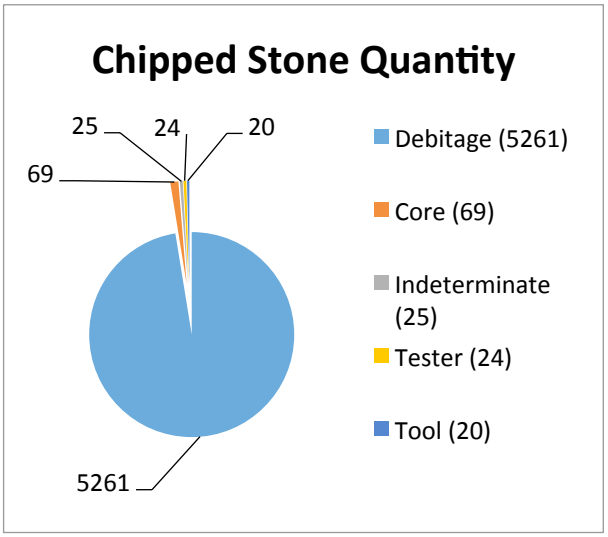


Figure 45: Chipped Stone Quantity

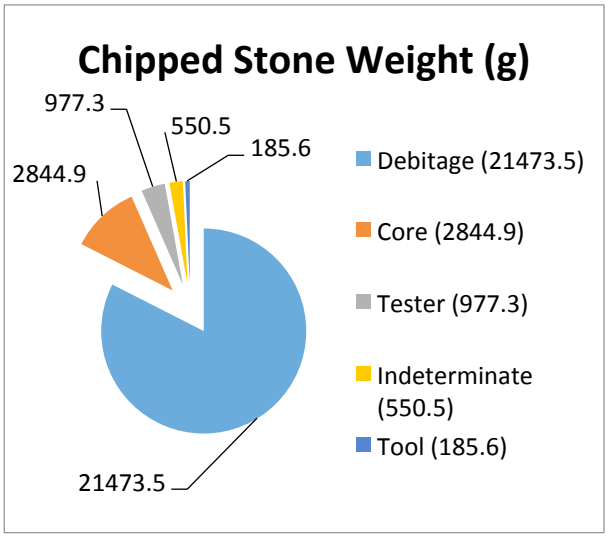


Figure 46: Chipped Stone Weight (g)

Chipped stone size grades provide information about the reduction sequence at a site. Size grades present in the collection are *1, 2, 3, 4, 5*, and *indeterminate* (Table 17).

Table 17: Proportion of Chipped Stone Size Grades

Classification	Quantity	% Quantity	Weight	% Weight
1	2,020	37.4%	16,222.9 g	62.3%
2	1,896	35.1%	2,953.5 g	11.3%
3	800	14.8%	674 g	2.6%
Indeterminate	471	8.7%	6,145.9 g	23.5%
4	168	3.1%	34.2 g	0.2%
5	44	0.8%	1.3 g	0.1%
Total	**5,399**	**100%**	**26,031.8 g**	**100%**

"Indeterminate" includes chipped stone for which a size grade was not complete, such as with cores and testers (8.7%). Size grade 1 accounts for 37.4% of all chipped stone, size grade 2 comprises 35.1%, size grade 3 is 14.8%, size grade 4 makes up 3.1%, and size grade 5 represents 0.8% of all the chipped stone. Figures 47 and 48 display the proportions of quantity and weight of chipped stone size grades.

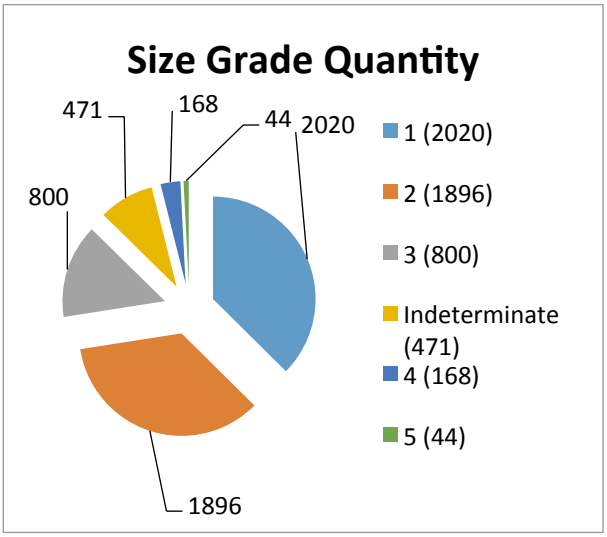


Figure 47: Size Grade Quantity

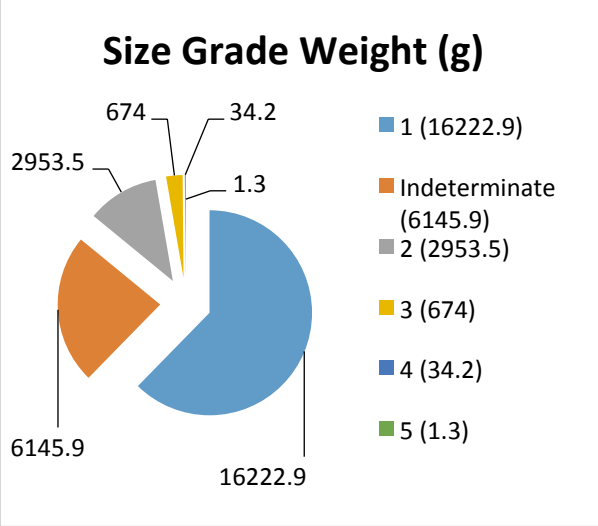


Figure 48: Size Grade Weight (g)

Chipped stone raw materials present in the collection include *citronelle*, *quartz/quartzite*, *chert*, *basalt*, *sandstone*, *hematite*, *slate*, and *indeterminate*. "Indeterminate" includes stone that have not been analyzed or do not fit into any of the other categories. Table 18 displays the proportion of each category present in chipped stone.

Table 18: Proportion of Chipped Stone Raw Materials

Classification	Quantity	% Quantity	Weight	% Weight
Citronelle	3,151	58.4%	15,409.6 g	59.2%
Indeterminate	1,622	30.0%	5,269.4 g	20.2%
Chert	308	5.7%	2,140.8 g	8.2%
Quartz/Quartzite	245	4.6%	2,000.8 g	7.7%
Slate	27	0.5%	222.2 g	0.9%
Basalt	24	0.4%	550.5 g	2.1%
Sandstone	17	0.3%	317.8 g	1.2%
Hematite	5	0.1%	120.7 g	0.5%
Total	**5,399**	**100%**	**26,031.8 g**	**100%**

Indeterminate stone is representative of 30% of the collection or 1,622 items. The following categories make up the largest quantity of the collection to the least, respectively: citronelle (58.4%), quartz/quartzite (4.6%), chert (5.7%), basalt (0.4%), sandstone (0.3%), hematite (0.1%), and slate (0.5%). The quantity and weight of the raw materials are illustrated in Figures 49 and 50.

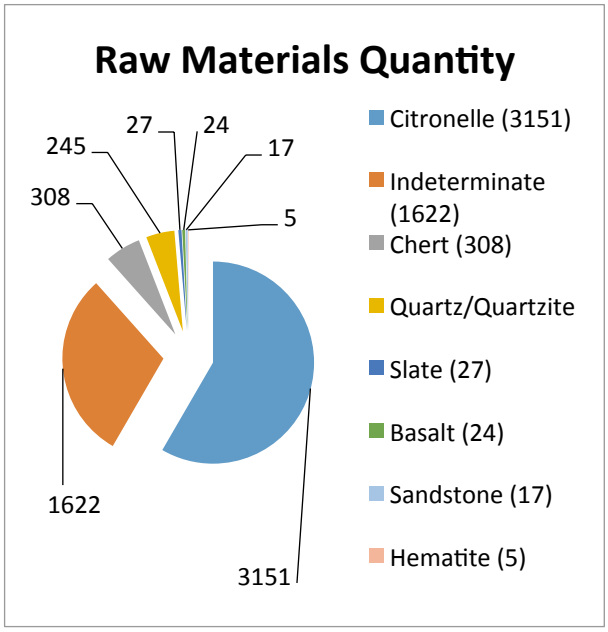


Figure 49: Raw Materials Quantity

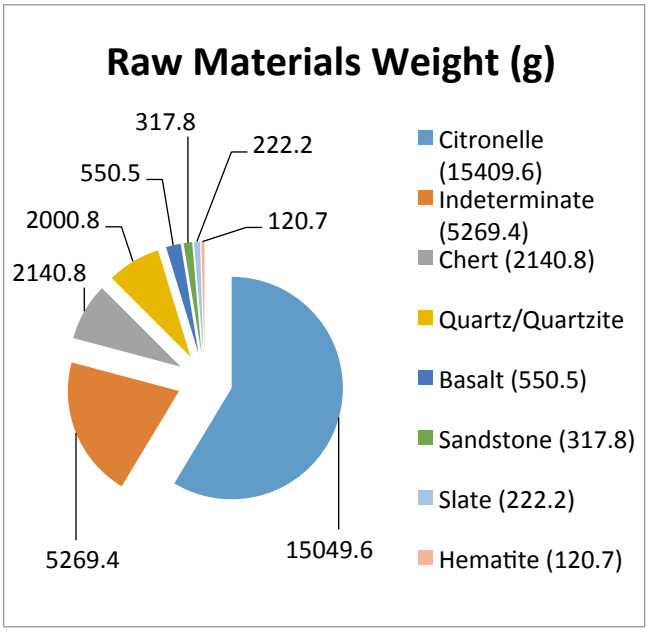


Figure 50: Raw Materials Weight (g)

Ground or polished stone is composed of four different categories: *adze*, *mortar*, *basalt*, and *indeterminate*, as shown in Table 19. An adze is a form of cutting tool that has been shaped from stone (Sutton and Arkush 2009:83). A mortar is a manufactured concavity of varying depth and diameter in a rock (Sutton and Arkush 2009:84). Basalt is a very hard stone that can be used for the purpose of grinding, pulverizing, crushing, or smoothing. The "indeterminate" category includes anything that did not fit into any of the ground/polished stone categories but had the attributes of a ground or polished stone.

Table 19: Proportion of Ground/Polished Stone

Classification	Quantity	% Quantity	Weight	% Weight
Adze	1	25%	301.7 g	62.2%
Mortar	1	25%	134.4 g	27.7%
Indeterminate	1	25%	32.7 g	6.7%
Basalt	1	25%	16.1 g	3.4%
Total	**4**	**100%**	**484.9 g**	**100%**

There were equal numbers of all four materials, one item each, which account for 25% of the collection individually. The total quantity of ground or polished stone objects is four and the weight of ground or polished stone objects is 484.9 grams. The quantity and weights of ground or polished stone categories are shown below in Figures 51 and 52.

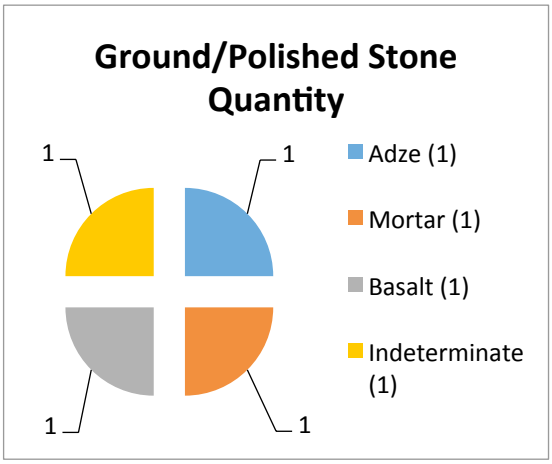


Figure 51: Ground/Polished Stone Quantity

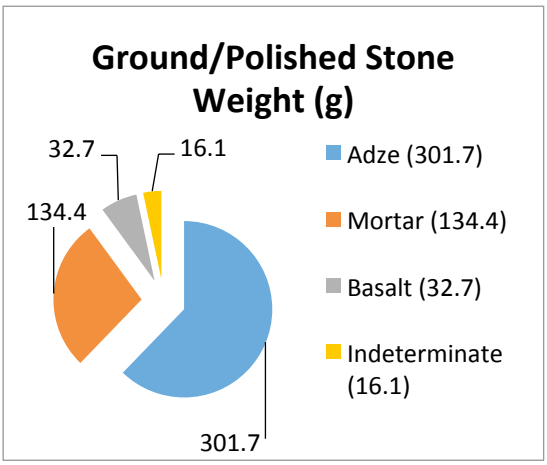


Figure 52: Ground/Polished Stone Weight (g)

"Fractured rock" contains two categories: *generic broken rock* and *fire cracked rock* (Table 20). In the collection, generic broken rock was more common than fire cracked rock.

