# **LAMAR REVISITED** 1996 Test Excavations at the Lamar Site

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## Abstract

During the summer of 1996, the University of Georgia conducted its annual Archaeological Field School at the Lamar site, 9Bi2, a detached part of Ocmulgee National Monument in Bibb County, Georgia. The famous two-mound type of site for the Lamar archaeological culture was first excavated in the 1930s as part of the Macon WPA projects. A new grid was placed over the heavily overgrown site, and post hole tests were placed at 30 meter intervals in order to create, for the first time, a density map for the midden. A small excavation unit was placed in the garbage dump at the base of each of the two mounds, and a large sample of well-stratified archaeological deposits up to 2 meters deep was recovered. These collections help clarify details of the Mississippian sequence at this famous site and, by extension, the entire central Georgia area. The unique spiral ramp on Mound B was superficially examined, and some new hypotheses about its function were generated. Finally, the project created a new and better contour map for the site and created a complete and accurate excavation map for all the 1930s excavations through the use of a simple GIS package. Contour maps of the summits of the two mounds yielded some interesting and previously unknown features. All this data is included in digital form on the CD stored at the end of this report.

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### **Introduction and Acknowledgments**

This report is an account of archaeological testing conducted at the famous Lamar site, 9Bi2, during the summer of 1996 by the University of Georgia as part of its annual Archaeological Field School program. The Lamar site is part of Ocmulgee National Monument, which also includes the huge Macon Plateau site some 3 miles away to the northwest. The Lamar site was acquired by the United States in 1936 and was extensively excavated in the 1930s as part of the government's Depression era archaeology program. The work in 1996 was designed to conduct minimal work to help integrate the 1930s data from Lamar with that from a great many sites excavated with more care in recent years. It also was designed to help clarify details of the 1930s excavations that were not clear from the surviving notes from over 60 years ago.

The work described here would not have been possible without the help of many people. My first thanks always goes to the people who did the actual physical

work-the crew themselves. The 1996 UGA Field school students included: Robby Anglin, Heather Boswell, Eric Bowne, John Chamblee, Brian Davis, Caryn DesMarais, Rob Dixon, Michael Dugan, Dave Lamb, Dan Minnich, Tyson Perna, Matt Reynolds, Peter Scher, Victor Thompson, Jamie Waggoner, and Bruce Young. These hard working people are to be thanked and commended for their excellent effort under the harsh conditions at Lamar.



Figure 1. Field Crew at Excavation Unit 1

I also thank my field assistant, Maureen Meyers, who helped keep control of a great many details in the excavations.

I thank Ocmulgee National Monument and the U.S. National Park Service for support and permission to conduct the excavations. A number of key individuals were particularly helpful. These included Sibold Smith, then Superintendent of Ocmulgee National Monument, and Guy LaChine, Head Ranger at Ocmulgee. They helped us in a great many ways, including providing impromptu camping facilities and showers, as well as access to the many library resources at Ocmulgee. Ranger Sylvia Flowers has been the soul of Ocmulgee for many years, and her support continues to be invaluable. I also thank Homer Leslie and his maintenance crew at Ocmulgee for letting us use the maintenance area as our home base.

At the Southeast Archeological Center in Tallahassee, Florida, I thank professional archaeologists John Ehrenhard, Benny Keel, David Anderson, George Smith, David Brewer, Richard Vernon, and Beth Horvath for their invaluable help in obtaining the permissions to conduct the testing and supplying essential background information.

Back in Athens within the Department of Anthropology of the University of Georgia, I thank my archaeology colleagues Steve Kowalewski and David Hally for their aid and support, and also thank Office Manager Rosemary Woodel for her usual invaluable help.

I thank Julie Markin, Archaeology Doctoral Student at the Department of Anthropology, for her cheerful and competent help in completing this document.

Finally, I thank all the earlier people this century who have worked at Lamar in any capacity for helping to tell the story of this fascinating and important mound center deep in the swamp of the Ocmulgee River valley in central Georgia.

### **Background and Research Design**

The Lamar site, 9Bi2, located in Bibb County, Georgia, is one of the most important late Mississippian centers in the eastern portion of the southeastern United States. Major archaeological excavations were undertaken there in 1934 by James Ford, in 1936 by Arthur Kelly, in 1938 by Gordon Willey, and in 1939-1940 by Jesse Jennings and Charles Fairbanks. The site was made a part of Ocmulgee National Monument upon its creation in 1936. No full report has been made of any of the excavations there

in the 1930s. Brief remarks about the excavations were made by Arthur Kelly in 1938 and Charles Fairbanks in 1940. Around 1941 a large levee was placed around most of the site to help protect it from the flood waters of the Ocmulgee River. From the 1930s until 1970 the artifacts from all these excavations were held in Macon at



Figure 2. 1934 Aerial of Lamar

Ocmulgee National Monument. In 1970 they were transferred to the campus of Florida State University in Tallahassee as part of the move of the Southeast Archeological Center to that location. A portion of the artifacts and the surviving notes were analyzed by graduate students at Florida State in 1973, under the general direction of Hale Smith, and a limited publication of the results of the 1930s excavations was produced at that time (Smith 1973). In November 1988 Beth Horvath of the Southeast Archeological Center of the National Park Service conducted very limited testing of the site as part of the installation of protective fences around the two mounds at the site. No final report of this work has ever been prepared.