Table 20: Proportion of Fractured Rock

Classification	Quantity	% Quantity	Weight	% Weight
Generic Broken Rock	95	76%	2,930.2 g	73.3%
Fire Cracked Rock	30	24%	1,064.9 g	26.6%
Total	**125**	**100%**	**3,995.1 g**	**100%**

There are 95 objects that were classified as generic broken rock that account for 76% of the fractured rock category. Fire-cracked rock represents 24% of the total number of

fractured rock with 30 items. The total quantity of fire cracked rock is 125 objects and the total weight is 3,995.1 grams. The quantity and weight of fractured rock is shown below in Figures 53 and 54.

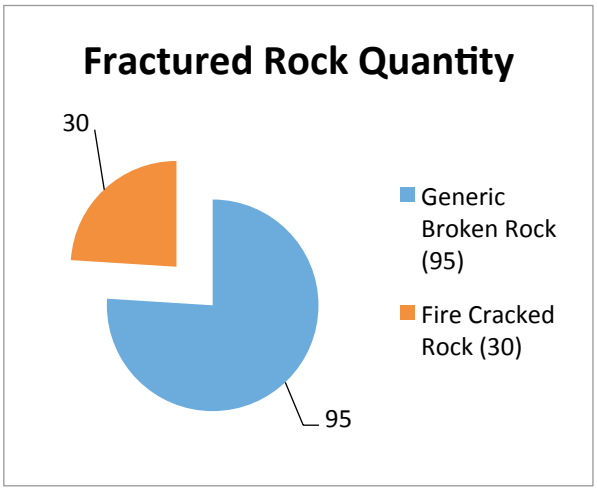


Figure 53: Fractured Rock Quantity

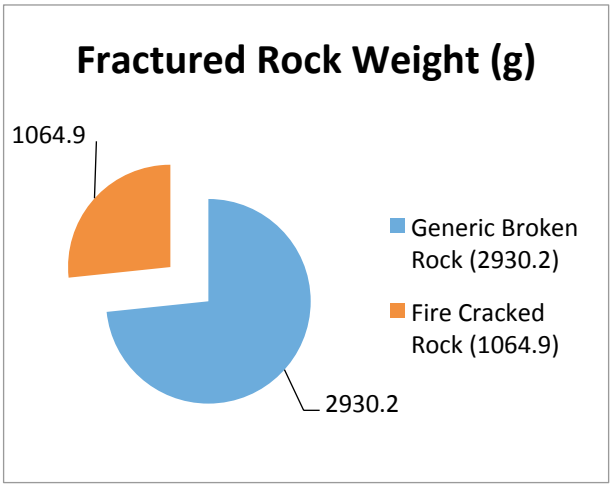


Figure 54: Fractured Rock Weight (g)

Class 2 Ecofact

Ecofacts can be subdivided into *flora*, *invertebrate*, and *vertebrate* (bone) (Table 21). The most abundant material present was vertebrate (bone). The collection contains both human and animal bones as well as evidence of an invertebrate, a mollusk shell.

Table 21: Proportion of Ecofacts

Classification	Quantity	% Quantity	Weight	% Weight
Vertebrate (Bone)	31	94.0%	298.1 g	94.9%
Invertebrate	1	3.0%	14.4 g	4.6%
Flora	1	3.0%	1.7 g	0.5%
Total	**33**	**100%**	**314.2 g**	**100%**

Based on identification processes, there are at least *Bos Taurus* (cow), *Cervidae* (deer), and human bone in the vertebrate category. The cow and deer may not relate to Jaketown's prehistoric occupation since the collection is a surface collection and may include animal remnants from modern times. There are 31 vertebrate (bone) objects present in ecofacts, which represent 94% of the category. Invertebrates and flora both only have one object present in the ecofact category, accounting for 3% each. Human bone and vertebrates dominate the ecofact objects in both quantity and weight as shown below in Figures 55 and 56.

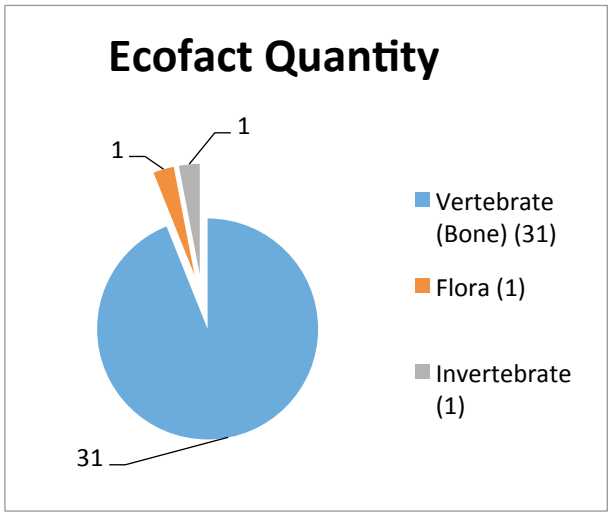


Figure 55: Ecofact Quantity

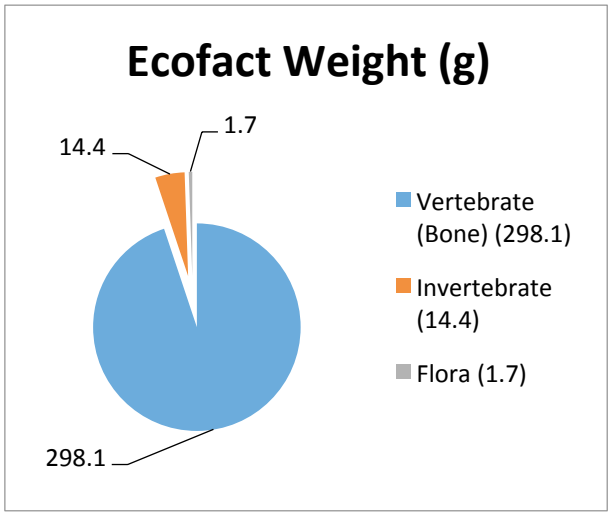


Figure 56: Ecofact Weight (g)

Class 3 Historic Materials

The category of historic materials in the Jaketown collection includes *glass*, *metal*, *plastic*, *pottery*, *tile*, and "*other*" materials (Table 22). The "other" group contained many unidentified materials and broken pieces that could not be recognized. The unidentified materials can be classified as historics based on their composition.

Table 22: Proportion of Historic

Classification	Quantity	% Quantity	Weight	% Weight
Other	39	37.1%	824.4 g	53.9%
Metal	28	26.7%	411.7 g	26.8%
Pottery	24	22.9%	206.2 g	13.5%
Glass	12	11.3%	83.9 g	5.5%
Plastic	1	1.0%	2.4 g	0.2%
Tile	1	1.0%	2.2 g	0.1%
Total	**105**	**100%**	**1,530.8 g**	**100%**

There are 39 "other" objects that constitute 37.1% of the historic materials. The proportion of the quantities of each category are metal (26.7%), pottery (22.9%), plastic (1%), and tile (1%). Figures 57 and 58 display the quantities and weights of the historic materials.

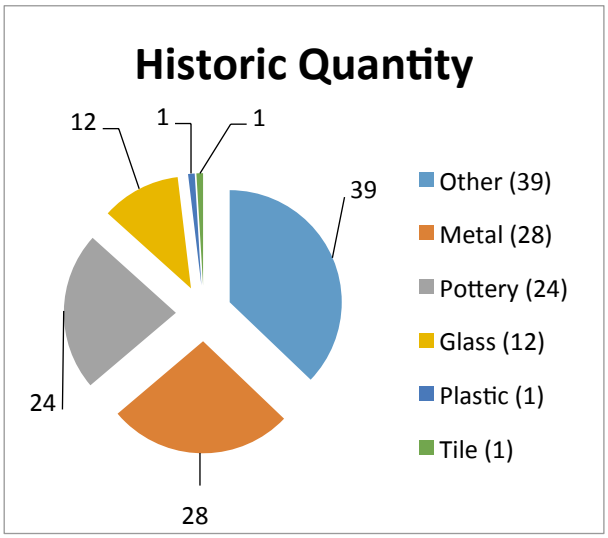


Figure 57: Historic Quantity

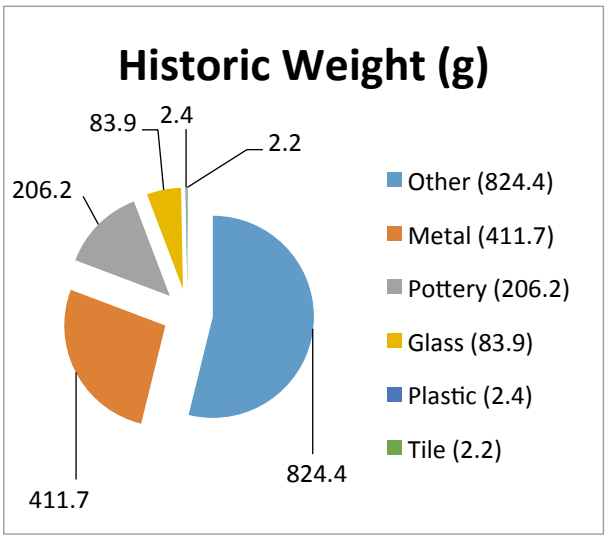


Figure 58: Historic Weight (g)

Class 3 Unmodified Rock

Unmodified rock includes any rocks that have not been manipulated at the site. Rock that has not been modified includes ten categories: *iron ore*, *lead ore*, *sandstone*, *slate*, *quartz*, *chalk*, *chert*, *basalt/pumice*, *other*, and *indeterminate* (Table 23).

Table 23: Proportion of Unmodified Rock

Classification	Quantity	% Quantity	Weight	% Weight
Iron ore	133	36.4%	4,293.3 g	47.7%
Chert	80	21.9%	2,122.2 g	23.6%
Indeterminate	56	15.3%	1,094.2 g	12.2%
Other	32	8.8%	250.2 g	2.8%
Sandstone	25	6.9%	488.0 g	5.4%
Quartz	25	6.9%	223.6 g	2.5%
Lead ore	4	1.1%	327.0 g	3.6%
Chalk	4	1.1%	23.0 g	0.3%
Basalt/pumice	4	1.1%	128.7 g	1.4%
Slate	2	0.5%	41.6 g	0.5%
Total	**365**	**100%**	**8,991.8 g**	**100%**

Iron ore represents 36.4% of the total unmodified rock, chert constitutes (21.9%), indeterminate (15.3%), other (8.8%), sandstone (6.9%), quartz (6.9%), slate (0.5%), and lead ore, chalk, and basalt/pumice each account for 1.1% of the unmodified rock in the collection. The amount of unmodified rock present at a site can be used to determine the types of activities were occurring during times of occupation. The total amount of unmodified rock is 365 items and the total weight is 8.991.8 grams. The quantity and weights of unmodified rock are shown in Figures 59 and 60.

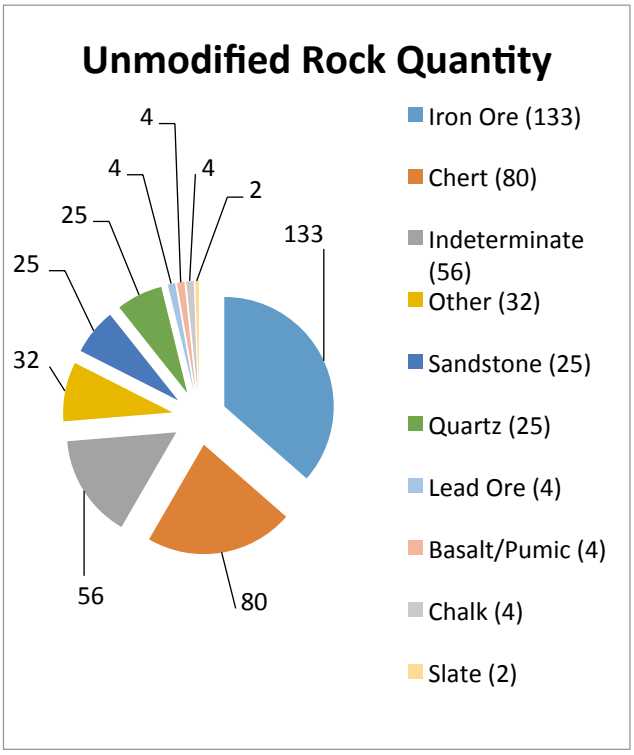


Figure 59: Unmodified Rock Quantity

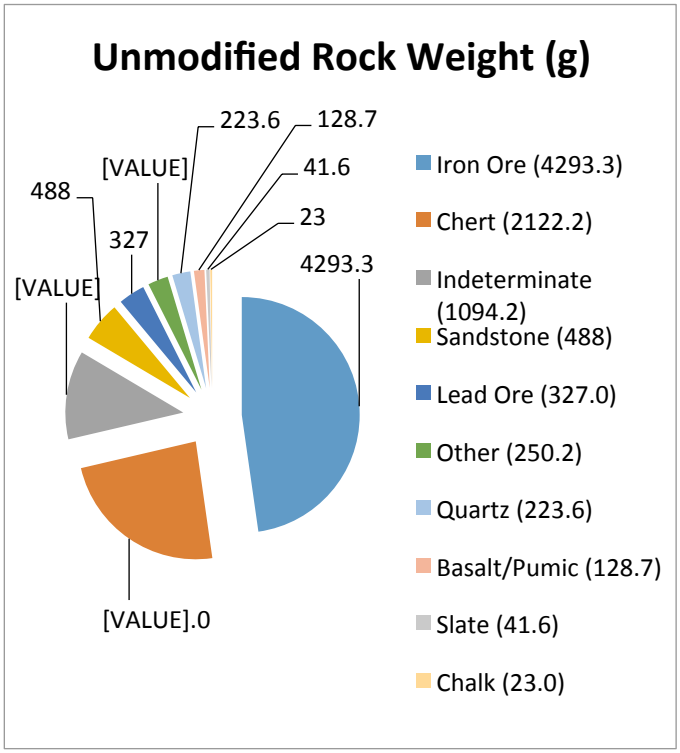


Figure 60: Unmodified Rock Weight (g)

Iron ore can be subdivided into four categories: *limonite*, *hematite*, *magnetite*, and *indeterminate.* The proportion of iron ores are shown in Table 24.

Table 24: Proportion of Iron Ore

Classification	Quantity	% Quantity	Weight	% Weight
Magnetite	56	42.1%	3,354.8 g	78.1%
Hematite	50	37.6%	45.0 g	1.1%
Indeterminate	25	18.8%	857.2 g	20.0%
Limonite	2	1.5%	36.3 g	0.8%
Total	**133**	**100%**	**4,293.3 g**	**100%**

Magnetite is the most abundant form of iron ore in the collection and it accounts for 42.1% of iron ore (n=56), hematite follows comprising 37.6%, indeterminate objects are next (18.8%), and finally limonite is the least abundant iron ore in the collection, accounting for (1.5%) of the total amount of iron ore (Table 24). The total number of iron ore present is 133 items and the total weight of iron ore is 4,293.3 grams. Figure 61 and 62 display the quantity and weight of iron ore categories.

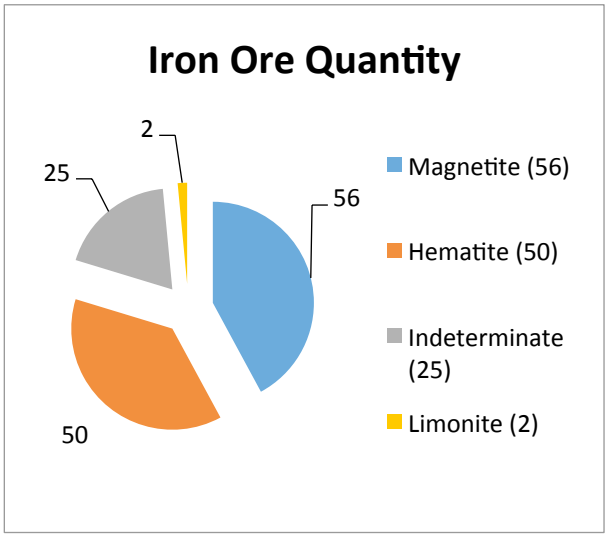


Figure 61: Iron Ore Quantity

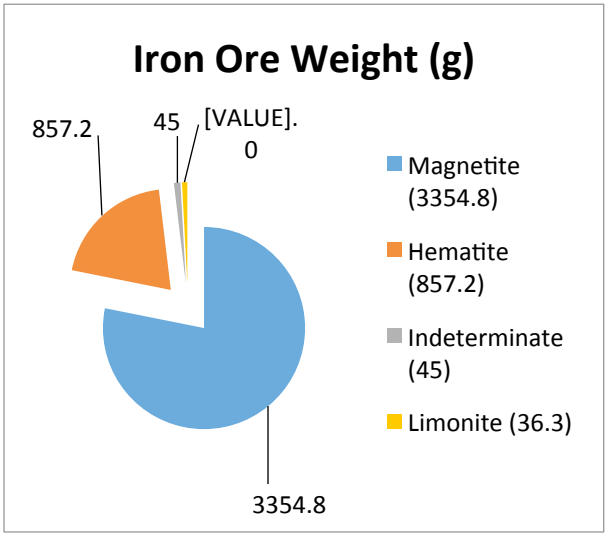


Figure 62: Iron Ore Weight (g)

UM Bag No. 13

I analyzed a sample of the collection, 257 artifacts and ecofacts, in UM Bag 13. UM Bag 13 represents 2.6% of the entire UM Jaketown collection quantity and 2.3% of the collection by weight. Looking at a smaller sample of artifacts allows me to complete more in-depth analyses.

Class 1 Division (Bag 13)

The basic classifications of the contents in UM Bag No. 13 are artifact, ecofact, and unmodified materials. Table 25 displays the proportion of Class 1 artifacts in Bag 13.

Table 25: Proportion of Class 1 (Bag 13)

Classification	Quantity	% Quantity	Weight	% Weight
Artifact	257	98.4%	2,134.7 g	98.9%
Ecofact	3	1.2%	19.5 g	0.9%
Unmodified	1	0.4%	2.6 g	0.2%
Total	**261**	**100%**	**2156.8 g**	**100%**

Bag 13 is mainly comprised of artifacts, 257, and majority of the weight is artifacts at 2,134.7 grams. 98.4% of the materials contained in UM Bag 13 are artifacts and by weight, these artifacts account for 98.9% of UM Bag 13. There are three ecofacts which weigh 19.5 grams. Ecofacts account for 1.2% of UM Bag 13. The weight of the ecofacts is 0.9% of the total weight of Bag 13. Unmodified materials constitute 0.4% of the collection. The one unmodified material present weighs 2.6 grams, making up 0.2% of Bag 13 by weight. Figures 63 and 64 display the raw proportions of quantity and weight of items in Bag 13.

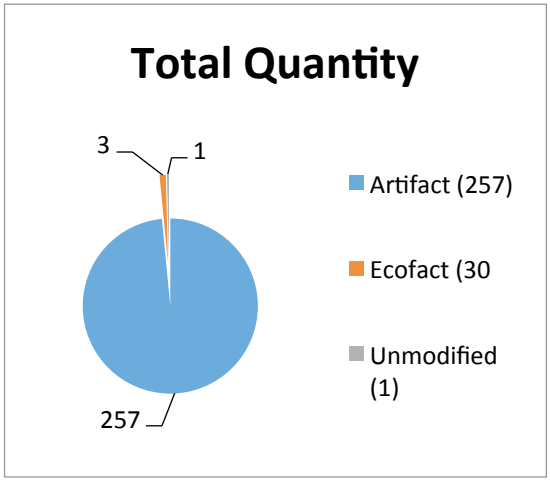


Figure 63: Total Quantity of Class 1 (Bag 13)

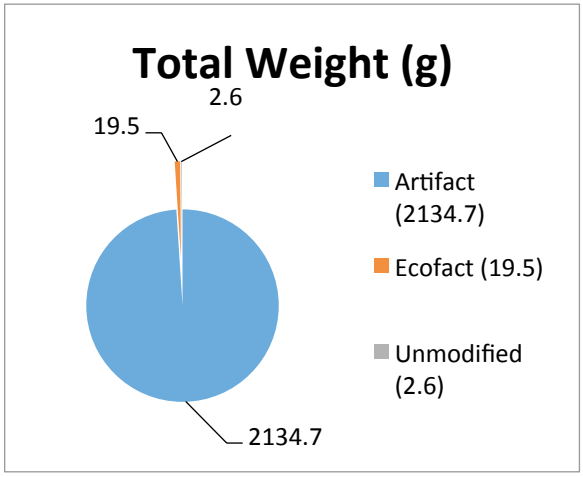


Figure 64: Total Weight of Class 1 (g) (Bag 13)

Class 2 Artifact (Bag 13)

The artifacts present in UM Bag No. 13 are lithic, ceramic, and historic materials. Table 26 illustrates the proportions of artifacts in Bag 13.

Table 26: Proportion of Artifacts (Bag 13)

Classification	Quantity	% Quantity	Weight	% Weight
Ceramic	249	96.9%	2,069.0 g	96.9%
Historic	6	2.3%	45.9 g	2.2%
Lithic	2	0.8%	19.8 g	0.9%
Total	**257**	**100%**	**2134.7 g**	**100%**

Ceramics are the predominant material, comprising nearly 97% of the assemblage, followed by historic materials (2.3%), and lithics (0.8%). Figures 65 and 66 illustrate the quantity and weight of each artifact category.

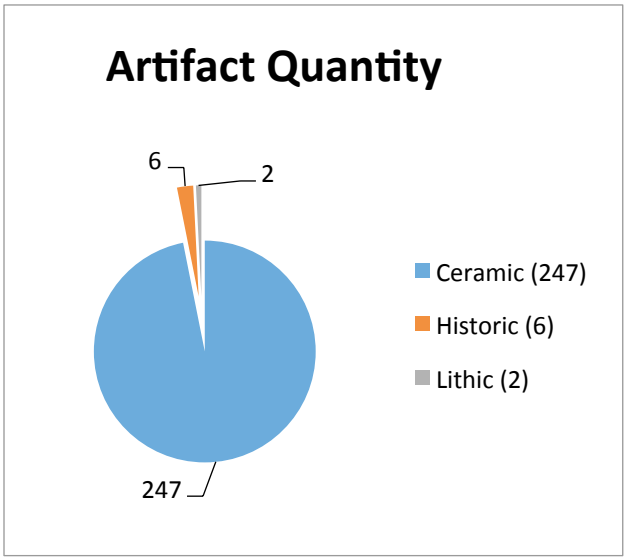


Figure 65: Artifact Quantity (Bag 13)

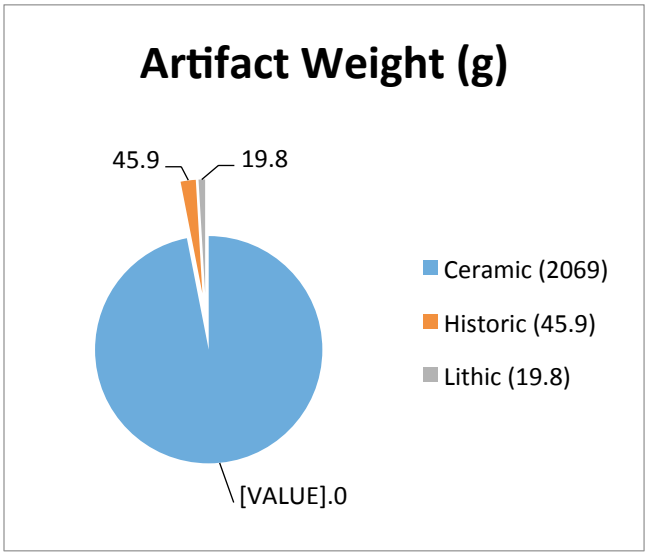


Figure 66: Artifact Weight (g) (Bag 13)

Class 3 Ceramic Industry (Bag 13)

The ceramic classes include pottery, shaped clay, and daub. The proportions of the ceramic industry are shown in Table 27.