The 1930s excavations produced a large number of artifacts. These artifacts, however, were recovered from only a limited number of places on the site. The vast



majority came from one corner of Mound A, while most of the rest came from a single burned house excavated near Mound A. There was no systematic recovery of artifacts from over the entire site. Additionally, as with all of the 1930s excavations in the Macon area, none of the excavated areas were screened for artifact recovery. Thus the old data is simply not up to the standards needed for current analyses.

**Figure 3**. Clearing the Lamar Mounds and Village in 1934

Further, as we now know, the surviving collections are badly mixed.

In Georgia and the surrounding states the period of time between about A.D. 1350 and 1600 is known as the Lamar period, named after the Lamar site, 9Bi2. In the intervening years since archaeology was last conducted at the Lamar site in 1939, our knowledge about the society and culture of the people represented by Lamar-style archaeological remains has grown tremendously. A complete book has been published on the culture (Williams and Shapiro 1990), and a great many summary papers have been written, particularly that of David Hally in 1994. Because of major surveys, excavations, and advances in our understanding of cultural evolution in the last 55 years, our knowledge of the original Lamar site on the property of Ocmulgee National Monument has become inadequate for a proper understanding or management of this valuable archaeological resource.

The major goals of this project were three in number, two of which were accomplished in the same step. The data already excavated at the site have not been adequately studied, and additionally, are badly compromised. They are compromised first by inadequate storage in the early years of the collections -- much of the collection was accidentally mixed by provenience. They are also compromised by the lack of adequate knowledge of the nature of the site itself. Many of the original notes and



Figure 4. Mound B in 1934

maps are unfortunately now missing. In order to analyze the existing collection with more confidence, more accurate information about the site needed to be obtained. This was done with relatively limited testing of the site through currently accepted methods. Thus the first goal of this project was to provide information that will make a final analysis of the originally excavated material more feasible. This was facilitated through the use of a GIS approach.

The second goal, accomplished in the same step as the first, was to gather data from the site that was comparable to data gathered from a great many similar sites throughout Georgia in the last 20 years, so that the Lamar site can be properly compared to these sites. These data included a better contour map of the site than was currently available, systematic testing to determine for the first time the density of occupation across the site, and carefully excavated and screened stratigraphic tests in



Figure 5. Fence around Mound B in 1996

the garbage dumps on the outer edges of the mounds.

The third goal was to examine the spiral ramp around Mound B in a very limited fashion in order to determine something for the first time about this unique feature. Mound B was not excavated at all in the 1930s, and more data is necessary in order to have a better chance of understanding the special architectural significance of this mound. A minimum of test excavation was necessary to accomplish these three goals. The first phase of the project was to install a new grid on the site and produce a high quality contour map of the village around the mounds. The site map from the 1930s had a 2 foot contour interval and was completely inadequate to reveal small mounds or

other internal features. Additionally, we conducted systematic posthole tests over the entire site at 30 meter intervals. The posthole tests were taken to sterile soil, the presumed red clay described in the 1930s accounts. The fill from all tests was screened through 1/4 inch mesh hardware cloth for artifact recovery. Every hole was completely backfilled.

The data from all these holes permitted the creation of density maps of the artifacts over the entire site. This important site-size data was not gathered in the 1930s and is essential both for anthropological interpretations of the site and better future management of the site by Ocmulgee National Monument.

The next phase of the project involved the excavation of two, 2 meter squares in the garbage dumps on the two mounds at their basal edges, as recommended by Smith and Williams in their recent publication (Smith and Williams 1994). I observed these dumps at the Lamar site in 1988 at the time of Beth Horvath's project, prior to the construction of the fences around the mounds.



Figure 6. Lamar at Present Time

No screening for the recovery of artifacts was conducted in the 1930s. All soil in our excavations units was screened through 1/4 inch mesh hardware cloth for artifact recovery. The data derived from careful excavation on the garbage dumps improves our understanding of the internal history of the site tremendously, as well as gives us better control of temporal relationships with other mound centers in central Georgia. This data will ultimately help us better understand the politics of growth and decline in all these chiefdom-level societies.

## **Installing a New Grid**

The need to install a new grid at Lamar was critical to the resolution of a huge number of mapping problems for interpreting the 1930s work, accomplishing the present goals, and simplifying any future work at the site. To aid these goals a GIS database for Lamar was set up as part of this project. This database is included as part of the files on the CD Rom at the back of this report. The Lamar site was an open field in the 1930s, and mapping of the excavations would have been quite simple under such open conditions. Unfortunately, even in the 1930s no single grid was used for the several projects conducted there, and other maps have been lost. Indeed, little real concern was evident for tying all the disparate excavations together by any of the researchers in the 1930s.

In 1973 Hale Smith and his students at Florida State University made a stab at the problem (Smith 1973). In 1991 David Brewer made an even better attempt to combine all the separate excavations into a single map (Brewer and Hammersten 1991). With 20-20 hindsight, however, neither of these brave efforts were completely successful. I believed that the only way to resolve the mapping problem of Lamar is to start over

with a new grid. As will be seen, some additional discoveries at the site helped immensely with the attempt to produce a complete map of all the former excavations.

In the intervening years after the 1930s, the Lamar site was unfortunately allowed to regrow and progress to its present condition of a very dense flood plain forest. Further, the present forest is made almost impenetrable by a thick infestation of privet hedge.



Figure 7. Installing the New Grid

This non-native invader made the work of installing a new grid and of mapping the site extremely slow and difficult. It may be said that the reforestation helped preserve the site from undue attention from the public while we await the construction of a permanent outpost here as part of Ocmulgee National Monument, but I wish the site had been kept open. The decision to let it grow was probably forced upon the park by the events of World War II.



Figure 8.



Figure 9.



Figure 10.



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Figure 11.

The new grid was based upon meters rather than feet in accordance with universal standard practice on non-historic archaeological sites at the present time. Two concrete markers were placed 60 meters apart from one another in the area between Mounds A and B. These were 4 inch diameter PVC pipes filled with concrete and with a length of rebar embedded into the center. They were placed in an east-west (magnetic north of 1996) direction from one another with their tops projecting 5 centimeters above the surface. These markers were given the arbitrary designations of 500 North, 470 East for the western one near the center of the site, and 500 North, 530 East for the eastern one, 1 meter inside the fence surrounding Mound B and just south of the gate. The 0 North, 0 East point for the grid is at some unmarked point well off the site to the southwest. An open path between Mounds A and B had been cut in 1988 as part of the project for putting in the chain-link fences around the mounds. This path was used to help establish the east-west baseline (500 North) for the grid.

New lines were cut from the east-west baseline with machetes and axes through the privet jungle of Lamar to place wooden stakes every 30 meters over the entire site,

using traditional transits and tapes. Unfortunately, no Total Station was yet available for the work in 1996, but the data are generally reliable. It took the crew over three weeks, along with other activities, to place the final grid over the site. This massive task involved clearing approximately 4500 meters (4.5 kilometers!) of lines through privet with hand tools. Because lines were blocked by trees, individual stakes had to be



Figure 12. Black Lake and the burned out bridge to Lamar

put in with a very complex maze of 145 lines that were 30 meters long. It became very easy to get lost in this maze of lines, as everyone on the crew learned the hard way! Throughout most of the site, travel between the cut lines was almost impossible. The very swampy area just southwest of Mound B was the only part of the site that was somewhat more open (too wet for privet?).

The total number of stakes placed into the site was 147, covering an area roughly 360 by 300 meters–slightly more in some places. This means the area staked was thus about 11 hectares in size.

In the process of putting in the grid, an important discovery was made in the northwestern part of the site. In that area a series of open trenches from the 1940

palisade excavation project that had never been backfilled were relocated. It was easy to determine which ones these trenches were, by reference to the maps of Brewer and Hammersten in particular (Brewer and Hammersten 1991:39). After digitizing this map, and while attempting to match it with the orientation of the mound, I discovered that this could only match the existing open trenches in the northwestern part of the site if the map was rotated several degrees from the suggested one of Brewer and Hammersten. Thus, this data as represented in the GIS maps data accompanying this report is in accord with the newly rediscovered trenches (Figures 8-11).

## **Topographic Study**

#### The Village

Following the initiation of the gridding process by a few days, we began an elevation program designed to produce a new and better contour map of the site. We did not have access to a permanent benchmark at the time this process began, so we created an arbitrary elevation point instead. This was a deeply filed horizontal line at head height on the left metal gate post of the chain-link fence entranceway to Mound B. This mark was given an assumed elevation of 100.00 meters for purposes of mapping the site.

Typically, elevations were taken at all stakes that had been put into the grid, and at 10 meter intervals between these points. Given the tortured mechanism necessary to put the grid into place, the gathering of the elevation data was equally tortured. We used some 94 different instrument positions, gathering a total of 547 elevations. Some of these were discovered to be faulty, and thus the total number of readings deemed to be good for mapping the village was 483. The data for these points are presented in Appendix 4, and the location of the points are presented graphically in Figure 13.

The data from the elevation project were then processed using the computer program Surfer (version 6.04) from Golden Software. The data were gridded by Surfer using an interval of 5 meters and the default calculation method (Kriging). This gridded data was then processed into the following images: Figure 14 is the contour map itself with 10 centimeter contours generated, and Figure 15 is a color image map of the same data using a contour map overlay. Note that these figures *do not* include Mounds A and B.