Table 27: Proportion of Ceramic Industry (Bag 13)

Classification	Quantity	% Quantity	Weight	% Weight
Pottery	246	98.8%	2005.9 g	96.9%
Shaped Clay	2	0.8%	46.3 g	2.3%
Daub	1	0.4%	16.8 g	0.8%
Total	**249**	**100%**	**2069 g**	**100%**

The 246 pieces of pottery add up to 98.8% of the ceramic industry. The weight of "pottery" is 2,005.9 grams, which accounts for 96.9% of the weight of the ceramic industry. There are two pieces of shaped clay and one daub fragment. Tables 67 and 68 display the ceramic industry quantity and weights.

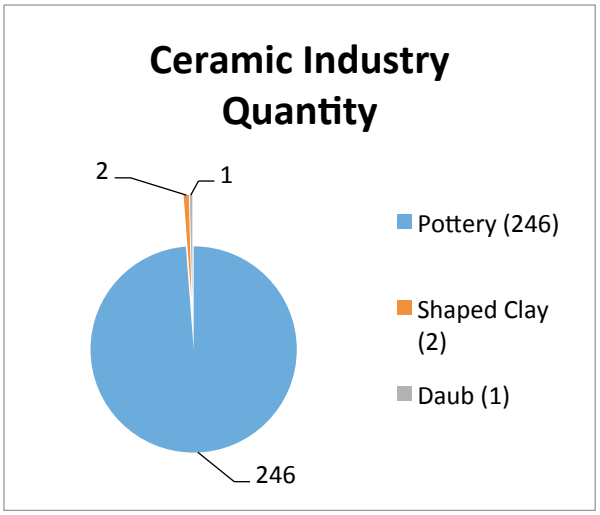


Figure 67: Ceramic Industry Quantity (Bag 13)

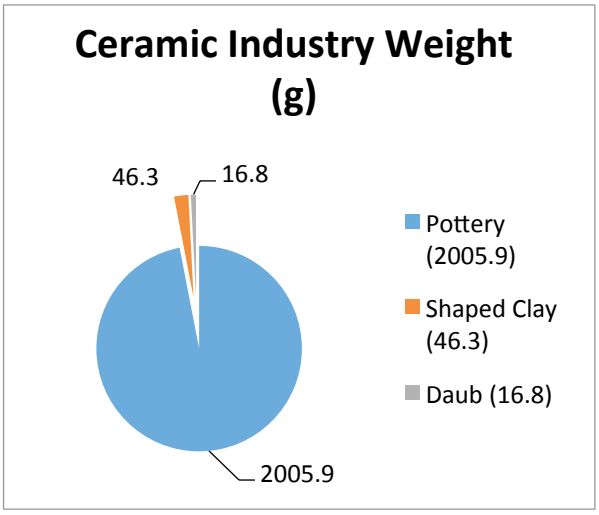


Figure 68: Ceramic Industry Weight (g) (Bag 13)

Class 4 Ceramic Technology – Pottery (Bag 13)

The first attribute of pottery that is taken into account, when sorting, is the morphology, or vessel form. Within the category of vessel form, pottery sherds can be classified as body, rim, shoulder, base, or near rim. Table 28 contains the quantity, weight, and percentages of each ceramic technology in Bag 13.

Table 28: Proportion of Vessel Morphology (Bag 13)

Classification	Quantity	% Quantity	Weight	% Weight
Body Sherds	197	80.1%	1407.4 g	70.2%
Rim Sherds	46	18.7%	552.7 g	27.6%
Shoulder/Base	3	1.2%	45.8 g	2.2%
Total	**246**	**100%**	**2005.9 g**	**100%**

Pottery can be further broken down into body sherds (n=197), which make up most of the assemblage (70.2%), rim sherds (18.7%), and three shoulder/base sherds (1.2%). Figures 69 and 70 illustrate the quantity and weight of pottery vessel morphology.

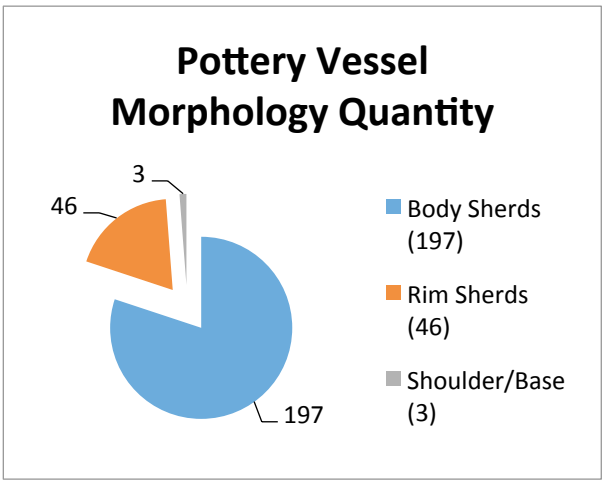


Figure 69: Pottery Vessel Morphology Quantity (Bag 13)

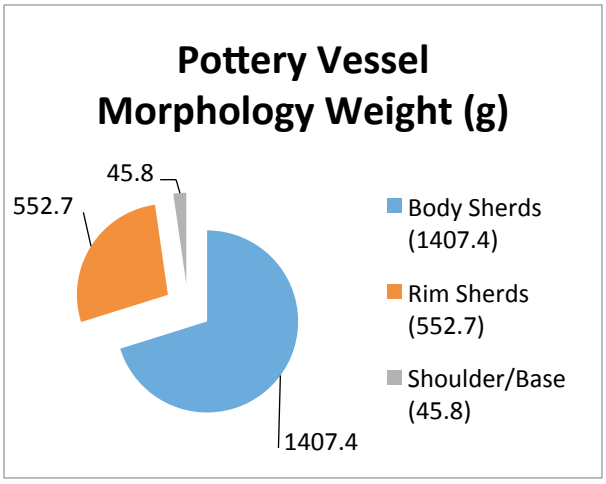


Figure 70: Pottery Vessel Morphology Weight (g) (Bag 13)

Pottery included both decorated or plain fragments, and Table 29 shows the relationship between pottery morphology and decoration.

Table 29: Proportion of Pottery Vessel Surface Quality (Bag 13)

Classification	Quantity	% Quantity	Weight	% Weight
Plain Body	178	72.4%	1290.0 g	65.1%
Plain Rim	35	14.2%	469.7 g	23.7%
Decorated Body	19	7.7%	117.4 g	5.9%
Decorated Rim	11	4.5%	60.1 g	3.0%
Plain S/B	3	1.2%	45.8 g	2.3%
Total	**246**	**100%**	**1983 g**	**100%**

Plain body sherds make up a majority of the pottery in Bag 13 (72.4%). Plain rim sherds (14.2%), decorated body sherds (7.7%), decorated rim sherds (4.5%), and plain S/B (shoulder/base) (1.2%), account for the rest of the pottery in Bag 13. The most common type of pottery surface quality present by count and weight is plain body sherds. The most common type of surface quality in general is plain. The quantities and weights are proportional; however, the reason the shoulder/base sherds have such a large weight is due

to the thickness of the pieces. Figures 71 and 72 display the quantity and weights of pottery vessel surface qualities.

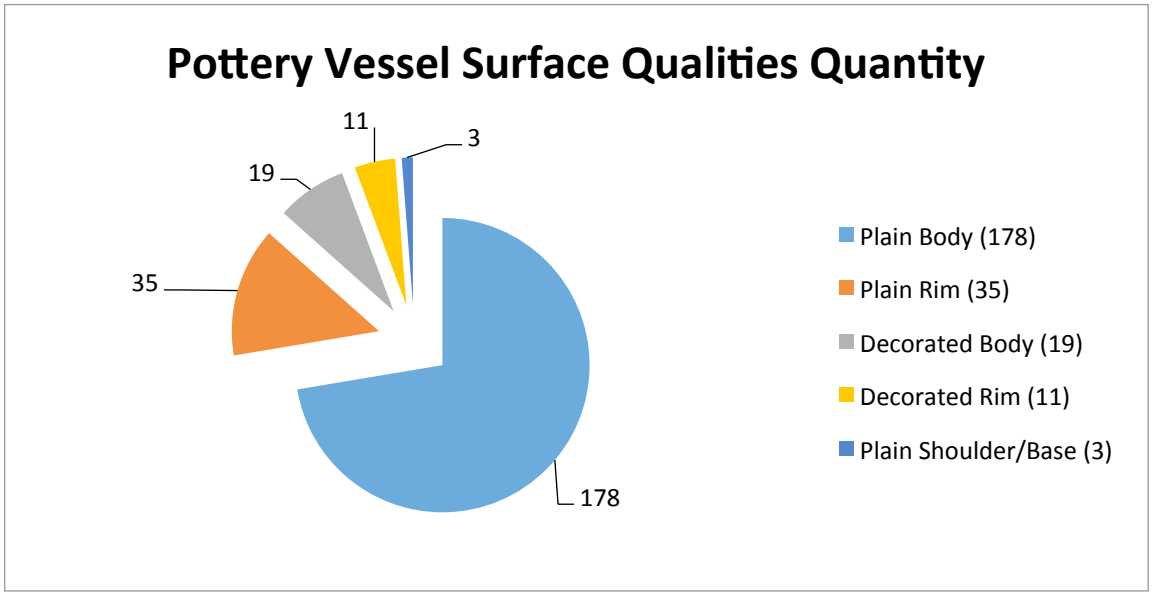


Figure 71: Pottery Vessel Surface Qualities Quantity (Bag 13)

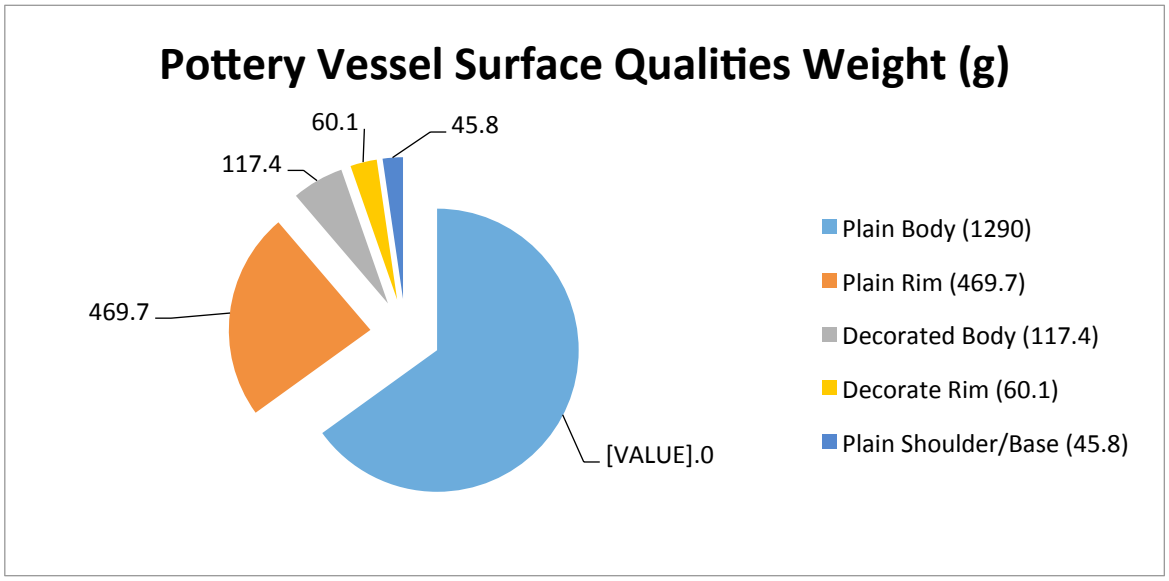


Figure 72: Pottery Vessel Surface Qualities Weight (g) (Bag 13)

The classifications of pottery vessel paste quality (temper) include body-grog, body-shell, body-none or indeterminate, rim-none or indeterminate, rim-grog, rim-shell, body-

fiber, shoulder/base-none or indeterminate, and shoulder/base-grog. Table 30 provides the proportions of pottery temper.