A number of observations are possible about the map. First, the left or western half of the site is clearly the highest portion of the site. This runs quite clearly north-south, and may well represent the original center of the site. The single highest area is obviously in the southwestern part of the village, and south of Mound A. It is not too surprising therefore that the excavations of James Ford concentrated in this area – that is where the heaviest part of the occupation is located. Remembering that the contour interval on Figure 15 is only 10 centimeters, the orange spots represent areas that are

only about 50 centimeters high – less than 2 feet. It is possible that the orange spots might represent small plowed-down mounds.

The low area southwest of Mound B drains to the south-southwest, where it joins the very low area in the extreme southeastern part of the site. There is a curved, raised area around the Mound B low spot, upon which Mound B itself is located. Is this a naturally or an artificially raised area? For example, no screening for the recovery of artifacts was conducted in the 1930s. All soil in our excavations units was screened through 1/4 inch mesh hardware cloth for artifact recovery.

#### Mounds A and B

It was hoped that complete new contour maps of the two mounds at the site could be created during this season. The will of the park, however, was that the sides of the mounds (particularly the unique Mound B) not be disturbed, so it was possible to make maps only of the summits. This was not a major problem, however, and the summits certainly yielded interesting features for speculation in their respective maps. Both summits were mapped in a similar manner. A single transit stake was set up in the center of the mound summit, avoiding the several large potholes located on both of them. In both cases sixteen survey lines were shot from the center stake at even points around the compass starting to the north. Elevation readings were made at 1 meter intervals along each line. It was not possible to tie these elevations to those of the village during this project, and thus each is a "floating" elevation map. For mapping purposes only, the Instrument Height for both mounds was assigned an arbitrary elevation of 10.00 meters (roughly the height above the village level).

For Mound A, the total number of elevation points recorded was 213, and the number for Mound B was 163. The data for these is presented in Appendices 2 and 3. In both cases, the exact grid coordinates have been determined for each elevation point through a laborious task involving reference to a point shot off each mound and the use of a digitizer. These data permitted the generation of contour and image maps in Surfer, just as was done for the Village Topographic study discussed above. The maps are presented here as Figures 16 and 17.

#### Mound A Observations

The first observation about Mound A, other than the few potholes, was that it was not, in any sense, flat. More significantly, there is a distinct circular raised ring or doughnut-shaped structure of earth with a depressed center. This feature is not located in the middle of the summit, but on the northwestern portion of the mound top. The diameter of this feature is approximately 10 meters, and its elevation is only 10-15 centimeters. From this region the summit of Mound A slopes moderately toward the southeastern edge of the summit, where the mound height is at its lowest. This effect is amplified by the fact that the thick garbage deposits off the edge of the mound there



Figure 13. Location of Elevation Readings

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Figure 14. Village Contour Map (Contour Interval = 10 Centimeters)



Figure 15. Village Contour Map (contour interval = 10 centimeters)

have raised the basal perimeter of the mound well over a meter. The circular structure on the summit is almost identical in shape to structures found at the downstream site of Bullard's, 9TW1, where over 20 of these structures have been located (Williams and Evans 1993). There is little doubt in my mind that the Bullard-like structures and the feature located on the summit of Mound A at Lamar are collapsed earthlodges. Why this should not be located in the middle of the summit is unclear, but it certainly represents the final construction on the mound. Whether there are similar structures located deeper in the mound is, of course, unknown.

#### Mound B Observations

There is no doughnut-shaped feature similar to that upon Mound A, but it is clear that there is a raised rim around part of the outside edge of the circular Mound B summit. This low raised rim surrounds 75 percent of the summit edge, but is only about 15-20 centimeters high. This rim is absent from the southwestern part of the summit, which is lower than any other area of the summit. Further, this low southwestern area is adjacent to the summit termination of the famous spiral ramp that ascends the mound. The pattern of a raised rim is reminiscent of that recorded by Caldwell (Caldwell 1955) on the summit perimeter of Mound A at the Rood's Landing site near the Chattahoochee River in Stewart County, Georgia, but is <u>not</u> a common feature at most Lamar mound sites.

These observations raise a number of obvious questions. What is the raised rim? Why doesn't it completely encircle the summit? Why isn't the raised rim present where the spiral ramp contacts the summit? It does not seem practical or reasonable that such a low raised-rim was part of any effective defensive structure for the mound. The gap in the southwest supports this observation. By itself, the rim provides no visual screening of the summit from the village. If it were surmounted with a screening wall, then the raised rim would have been unnecessary.

The most important question reraised here is an old one -- what is the spiral ramp all about? This odd feature of Mound B has persisted for years in the minds of many archaeologists as the most enigmatic trait associated with the site. There was a similar structure around the large mound at the now-destroyed Rembert site on the Savannah River, and I have heard rumors of a third one that perhaps existed in northeastern Alabama. None are reported to my knowledge anywhere else in the eastern United States. The usual explanation for this ramp, going back to the 1930s, is its hypothetical use for some sort of processional of the chief, body servants, wives, or others, solemnly marching at a slow cadence from the base to the summit as in some sort of wedding or funeral procession. The distance from bottom to top along this spiral path as measured on our GIS map is something over 250 meters, or about one sixth of a mile. This is over 60 percent greater than the distance from Mound B to Mound A at the site and compares with the mere 10 meter distance from base to summit if a normal straight access had been used.



Figure 16. Mound A Summit Contour Map (Contour Interval = 3 Centimeters)

It occurs to me that other possible explanations should be considered for this odd feature. In this light, it should be noted that there are practically no truly rectangular Lamar mounds, particularly large ones, throughout the range of the Lamar archaeological culture. Most of these, such as Scull Shoals, Shoulderbone, and Neisler are more round than rectangular. This roundness has typically been explained by reference to erosion and looting, but perhaps larger Lamar mounds were never as neatly rectangular as were those in the rest of the Mississippian Southeast. It should also be noted that the only three spiral mounds known (or rumored to have existed) all are located within the area of the Lamar archaeological culture. Having thought about many explanations for the Mound B spiral ramp, both as a result of this project, and over the last 40 years since I first heard of the ramp, I believe the simplest explanation for all these related observations is the following speculative scenario: the mound was in the process of having a stage added to it, and this stage addition was never completed. The spiral ramp was a expedient means of easily carrying heavy basketloads of dirt to the summit for depositing. Dirt was placed, load by load around the mound to create the spiral ramp first. When completed, more basketloads of dirt were carried up the ramp and deposited on the rim of the summit. It was at this point that the project was interrupted forever. Hypothetically it would have been completed as follows. More dirt would have been placed to fill the center of the mound summit, the southeastern summit area would have then been filled and leveled, and finally dirt would have been put on the ramp from the summit back down to the base to complete the stage addition or a round mound. This method of mound stage addition would have been an ingenious engineering technique.

Given the vagaries of human nature and the frequency of uncompleted construction projects in our own culture, I believe that the likelihood that every new construction stage of every Indian mound ever made was actually completed just as planned is vanishingly low. My suggestions here are testable by careful profiling in the outer stages of Lamar mounds, something that has not been done with this possibility in mind to date. Why this method of mound construction should occur only in the Lamar area I do not know, but if true, it gives us something other than just ceramics, and possibly language, as defining qualities of Lamar. While I am sure some people will reject my new hypothesis, I urge that excavations on the ramps (not permitted in 1996) be used in the future to help settle this issue.



Figure 17. Mound B Summit Contour Map (Contour Interval = 10 centimeters)

## **Post Hole Study**

The Post Hole study served several purposes, but the most important one was to provide, for the first time, information on the density of artifacts over the site. This sort of information is considered basic knowledge now for any archaeological site but was not a goal of the excavators in the 1930s. During that decade the main goal was chronology, thus the gathering of artifact samples according to some systematic horizontally-based plan was almost never implemented. From the work of James Ford, with 20-20 hindsight, we can see that he did more excavation in the richest part of the site in terms of artifacts, but this was never made explicit by him nor anyone else.

A second goal of our posthole project was to assess the soils at the site, and the depths of the midden at various locations. This report does not address the issue of soil analysis – I am not a soil scientist. Maureen Meyers, my field assistant and an archaeologist trained in soil science, has recently presented a paper on the data (Meyers 1997). Further, another paper by soil scientist Larry Abbott of Ocmulgee National Monument has recently been written that further addresses this issue (Abbott 1997).

A total of 150 post hole tests were made at Lamar in the summer of 1996. These were typically spaced at 30 meter intervals and were usually made 1 meter north of each grid reference stake used to provide control for their locations (see Figure 18). The fill of all holes was screened through 1/4 inch mesh hardware cloth to recover artifacts. Most holes were terminated when the water table prevented excavating any deeper. Most holes were deepened past normal posthole digger depth through the use of a bucket auger, with extensions added as necessary. Of the 150 tests, only 145 were used for the distribution studies.

#### **Ceramics**

The total number of sherds recovered from all post holes was 3377, and the range was from 0 through 216, in the hole in the southeastern dump off of Mound A. The average was just over 22 sherds per hole, and most were very small. The distribution of ceramics from Lamar is presented in Figure 19. This shows, as hinted at above, that the heaviest concentration of ceramics at the site is in the area south and southeast of Mound A. The heaviest single concentration is in the apparent garbage dump off the southeastern edge of the Mound. Other concentrations include a broad area running northwest to southeast at about 100 meters south of Mound A; well southeast of Mound A around 350 North, 440 East; slightly south of east at 440 North, 470 East; and just northeast of Mound A at 530 North, 440 East. The major concentration of pottery does not really extend to Mound B, and there is only a slight concentration just south of that mound.

Thus the area of the site with the heaviest concentration is about 175 meters east to west and about 200 meters north to south (3.5 hectares). While there are several possible observations about this distribution, the most interesting one to me is that the

long suspected and assumed blank plaza area between Mound A and B simply cannot be supported by this data. In fact, based upon this important data set, I see no clear evidence of a clean plaza area anywhere on the site.