Table 30: Proportion of Pottery Vessel Paste Quality (temper) (Bag 13)

Classification	Quantity	% Quantity	Weight	% Weight
Body – Grog	74	33.9%	597.3 g	32.7%
Body – Shell	68	31.2%	330.2 g	18.1%
Body – None/Id	27	12.4%	326.6 g	17.9%
Rim – None/Id	15	6.9%	215.3 g	11.8%
Rim – Grog	13	5.9%	226.1 g	12.4%
Rim – Shell	9	4.1%	51.2 g	2.8%
Body – Fiber	9	4.1%	35.9 g	1.8%
S/B – None/Id	2	1.0%	23.7 g	1.3%
S/B – Grog	1	0.5%	22.1 g	1.2%
Total	**218**	**100%**	**1828.4 g**	**100%**

The body-grog category contains 74 items (33.9%) of the pottery in Bag 13. Body-shell (31.2%), body-none/indeterminate (12.4%), rim-none/indeterminate (6.9%), rim-grog is (5.9%), rim-shell (4.1%), body-fiber (4.1%), two shoulder/base fragments with no temper (1.0%), and one shoulder/base sherd (0.5%) are also present in Bag 13. Differences within proportions between quantities and weights can be attributed to the different sizes of sherds present. The most common type of pottery surface temper in general by count and weight is grog temper. Figures 73 and 74 provide graphs of the quantity and weight of each pottery temper category in Bag 13.

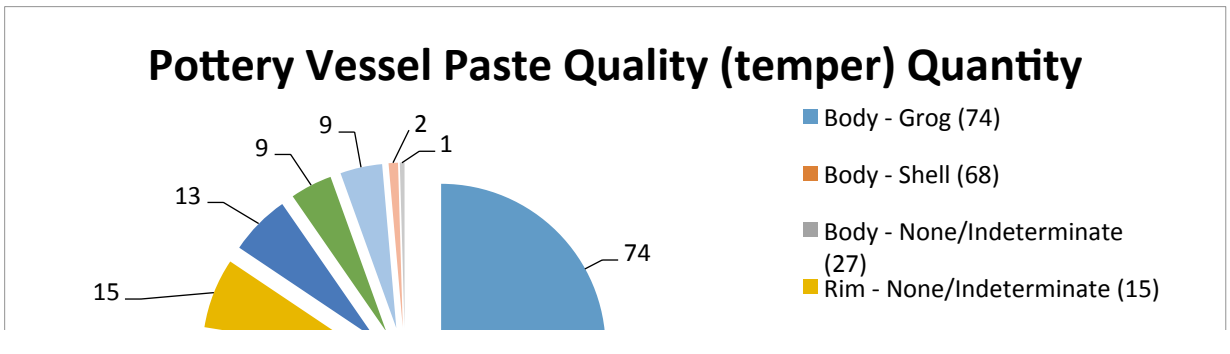


Figure 73: Pottery Vessel Paste Qualities (temper) Quantity (Bag 13)

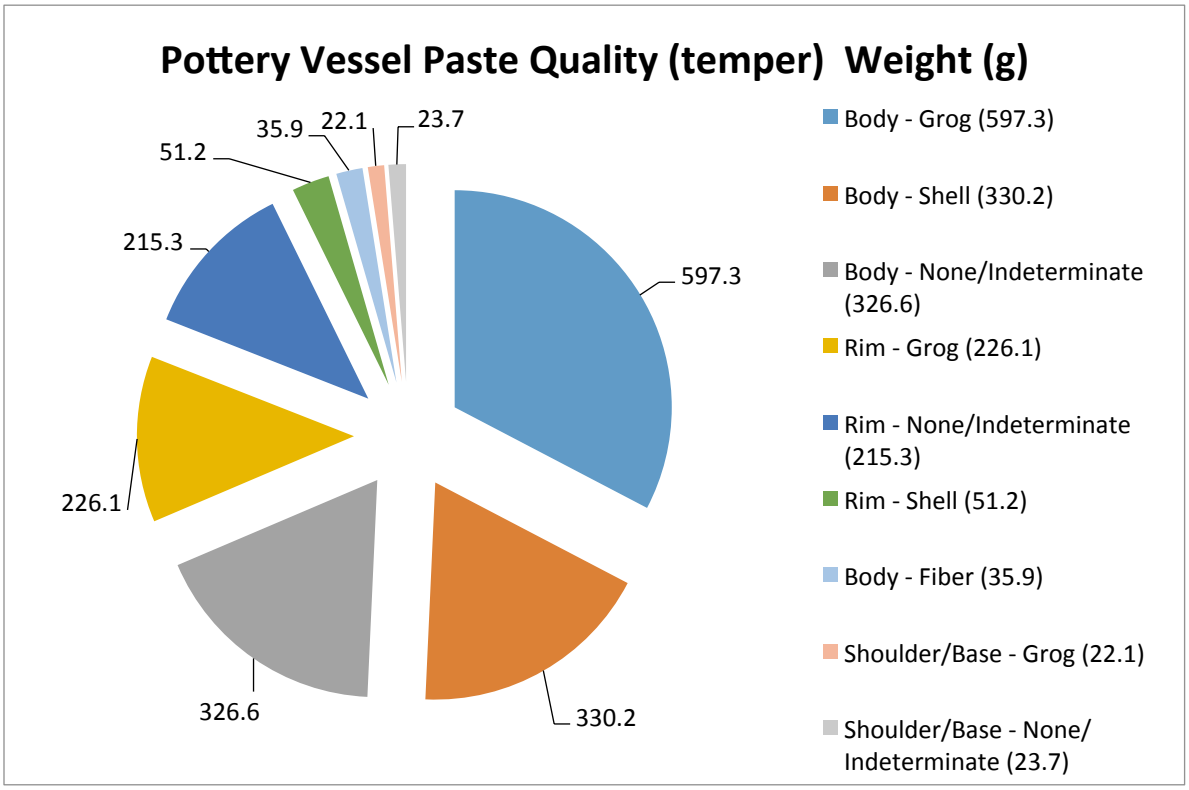


Figure 74: Pottery Vessel Paste Qualities (temper) Weight (g) (Bag 13)

The pottery types present include ceramics diagnostic of Tchula through Mississippian periods. I did not complete more in depth analysis, such as determining vessel opening size and vessel diameter; however, I attempted to classify the sherds based on the

observations I already made. The quantity and percent quantity of pottery types is displayed in Table 31.

Table 31: Proportion of Pottery Types (Bag 13)

Classification	Quantity	% Quantity
Baytown Plain	136	55.3%
Mississippian Plain	89	36.4%
Indeterminate	7	2.7%
Mulberry Creek Cord marked	4	1.6%
Parkin Punctated	4	1.6%
Coles Creek Incised	2	0.8%
Tchefuncte	2	0.8%
Larto Red	1	0.4%
Winterville Incised	1	0.4%
Total	**246**	**100%**

Tchefuncte pottery was the most common type found from the Tchula period during the excavations in 1951 (Ford et al. 1955:64). *Tchefuncte* is characterized by grog temper with surfaces that are soft and chalky to the feel, frequently with crackling (Ford et al. 1955:67). I found two sherds of *Tchefuncte* pottery present within UM Bag No. 13, accounting for 0.8% of pottery types.

Baytown Plain is the most common every-day pottery that is present in the Lower Mississippi Valley (Ford et al. 1955:77). It is primarily grog-tempered, generally well-fired, and has surface treatments that range from coarse to smooth and burnished. *Baytown Plain* can be easily distinguished from *Tchefuncte* because of its relative hardness and superior surface qualities (Ford et al. 1955:79). *Baytown Plain* is a hallmark of the Baytown Period in the Late Woodland and represents a majority of the sherds from the 1951 excavations (Ford

et al. 1955:76). I found 136 sherds of *Baytown Plain* present within UM Bag No. 13 for a percent quantity of 55.3%.

Mississippian Plain can be determined by its identifiable crushed shell temper that tends to be coarse (Ford et al. 1955:99). This type of pottery is representative of the Mississippian period. A majority of the sherds from this time period were originally categorized as *Mississippian Plain* (Ford et al. 1955:61). I found 89 sherds of *Mississippian Plain* present within UM Bag No. 13, constituting 36.4% of pottery types. Other Mississippian Period pottery types that were present include *Parkin Punctated* and *Winterville Incised*. I found four *Parkin Punctated* sherds, accounting for 1.6% of pottery types in Bag 13, characterized by their stamped and impressed shapes. I also found one *Winterville Incised* sherd, adding up to 0.4% of pottery types in Bag 13. Winterville pottery is characterized by broad arched lines with "trailing," which is indicative of incising on a wet clay surface.

Other pottery types associated with the Late Woodland period that were present in this collection are *Mulberry Creek Cord marked, Larto Red,* and *Coles Creek Incised. Mulberry Creek Cord marked* is characterized by its grog temper, cord-textured exterior surface, and stamping near the rim (Ford et al. 1955:87). I found four *Mulberry Creek Cord Marked* sherds within UM Bag No. 13 and these four sherds comprise 1.6% of pottery types in Bag 13. *Larto Red* is characterized by its grog temper, red slip, and occasional incising near the rim (Ford et al. 1955:86). I found one *Larto Red* sherd, accounting for 0.4% of pottery types, present within UM Bag No. 13. I also found two sherds of *Coles Creek Incised*, which is characterized by grog temper, intense burnishing, and incising which makes up 0.8% of the pottery types in Bag 13 (Ford et al. 1955:95).

There are seven sherds that I had to typify as indeterminate. They all had some very interesting characteristics, but I was not able to place them within one of the specific categories described within the resources. One sherd has a buffy which is a paste made from clay, and it has a distinguishable look to it once the paste begins to come off. A majority of the indeterminate sherds have deep incised lines with no evidence of trailing and also a shell temper. These sherds came from extremely well made pieces of pottery. Figure 75 illustrates the quantities of each pottery type present in Bag 13.

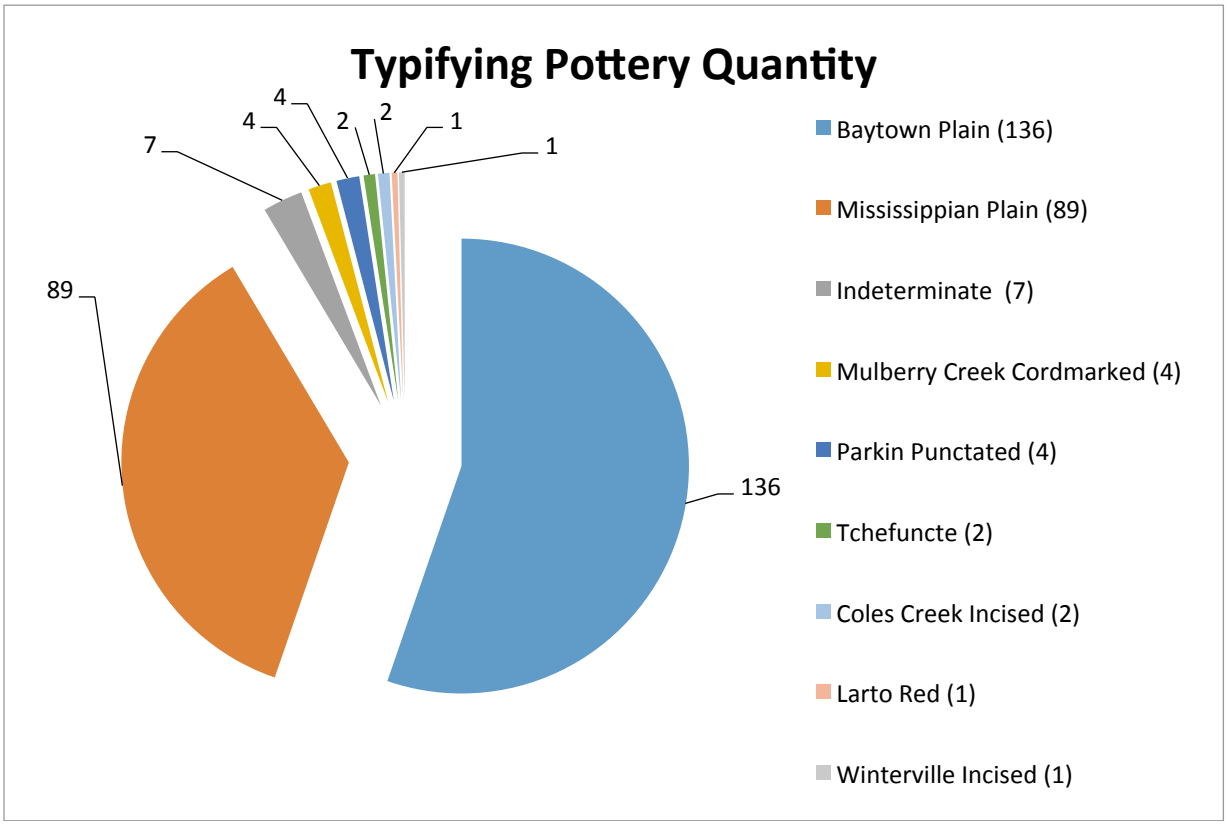


Figure 75: Typifying Pottery Quantity (Bag 13)