The fact that the palisade line defined by Fairbanks in 1940 surrounds both mounds, and the fact that the western part of the interior is higher and richer in midden, may imply that the palisade was constructed in the later history of the site. While this is speculative for the moment, perhaps this idea should be carefully considered in the future.

#### Lithics

The major point learned about lithic artifacts at Lamar is that they are not very common. The total number of lithic artifacts recovered from all the post holes was only 441. This averages just under three items per hole. The minimum was, of course, 0, and the maximum was only 21. The distribution map is shown in Figure 20. The only "hotspot" was southwest of Mound A at 410 North, 320 East. I use quotes, because, as archaeological sites go, this is not really a dense concentration of lithic material. Other than this area, there is generally a light scatter of lithics over most of the rest of the site, except for the swampy extremes. Very few datable lithics were recovered, and much of this material just as likely dates to the Archaic period as to the Mississippian.



Figure 18. Locations of Post Hole Tests



Figure 19. Density Map of all Ceramics in Village Area



Figure 20. Density Map of all Lithics in Village Area

## **Excavation Unit 1**

The two excavation units placed on the site were both placed in garbage deposits off of the edges of the two large mounds. The reasons for the placement of these units was almost completely chronological in nature. At most other mound sites excavated in Georgia in recent years there appear to be gaps in the occupations at such sites that become apparent by examining the sherd sequences from similar excavations in comparison to the known regional ceramic sequences. Was this also true at the Lamar site?

The deepest and richest excavation placed in the site in 1996 was Excavation Unit 1. This was a 2 by 2 meter excavation unit placed at the toe of Mound A on its southeastern edge. This area was clearly raised higher than any other part of the base of the mound around its entire perimeter. Post hole tests conducted by Beth Horvath in 1988 had shown also that this side of the mound produced the most ceramics. Because of the raised toe here, and because the adjacent area of the summit of Mound A was the lowest part of the sloping summit, the height of the mound at this location was significantly lower than any other side of the mound.

The unit was not placed in perfect alignment with the new grid. It was placed so as to optimize its location in accordance with the curve of the mound base at this point and to avoid the many trees present in this location. This placed it almost 45 degrees off of the grid. We shot in the corners of the unit after it was excavated and calculated the coordinates of its four corners for mapping in Figure 21.

The sloping nature of the unit required modification of standard excavation procedures. The deposits were almost all thrown from the summit of the mound, and

thus were deeper on the uphill side of the unit than on the downhill side. at least for the upper levels of the pit. Thus the levels were excavated approximately 3 centimeters thicker on the upper side than on the lower side (ca. 13 on the upper side and 10 centimeters on the lower side). In this manner, the excavation layers slowly approached horizontal as the unit went deeper into



Figure 21. Excavation Unit 1.

the ground. This technique seemed to work well and matched the gradual decrease in

angularity of the layers as seen on the profile. The total number of defined levels was twelve, plus five more levels that were interpreted as premound levels – thus seventeen stratigraphic levels total.

The maximum depth of the unit was 245 centimeters on the higher northwestern wall and 195 centimeters on the lower southeastern wall. It is doubtful that the unit was excavated to true sterile soil – there may well have been deeper deposits dating to the Archaic period. Certainly the unit went through all of the ceramic deposits at the site. We did not excavate deeper because of water and safety considerations – this was one deep and dangerous unit. All of the fill down to below the garbage layers was screened through 1/4 inch mesh hardware cloth. Dry screening became impossible in the probable mound fill layers immediately below this because of the moisture and high clay content of the fill. The premound levels were screened normally.

Two profiles are presented here – the high northwestern one (Figure 22) and the sloping southeastern one (Figure 23). The layers were not particularly complicated as such profiles go. It is interesting to note that there was no recent red clay alluvium in the area of Excavation Unit 1 (unlike Excavation Unit 2 on Mound B). Apparently this is because the Excavation Unit 1 area was high enough to prevent such deposition, even though it must be have been subjected to frequent floods in the last 200 years. The key for the profile layers on Figure 22 and 23 is as follows:

- A Brown to black loam with much pottery and charcoal
- B Dark brown to black loam with much pottery and charcoal
- C Brown loam with some flecks of gray clay and red clay
- D Mixed light and dark gray clay with some charcoal
- E Brown loam with many flecks of gray and red clay
- F Reddish loam with a few charcoal flecks
- G Mottled orange, gray, and brown loam
- H Brown to dark brown loam (original topsoil?)
- I Reddish brown sandy loam
- J Orange red sandy clay
- K Mixed white and gray sandy clay
- L Mixed orange clay and brown loam
- M Bright orange clay with a little brown loam
- N Light grayish brown sandy loam
- O Orange red sandy clay

From an examination of the profiles, it can be seen that the probable original topsoil at the site in this area was represented by Layer H. This was much deeper than had been anticipated in this area of the village adjacent to Mound A. The upper levels (Layers A and B) were the Lamar garbage levels at the site, and these were the only levels that can reasonably be thought of as rich midden layers. It is clear that not all of

the depth to the old topsoil can be thought of as a garbage dump off of Mound A. Indeed, there is a major change in the soils in this unit between layers A and D on the Figure 23 profile. Layer A is very rich Lamar midden -- clearly garbage thrown off of the later stages of the mound, while Layer D is a clay layer that was essentially sterile – it probably represents an artificial mound fill layer for a very earlier stage of the mound. The implications for this observation are that Mound A was likely larger in its earlier stages than in the final stages. The sloping nature of Layer D also supports the suggestion of this as a mound fill layer. This mound fill was very wet and was mostly a thick clay, so we were not able to screen much of it.