Figure 76 provides an example of what a base sherd

looks like. These pottery sherds are typically rounded as opposed to being flat. There are two examples of shoulder sherds in Figure 77. Shoulder sherds are also rounded but have more of an angle than a base sherd. Decoration on pottery can vary but figure 78 shows two different examples of rim sherd decoration. The sherd on the left in Figure 78 is a lipped rim sherd and the sherd on the right has indentions along the rim.

Figure 76: Example of Base Sherd

Figure 77: Example of Shoulder Sherd

Figure 78: Examples of Rim Sherd Decoration

Figure 79 contains two different body sherds with slip. The sherd on the left has a "buffy coat" slip that has a unique look when it degrades. The sherd on the right in Figure 79 has a typical slip and can be defined specifically as "Larto Red" pottery type. Figure 80 shows multiple pottery types. The sherd on the left is an example of Mulberry Creek Cord-marked. The three pottery sheds on the right are examples of Parkin Punctated.

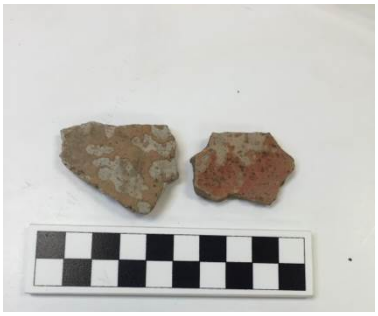


Figure 79: The pottery sherd on the left is the indeterminate piece of pottery with the buffy coat. The piece of pottery on the right is an example of Larto Red

Figure 80: The pottery sherd on the left is an example of Mulberry Creed Cord Marked. The three pottery sherds on the right are examples of Parkin Punctated

Class 3 Lithic Industry (Bag 13)

The lithics present are only one chipped stone and one indeterminate object (Table 32). The indeterminate object is a type of worked stone that may have been a bead or a pendant and the piece of chipped stone is a blade.

Table 32: Proportion of Lithic Industry (Bag 13)

Classification	Quantity	% Quantity	Weight	% Weight
Chipped Stone	1	50%	1.0 g	5.1%
Other	1	50%	18.8 g	94.9%
Total	**2**	**100%**	**19.8 g**	**100%**

The piece of chipped stone weighs 1.0 gram and accounts for 5.1% of chipped stone by weight. The indeterminate object weighs 18.8 grams and provides 94.9% of the weight of chipped stone in Bag 13. The indeterminate object, shown in Figure 84, seems to be a bead or pendant and may be representative of a previously unknown attribute at Jaketown of Poverty Point culture. Since this collection is a surface collection, it is almost impossible to accurately make this determination. Figure 81 and Figure 82 show the quantity and weight of the lithic industry.

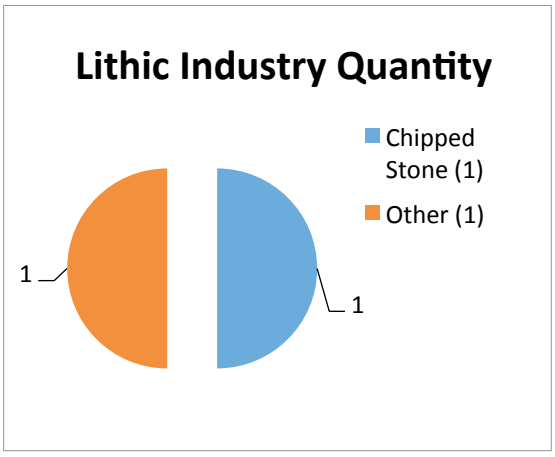


Figure 81: Lithic Industry Quantity (Bag 13)

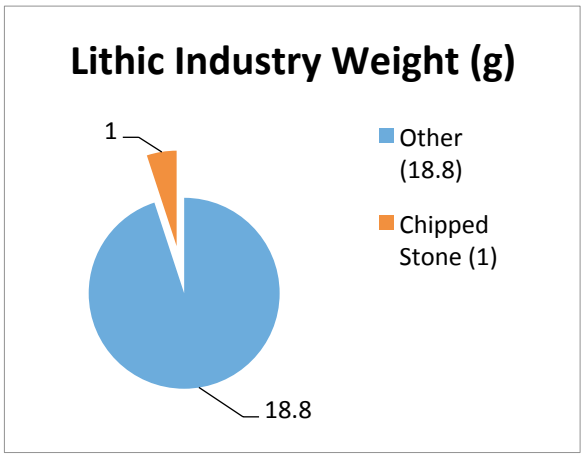


Figure 82: Lithic Industry Weight (g) (Bag 13

Figure 83: Chipped Stone Blade

Figure 84: Indeterminate Lithic

The only type of chipped stone present in UM Bag 13 was one piece of debitage, Figure 83. This piece of debitage is a blade and is made of heat treated citronelle, which is known due to the deep red color and glassy texture. The blade is a size grade 3 and is a tertiary flake. I cannot do a proper analysis of the chipped stone in terms of "lithic reduction" at the site because I do not have enough lithics present within this bag. However, this is a very interesting piece of chipped stone and I have included three photographs of it: Figures 85, 86, and 87.

Figure 85: Heat Treated Citronelle Blade

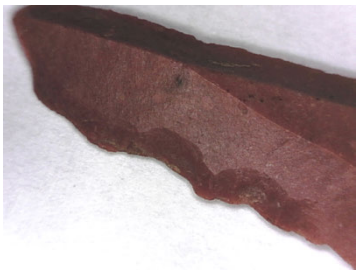


Figure 87: Blade – Side 2

Figure 86: Blade – Side 1

Class 2 Ecofact (Bag 13)

The only class of ecofacts present is bone. There are two pieces of unburned bone and one piece of burned bone present. Table 13 shows the proportions of ecofacts in Bag 13.

Table 33: Proportion of Ecofact (Bag 13)

Classification	Quantity	% Quantity	Weight	% Weight
Unburned bone	2	66.7%	15.9 g	81.8%
Burned bone	1	33.3%	3.5 g	18.2%
Total	**3**	**100%**	**19.4 g**	**100%**

The two pieces of burned bone weigh 15.91 grams and the piece of unburned bone weighs 3.53 grams. The percent quantity of unburned bone is 66.7% and the percent weight is 81.8%. The percent quantity and weight of burned bone are 33.3% and 18.2% respectively. The two pieces of unburned bone are a scapula and an unidentified bone. The unidentified bone contains gnaw marks and is unburned, which means it was most likely scavenged. The burned bone is a piece of long bone. Three pieces of bone are shown in Figure 90. Due to the nature of this collection, it is not possible to determine if these bones are from prehistoric or historic times. Figures 88 and 89 display the quantity and weight of ecofacts in Bag 13.

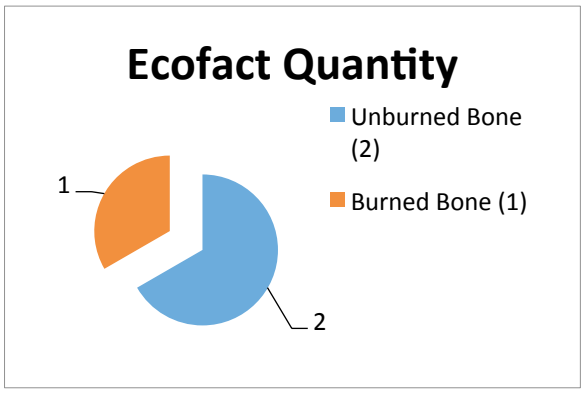


Figure 88: Ecofact Quantity (Bag 13)

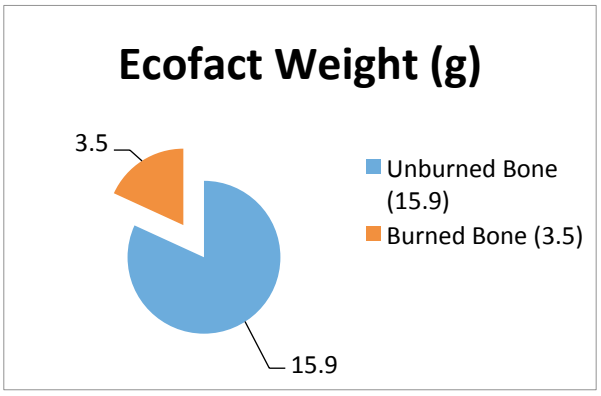


Figure 89: Ecofact Weight (g) (Bag 13)

Figure 90: The bone on top is the burned long bone and the two bones on the bottom are the unburned scapula and unidentified bone.

Class 3 Historic Materials (Bag 13)

The historic materials present are plastic, metal/wood, and other. The metal/wood category contains chain links, a fishing hook, and petrified wood. Table 34 displays the proportions of historic materials

Table 34: Proportion of Historic Materials (Bag 13)

Classification	Quantity	% Quantity	Weight	% Weight
Metal/Wood	4	66.6%	17.6 g	38.4%
Other (brick)	1	16.7%	25.9 g	56.4%
Plastic	1	16.7%	2.4 g	5.2%
Total	**6**	**100%**	**45.9 g**	**100%**

Metal/wood constitutes 66.6% of historic materials present in Bag 13, adding up to four items. The weight of "metal/wood" is 17.6 grams and the percent weight is 38.4%. Other (brick) and plastic categories each contain one item that comprise 16.7% of historic materials each. The weight and percent weight of other (brick) is 25.9 grams and 56.4%. The weight and percent weight of plastic is 2.4 grams and 5.2% of historic materials in Bag 13. Figures 91 and 92 illustrate the quantity and weight of each category of historic materials.

Figure 91: Historic Quantity (Bag 13)

Figure 92: Historic Weight (g) (Bag 13)

CHAPTER V: DISCUSSION AND CONCLUSION

A goal of this thesis was to present an analysis of the University of Mississippi Jaketown collection based on the lab documentation that occurred over the course of a year. The second goal of the thesis was to determine whether this collection contained any of the 23 attributes for Poverty Point culture that previous Jaketown collections have exhibited. The collection at the University of Mississippi provides more information about Jaketown and its many occupations, specifically during the Poverty Point period. The last goal of this thesis was to determine if the entire ceramic chronology of the Lower Mississippi Valley was present within the University of Mississippi Jaketown collection.

Through analysis and classification, I was able to provide quantities and weights of the classes, industries, technologies, and specific artifact types that encompass the surface collection. It is important to realize that analysis is not exclusively based on descriptions. Analysis allows the archaeologist to address wider research questions and interpret findings. Also, proper curation processes have to be noted and followed in order to make the collection accessible for future research. The data that I presented in Chapter IV will be re-assessed and compared with previous excavations that have been completed at Jaketown as well as other Poverty Point sites.