Layer F, below Layer D had less clay than layer D, but was still very difficult to screen. It also slopes up toward the mound, was not a midden per se, and may also represent an even earlier mound stage in the beginning of what eventually became Mound A – certainly the earliest possible stage revealed in Excavation Unit 1. Curiously, as shown in Figure 22, Layer F, and the accompanying Layers G, M, and N, slopes up from left to right. Perhaps this sloping is an indication that the summit of the original mound stage was toward the right, on its southeastern corner, and not centered in the same location as the center of what eventually became Mound A. Clearly Excavation Unit 1 is too small to speculate further about this possible early mound, however. The lower portion of Layer F, the premound topsoil (Layer H) and the subsoil under this old humus zone (Layer I) were screenable because they had very little clay included. These layers were recorded as the "premound layers" and are so noted in the artifact tables presented for this unit.

#### **Ceramics**

There were 8616 sherds recovered from Excavation Unit 1 – a very large number for such sites. This is immediately attributable to the fact that the unit was intentionally placed in a garbage dump off the edge of Mound A. Table 1 presents a summary of the ceramics by stratigraphic level. As can be seen, the vast majority of the pottery was found in the top meter of the unit; he quantity of sherds below is quite low. As explained above, this is attributable to the fact that the portion of the unit below a meter in depth was not part of a garbage dump, but was relatively sterile mound fill.

While appropriate type names (Williams and Thompson 1999) have been used for much of the table, not all sherds have been so named. The use of actual type names for every possible variation in Lamar pottery has been on the wane for some years, because of the rareness of such variations at most sites. Further, no photographs of the common Lamar pottery types are included in this report, because they have been exhaustively illustrated in a great many other earlier reports.

While the vast majority of the pottery from the unit are Lamar period materials (Lamar Complicated Stamped, Lamar Bold Incised, etc.), there are a few earlier minority types that bear discussion. Most prominent among these are types of the Macon Plateau period, including Bibb Plain, McDougal Plain, and Hawkins Fabric marked. These types show an unmistakable Macon Plateau period occupation at Lamar. Even though these types are rare in the unit, most cluster in the area below the Lamar period midden, just as they should. A few occurred in the mound fill levels below the Lamar garbage. Whether or not this means that the early mound levels revealed in the unit date to the Macon Plateau period is uncertain, but it is at least a possibility. Associated with these sherds are a few other minority Late Woodland types including Woodstock Complicated Stamped and Napier Complicated Stamped. Although rare, the positioning of these sherds deep in the unit support their general association with the Macon Plateau materials. Curiously missing from this group is the Late Woodland type Vining Simple Stamped.

There is a small amount of the early Mississippian Etowah Complicated Stamped material in the unit in Level 9, and a similar small amount of the slightly later Middle Mississippian Savannah Complicated Stamped material in the middle levels of the unit. These two types together, and their relative position in the strata, imply that there was at least some occupation of the site during the periods between the end of the Macon Plateau period (1100 A.D.?) and the beginning of the Lamar period (1350 A.D.). Based simply upon the evidence here, however, the occupation was either not very intense, or other areas of the site were more used during those periods. Interestingly, even though this site is less than a mile from the famous Swift Creek mound and village (9Bi3), there was not a single sherd of Swift Creek Complicated Stamped recovered from the new excavations at Lamar.

Table 2 shows the rim sherd analysis for Excavation Unit 1. The 577 sherds listed here are mostly Lamar types, with 248 consisting of folded rims from jar-form vessels, and, oddly, 248 consisting of simple rims associated with cazuela bowls! Clearly the ratio of these two vessel forms used on Mound A was about equal in proportion. The few rolled lips are most commonly associated with Etowah period sherds, and these, while not common, are more prevalent in the lower levels of the garbage dump.

Table 3 shows the stratigraphic distribution of folded rim sherds based upon widths in millimeters for the fold on the exterior of the sherds. The widths of folded (pinched, notched, or punctated) rims on Lamar period vessels has long been shown to be a sensitive time marker during the Lamar period. For reasons unknown (both to us and probably to the Indians) the widths of these strips or folds usually got wider from 1350 to 1550 AD. Table 3 shows that this pattern is also generally true at Lamar. Certainly there is much mixing in the levels (by the Indians themselves and by later natural processes such as trees and burrowing animals), but there is a relatively clear pattern as one looks at the data, from Level 10 up through Level 2, of greater numbers of wider folded rims appearing bottom to top.