A comparison of data collected from the analysis of the University of Mississippi (UM) Jaketown collection with data collected from Ford et al. (1955) and Lehman (1982) shows that the proportions of Poverty Point Objects are consistent. Table 36 shows the type

frequencies of Poverty Point Objects present from collections in 1955, 1982, and from the current UM 2016 collection. Ford et al. (1955) and UM 2016 have large quantities of unclassified Poverty Point objects. The most abundant, classified Poverty Point object found for all collections is *cylindrical, laterally grooved*. The second most abundant type of Poverty Point Object found is *biconical* varieties, followed by *cross-grooved* types. Ford et al. (1955) did not differentiate between biconical Poverty Point Objects as Lehman and the UM Jaketown collection did. Instead, they listed all types under "Biconical, all varieties."

Table 35: Poverty Point Objects from Ford et al. 1955, Lehman 1982, and UM 2016 (Modified from Lehman 1982:45)

Type	**1955**	**1982**	**2016 (UM)**
Biconical, all varieties	485, **4.1%**	102, **9.2%**	21, **3.3%**
Biconical, plain		61, **5.5%**	25, **4.0%**
Biconical, extruded		29, **2.6%**	
Biconical, punched		6, **0.5%**	
Biconical, grooved		6, **0.5%**	
Cylindrical, laterally grooved	1411, **12.3%**	706, **63.3%**	115, **18.2%**
Cylindrical, plain	2, **0.02%**	11, **1.1%**	2, **0.3%**
Cross-grooved	413, **3.6%**	155, **13.9%**	22, **3.5%**
Biscuit-shaped		7, **0.6%**	4, **0.6%**
Spheroidal, plain	29, **0.2%**	17, **1.7%**	12, **1.9%**
Melon-shaped, grooved		11, **1.1%**	15, **2.4%**
Unclassified	9226, **79.8%**		416, **65.8%**
Total	*11566*	*1117*	*632*

Of the 29 diagnostic attributes of Poverty Point sites, Jaketown is considered to have 23 (Webb 1982:70). After completing analysis of the entire University of Mississippi Jaketown collection, I found it to have 12 previously published Poverty Point attributes and a possible new attribute in the UM Collection. Table 35, below, displays the diagnostic traits of Poverty Point culture, the 23 attributes that Jaketown has been determined to have (according to Webb), and the 12 attributes that I found in the University of Mississippi collection. These 12 attributes include semicircular settlement, that was confirmed by the National Register of Historic Places document (McGahey1972), and conical mounds, which are still visible at the Jaketown site today. Figure 93 shows the present-day view of Jaketown, confirming the existence of Mounds B and C.

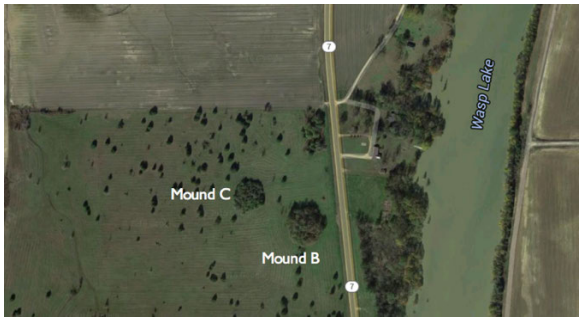


Figure 93: Present day view of Jaketown (Google Earth 2016)

A possible new addition to Jaketown's known attributes is based on the indeterminate pendant/bead that was discussed in the analysis of UM Bag 13. Although this analysis is based on a surface collection, there have been similar beads/pendants found at Poverty Point. An example from Webb 1982 is shown in Figure 93 and compared with the possible pendant/stone bead found in the Jaketown collection. I am unsure whether this pendant/stone bead would fall under the category "Pendants, polished stone" or "Other stone beads." If this is in fact a new Poverty Point period attribute for Jaketown, it would further the idea that

Jaketown's Poverty Point occupation may have predated Poverty Point's (Poverty Point) occupation.

Table 36: Diagnostic Poverty Point attributes of Jaketown (based on other collections) and UM Jaketown Collection (Modified from Webb 1982)

Poverty Point Attributes	Jaketown's determined 23 attributes (Webb 1982)	Attributes present in UM Collection
Poverty Point Objects	**X**	**X**
Tubular Pipes	**X**	
Clay Figurines		
Stone Vessels	**X**	
Microflints	**X**	**X**
Rough Green Hoes, Celts	**X**	
Hematite, Magnetite Plummets	**X**	**X**
Jasper beads, Ornaments		
Consistent Projectile Points	**X**	**X**
Consistent Chipped Tools	**X**	**X**
Adzes	**X**	**X**
2-hole Gorgets	**X**	
Pendants, Polished Stone		**?**
Boarstones	**X**	
Bannerstones	**X**	**X**
Bar Weights, Tablets	**X**	
Other Stone Beads		**?**
Sandstone Saws	**X**	
Fiber-tempered Pottery	**X**	**X**
Galena	**X**	**X**
Quartz	**X**	**X**
Other Plummets		
Mortars, Mutlers	**X**	**X**
Pitted Stones		
Groundstone Celts	**X**	
Semicircular Settlement	**X**	**X**
Liner Settlement		
Conical Mounds	**X**	**X**

Figure 94: Example of stone bead found at Poverty Point, LA compared with possible stone bead found in UM Jaketown Collection (Webb 1982:61)

Monumental Construction		
Total: (29)	**23**	**12**

The Jaketown collection at the University of Mississippi contains pottery that can be compared to the analysis done by Ford et al. (1955). Lehman (1982) did not discuss ceramics. The most abundant type of ceramic in the 1955 collection and the University of Mississippi's 2016 collection is *Baytown Plain* (Table 37) (Ford et al. 1955:77). Both collections have *Larto Red* and *Tchefuncte* pottery types in similar proportions as well as small numbers of *Parkin Punctated*. More analyses need to be completed for the indeterminate pottery in the 2016 University of Mississippi Jaketown collection in order for more complete comparisons between collections to be made. After more analyses are complete, it can be determined if the University of Mississippi Jaketown collection contains pottery from the entirety of its occupation through the Tchula to Mississippi(an) periods (400 B.C.–A.D. 1800).

Table 37: Ceramic Types for Ford et al. 1955 and UM 2016 (Modified from Ford et al. 1955:63)

Type	**1955**	**2016**
Baytown	7953, **94.2%**	132, **4.8%**
Larto Red	191, **2.3%**	56, **2.0%**
Tchefuncte	200, **2.4%**	34, **1.2%**
Parkin Punctated	2, **0.02%**	11, **0.4%**
Indeterminate	88, **1.1%**	2535, **91.6%**
Total	*8434*	*2768*

According to Gibson in Webb 1977 (3), the Poverty Point culture is a prehistoric manifestation in the southern United States, transitional in nature, that participates in the American formative shift from Archaic band existence to a village—regional center—great ceremonial center complex within ranked societal organization on a chiefdom level. Comparisons of Jaketown to other regional centers present in the Poverty Point era can provide details about how artifacts were used and the importance that was placed upon them. Gibson recognized four clusters within a geographic region marked by sharp divisions between floodplains and uplands, each cluster exhibiting characteristic settlement patterns, and suggested that a relatively stable rural population resided in small villages outside large provincial centers (Gibson 1974:99). These four clusters include (1) the Jaketown area in the Yazoo Basin of Mississippi, (2) the Poverty Point area in the Macon Ridge—upper Tensas Basin of northeast Louisiana, (3) the Beau Rivage area west of the Mississippi River Delta, and (4) the Claiborne area of coastal Louisiana and Mississippi (Gibson 1973:30). Similar to the Jaketown and Poverty Point sites, Claiborne was a large Poverty Point regional center.

Claiborne (22HA501) is an Archaic-Poverty Point transition site located in Hancock County, Mississippi (Webb 1982:34). Figure 94 shows the locations of Jaketown, Poverty Point, and Claiborne. Claiborne contains objects that are similar to Poverty Point Objects but have been termed "Claiborne" objects due to slight differences in their

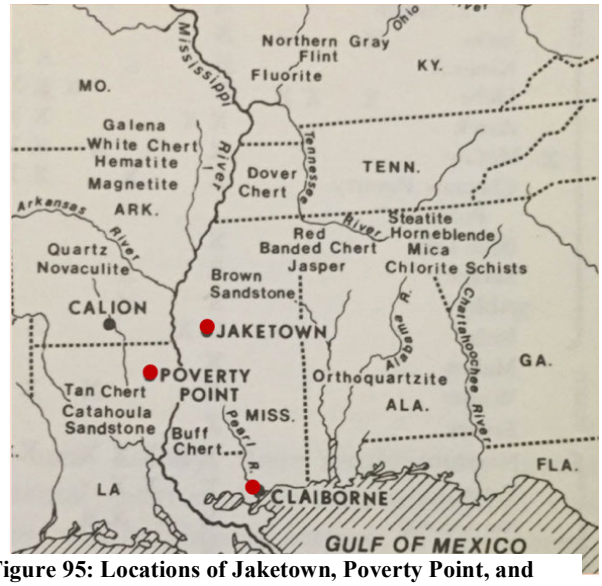


Figure 95: Locations of Jaketown, Poverty Point, and Claiborne in relation to each other (Webb 1982:69)

composition. The chief differences of the Claiborne objects from those found at Poverty Point at Jaketown sites are physical: The Claiborne objects are made of coarse sandy clay and the colors are predominately gray and black (Webb 1982:34). Poverty Point Objects are predominately made from clay and are in buff and orange shades. There are small variations in design between Claiborne objects and those found at Poverty Point and Jaketown, but the overall purpose and idea of the objects is the same. Similar lithics have also been found at Claiborne and Jaketown (Webb 1982:35).

Webb (1982:20) states that excavations at Jaketown have yielded *cylindrical-grooved* Poverty Point objects as the dominant type. This observation is consistent with my analysis of the University of Mississippi Jaketown collection. Table 38 displays the relative proportions of Poverty Point Objects based on the analysis of collections from Poverty Point, Claiborne, and Jaketown. Cylindrical Poverty Point Objects, of all varieties, were the most abundant type within all of the Jaketown collections and this included cylindrical-grooved, cylindrical with lateral grooves, and cylindrical with cross grooves. Poverty Point and Claiborne have larger numbers of *melon-shaped* Poverty Point objects as shown below in Table 38. All three sites follow the trend of smaller numbers of *spheroidal* and *biscuit* shaped Poverty Point Objects. Jaketown and Claiborne have the same second-most abundant Poverty Point type, *biconical* of all varieties. Certain types of Poverty Point Objects may have been favored due to how well they retained heat and cooked food (Gibson 1996:114).

Table 38: Comparison of Poverty Point Objects between Poverty Point, Claiborne, and Jaketown (Webb 1982:39)

	Poverty Point (Webb 1982)	Claiborne (Webb 1982)	Jaketown (Ford et al. 1955)	Jaketown (Lehman 1982)	Jaketown (UM Collection 2016)
Biconical (all varieties)	3122, **18.5%**	3259, **30.1%**	485, **4.1%**	204, **18.3%**	46, **21.3%**
Cylindrical (all varieties)	4718, **28.0%**	1230, **11.3%**	1413, **12.3%**	717, **64.4%**	117, **54.2%**
Cross-grooved (all varieties)	3434, **20.4%**	2014. **18.6%**	413, **3.6%**	155, **13.9%**	22, **10.2%**
Melon-shaped (all varieties)	5103, **30.2%**	3476, **32.1%**	-----	11, **1.1%**	15, **6.9%**
Spheroidal (all varieties)	355, **2.1%**	824, **7.7%**	29, **0.2%**	17, **1.7%**	12**, 6.0%**
Biscuit	138, **0.8%**	22, **0.2%**	-----	7, **0.6%**	4, **1.4%**
Total	*16870*	*10825*	*2340*	*1111*	*216*

If more in-depth analyses are completed on the entire collection, my research questions will be better satisfied. In order to make the determination of whether or not the remaining attributes are present in the collection each individual artifact will need to be reviewed. I found 12 attributes of Poverty Point culture in this small surface collection from Jaketown, and possibly a 13th attribute and addition to Jaketown's known attributes. Since the University of Mississippi Jaketown collection is an amalgamation of surface collections, it is difficult, if not impossible, to determine to which time period of Jaketown's occupation the indeterminate pendant/bead belongs.

Analysis allowed me to compare Poverty Point Objects from the UM Collection to Poverty Point Objects from previous Jaketown collections as well as collections from the

Poverty Point site and Claiborne site. The University of Mississippi Jaketown collection was composed of all undecorated Poverty Point Objects. The Poverty Point site in Louisiana has been shown to contain numerous decorated types with intricate designs. If the creation of Poverty Point Objects follows the timeline of most artifacts, they should begin simple and become increasingly more complex. The larger number of undecorated Poverty Point Objects may help to confirm that Jaketown's occupation did in fact predate Poverty Points.

Comparisons of pottery from Ford's 1955 collection and the UM's 2016 collection showed similar proportions of analyzed pottery types. I was not able to answer my question about whether the University of Mississippi Jaketown collection contained the entire ceramic chronology of the Lower Mississippi Valley. In order to do so, more in depth analysis would need to be completed for ceramic surface decoration types, temper inclusions, and comparisons to known samples of each ceramic period. Further analysis would also show more meaningful relationships.

I participated in the professional practice of archaeological laboratory methods and through the discussion of classification of the collection and the processes that were taken for stabilization. I also made scholarly contributions to the interpretation and relevance of the collection in the broader context of prehistory through answering my thesis questions and contemplating what the University of Mississippi Jaketown collection has to offer. Future research with the University of Mississippi Jaketown collection should include in-depth analysis of the ceramic and lithic industries at the site, specifically decorated pottery, shaped clay, and chipped stone tools. Also, more analyses should be completed for unmodified rock. Unmodified rock can supply data for the trade routes between Jaketown, a regional center, and other Poverty Point sites within the Lower Mississippi Valley region. Analysis of

chipped stone tools and the proportions of cores, testers, debitage, and tools can offer knowledge about the reduction sequences employed at the site. Supplementary examination of the artifacts at the site may reveal new information about Jaketown's occupation and the pre-historic people who lived there.

BIBLIOGRAPHY

Arco, Lee J.
2010 *The Jaketown Site*. Scenic and Historic Mississippi, New Southern View. <http://www.newsouthernview.com/pages/nsv_shm_jaketown_site.html>

Arco, Lee J., Tristram R. Kidder
2006 *Alluvial Geoarchaeology of a Middle Archaic mound complex in the Lower Mississippi Valley, U.S.A.* Geoarchaeology: An International Journal, Vol. 21, No. 6, 591-614. Wiley Periodicals, Inc.

Barnett, James F (Jr.)
2012 *Mississippi's American Indians.* University Press of Mississippi, Oxford MS.

Connolly, Robert, Diana Greenlee, Nancy Hawkins, Chip McGimsey, Joel Zovar
2014 *Poverty Point*. Louisiana Division of Archaeology. Discover Archaeology. Louisiana Department of Culture, Recreation, and Tourism.

Dennison, Bill
2014 *Lower Mississippi River: Environmental Literacy*. Integration and Application Network. University of Maryland Center for Environmental Sciences. <http://ian.umces.edu/blog/2014/04/24/lower-mississippi-river-environmental-literacy/>

Diachronic Research Foundation
2015 *Pottery for Beginners: Basic Pottery Groups.* Guide to Native American Pottery of South Carolina. <http://www.scpottery.com/introduction/pottery-beginners>

Dunnell, Robert
2008 *Time's River – Archaeological Syntheses from the Lower Mississippi Valley.* "Archaeology in the Lower Mississippi Valley." pp. 16–45. The University of Alabama Press, Tuscaloosa, AL.

Ford, James A.
1936 *An Analysis of Indian Village Site Collections from Louisiana and Mississippi.* Department of Conservation. Louisiana Geological Survey, New Orleans, LA.

Ford, James A., Philip Phillips, and William G. Haag
1955 *The Jaketown Site in West-Central Mississippi.* Anthropological Papers of American Museum of Natural History, New York.

Ford, James A., Clarence H. Webb

2009 [1956] *Poverty Point: A Late Archaic Site in Louisiana*. Anthropological Papers of the American Museum of Natural History, Vol 46. Part 1. New York.

Gale Group Inc., The
2003 *Mississippi River*. Dictionary of American History. Encyclopedia.com <http://www.encyclopedia.com/topic/Mississippi_(river_US).aspx>

Geology.com
2016 *Mississippi Lakes, Rivers and Water Resources.* Geology.com. <http://geology.com/lakes-rivers-water/mississippi.shtml>

Gibson, Jon L.
1973 *Social Systems at Poverty Point; An Analysis of Inter-site and Intra-site Variability.* Unpublished Ph.D. dissertation, Southern Methodist University.

Gibson, Jon L.
1974 *Poverty Point: The First North American Chiefdom*. Archaeology, 27(2): pp. 96–105.

Gibson, Jon L.
1996 *Poverty Point: A Terminal Archaic Culture of the Lower Mississippi Valley*. University of Southwestern Louisiana. Louisiana Archaeological Survey and Antiquities Commission, Department of Culture, Recreation, and Tourism.

Hammond, Michelle Renee
2013 *Settlement, Mobility, and the Organization of Technology at the Clark Lake Site (22SH535): A Small-Scale Woodland Settlement.* The University of Southern Mississippi.

Johnson, Jay
2002 *One Hundred Years of Archaeology in Mississippi.* Histories of Southern Archeology. 183–193. University of Alabama Press, Tuscaloosa, AL.

Johnson, Jay
2004 *The Center for Archaeological Research*. Sociology and Anthropology. The University of Mississippi, Oxford, MS. <http://www.olemiss.edu/research/anthropology/archaeology/>

Kidder, Tristram R.
2008 *Basin-Scale Reconstruction of the Geological Context of Human Settlement: An Example from the Lower Mississippi Valley, USA,* 1255–1270. Volume 7, Issues 11-12. Quaternary Science Reviews

Kidder, Tristram R., Lee J. Arco
2008 *Doctoral Dissertation Improvement Grant: Geoarchaeological Investigation of the Jaketown Site: A Late Archaic Poverty Point Settlement in the Lower Mississippi Valley*. Washington University, St. Louis, MO.

Kidder, Tristram R.
2015 *Pilgrimage to Poverty Point.* In: The Archaeology of Events – Cultural Change and Continuity in the Pre-Columbian Southeast. pp. 141–59. University of Alabama Press, Tuscaloosa, AL.

Klimas, Charles, Thomas Foti, Jody Pagan, Blaire E. Tirpak
2011 *Potential Natural Vegetation of the Mississippi Alluvial Valley: Yazoo Basin, Mississippi.* Lower Mississippi Valley Joint Venture, Vicksburg, MS.

Lehman, Jeffrey R.
1982 *The Jaketown Site Surface Collections from a Poverty Point Regional Center in the Yazoo Basin, Mississippi.* Mississippi Department of History, Jackson, MS.

Lipo, Carl and Robert Dunnell
2008 *Time's River – Archaeological Syntheses from the Lower Mississippi Valley.* "Prehistoric Settlement in the Lower Mississippi Valley: A Critical Review." pp. 125–167. The University of Alabama Press, Tuscaloosa, AL.

Lower Mississippi Valley Joint Venture (LMVJV)
2016 *LMVJV Geography*. Lower Mississippi Valley Joint Venture. <http://www.lmvjv.org/pages/About_LMVJV/LMVJV_Geography.htm>

McGahey, Samuel
1972 *National Register of Historic Places Inventory – Nomination Form*. Mississippi Department of Archives and History, Jackson, MS.

Moore, Clarence B., Dan F. Morse, and Phyllis A. Morse
1998 [1908] *The Lower Mississippi Valley Expeditions of Clarence Bloomfield Moore*. University of Alabama, Tuscaloosa, AL.

Morgan, David
1996 *Post-Archaic Period.* In: Unedited Version of the State Historic Context Document and Comprehensive Preservation Plan for the State of Mississippi for 1997, 1998, 1999. pp. 81–224. Missouri Department of Archives and History, Jackson, MS.

Murray, Matthew
2014a "Preliminary Sorting Guidelines" *Laboratory Methods in Archaeology (Anthropology 408).* University of Mississippi, Oxford, MS.

Murray, Matthew
2014b "Cataloging Guidelines" *Laboratory Methods in Archaeology (Anthropology 408).* University of Mississippi, Oxford, MS.

Murray, Matthew
2014c "Module on Prehistoric Chipped Stone Technology and Analysis" *Laboratory Methods in Archaeology (408).* University of Mississippi, Oxford, MS.

Murray, Matthew
2014d "Module on Prehistoric Pottery Technology and Analysis" *Laboratory Methods in Archaeology (408).* University of Mississippi, Oxford, MS.

Murray, Matthew
2014f "Lithic Raw Materials in the Lower Yazoo Basin – Jaketown's Colorful Diversity Preserved in Stone" *Laboratory Methods in Archaeology (408).* University of Mississippi, Oxford, MS.

Murray, Matthew
2014g "MDAH Curation Guidelines" *Laboratory Methods in Archaeology (408).* University of Mississippi, Oxford, MS.

National Geographic
2016 *Oxbow Lake*. National Geographic Society <http://education.nationalgeographic.org/encyclopedia/oxbow-lake/>

National Institute of Culture and History
2015 *Paleo-Indian Period.* Institute of Archaeology. <http://www.nichbelize.org/ia-archaeology/paleo-indian-period.html>

National Park Service
2011 *Jaketown Site.* National Register of Historic Places. <http://www.nps.gov/nr/travel/mounds/jak.htm>

National Park Service
2012 *Southeastern Prehistory: Mississippian and Late Prehistoric Period*. Southeast Archaeological Center. <http://www.nps.gov/SEAC/hnc/outline/05-mississippian/index.htm>

O'Steen, Lisa D.
2002 *Archaic Period: Overview.* New Georgia Encyclopedia. Georgia Humanities Council and the University of Georgia Press. <http://www.georgiaencyclopedia.org/articles/history-archaeology/archaic-period-overview>

Phillips, Philip
1970 *Archaeological Survey in the Lower Yazoo Basin, Mississippi, 1949-1955*. Peabody Museum, Cambridge, MA.

Phillips, Philip, James A. Ford, James B. Griffin
2003 [1951] *Archaeological Survey in the Lower Mississippi Alluvial Valley 1940-1947*. Harvard University Printing Office, Cambridge, MA.

Research Laboratories of Archaeology
1998 *Daub and Fired Clay.* Excavating Occaneechi Town: An archaeology primer. Learn NC, UNC Chapel Hill. <http://www.learnnc.org/lp/editions/occaneechi-archaeology-primer/1749>

Saunders, Joe and Thurman Allen
2003 "Jaketown Revisited." *Southeastern Archaeology* 22(2):155–164.

Sims, Douglas C
2001 *Guidelines for Archaeological Investigations and Reports in Mississippi.* Missouri Department of Archives and History, Jackson, MS.

Sutton, Mark and Brooke Arkush.
2009 *Archaeological Laboratory Methods: An Introduction*. 5th ed. Kendall Hunt Publishing Company, Dubuque, IA.

US Army Corps of Engineers
2016 *Lower Mississippi – A Brief History.* Mississippi Valley Division. US Army. <http://www.mvd.usace.army.mil/Media/Publications/OurMississippi/About/LowerMississippi.aspx>

Webb, Clarence H.
1977 *Poverty Point Culture*. Geoscience and Man (18).

Webb, Clarence H.
1982 *The Poverty Point Culture.* Baton Rouge, Louisiana State University School of Geoscience.

Weiser, Kathy
2016 *Mississippi Mound Builders*. Legends of America. National Park Service. <http://www.legendsofamerica.com/ms-moundbuilders.html

Wikipedia
2015 *Humphreys County, Mississippi*. Wikipedia. MediaWiki. <https://en.wikipedia.org/wiki/Humphreys_County,_Mississippi>

Williams, Stephen
2002 *LMS Archives Online: An Introduction (by Stephen Williams)*. Research Laboratories of Archaeology. <http://rla.unc.edu/archives/lms1/LMS_intro.html>