The fact that there are folded rims in the range of 10-13 millimeters, and that there are some Rosette style rim decorations present (Table 2), makes it clear that there is a good early Lamar occupation at Lamar. Likewise, considering the presence of folded rims in the range greater than 20 millimeters, and some L-shaped and T-shaped

rims (again Table 2), there is certainly a later Lamar occupation. This supports Charles Hudson's contention that DeSoto and his army visited the site in 1540 AD (Hudson 1997). There is no evidence of a gap in the meter-thick garbage deposits in Excavation Unit 1, and there are folded rims with intermediate widths. Thus it is reasonably clear, for now, that the best interpretation is that the Lamar site was continuously occupied from at least 1350 until after 1540 AD. This is a rare event in light of almost all other Lamar period mound sites excavated to date in Georgia, and ultimately will require an explanation of how the chiefs at Lamar were able to accomplish what few others did.

Table 4 lists a variety of odd or specialized ceramic items by stratigraphic levels. Not too surprisingly, pottery disks and pipe fragments were relatively common through most of the Lamar levels. Pottery disks from Lamar have been studied as part of my 1975 Master's Thesis work at Florida State University, and the new data adds little to that work (Williams 1975). The smoking of tobacco on the surface of Mound A is no surprise to anyone, but it is generally understood that the amount of pipe manufacture, and, by implication, the amount of smoking, increased tremendously during the Lamar period, not just in sacred contexts but in all contexts, village and farmstead.

#### Lithics

The lithic material from Excavation Unit 1 is listed in Tables 5 and 6. Table 5 details the 763 flaked items recovered by stratigraphic level, while Table 6 lists the stratigraphic data for lithic tools of all sorts.

As can be seen from table 5, the flakes are fairly evenly distributed by level from the top to the bottom of the unit. The total number of flakes of gray to black chert of the Ridge and Valley sources in northwestern Georgia was only 23 (2.62 percent) in number. This compares with the 686 cream-colored flakes (89.91 percent) of Coastal Plain chert, the 50 flakes of Piedmont quartz (6.55 percent), and the 4 metavolcanic flakes (.52 percent) from the eastern Georgia Piedmont. Clearly the Coastal Plain materials were more available and more used by the people of Lamar. There does not appear to be any level or subperiod when there was any preference by material.

Table 5 also shows that 237 of the 686 Coastal Plain flakes had been heat treated, amounting to 34.55 percent of that collection. In terms of stage of manufacture, the total number of primary reduction flakes was only 12 (1.02 percent), secondary reduction flakes numbered 133 (18.76 percent), and tertiary flakes numbered 564 (79.55 percent). This pattern is one of almost no primary reduction and a majority of finish and/or retouch work on lithic tools. This makes sense when it is remembered that this garbage is material thrown off the mound itself. It is interesting, and perhaps noteworthy, that lithic manufacture and maintenance was a common and persistent activity on the summit of Mound A, however. This hardly seems to fall in the category of sacred activity.

I would also point out that this pattern of abundance of Lamar period lithic

debris in mound (and village) deposits is in stark contrast to the pattern in the Oconee Valley to the east. In that area, the Lamar period peoples seemingly, and very oddly, never seem to have adopted the use of stone tools at all.

The stone tools of all sorts listed in Table 6 show few patterns in their distribution stratigraphically, except that there is a peak near the very bottom (Pre Mound Level 4). This material likely dates to well before the mound and perhaps is Archaic in date.

#### Miscellaneous

Table 7 lists the weights in grams for a number of other artifact classes from Excavation Unit 1. Animal bone was relatively plentiful in these deposits, as would be expected from a garbage dump. This material has yet to be examined by a zooarchaeologist, but Elizabeth Reitz and some of her students at the University of Georgia will be examining this material in the future as part of a class. Certainly, as a simple observation, white tail deer dominates the collection.

Charcoal is present through all the Lamar garbage levels, but peaks in Level 5. Daub from earlier house stages on the mound is very common in the Lamar garbage, and totals nearly 40 pounds. Oddly, there is much unmodified rock that was thrown from the summit of the mound. Why this would have been the case is unknown.

Red pebbles are known to be associated with baking or cooking in Lamar contexts and were somewhat common in all the Lamar levels in this unit (Williams 1995). This may imply that these cooking stones were in use earlier at Lamar than they perhaps were in the Oconee River valley to the east, but we are still in our infancy with understanding these curious items.

The weights of the small sherds listed are for those sherds smaller than  $\frac{1}{2}$  inch, which were not analyzed further.


Figure 22. Excavation Unit 1, Northwestern Profile



Figure 23. Excavation Unit1, Southwestern Profile

Level	Lamar Plain	Lamar Comp. Stamped	Lamar Bold Incised	Check Stamped	Simple Stamped	Punctated	Punct/ Incised	Punct/ Stamped	Punct/ Stamped/ Incised	Stamped/ Incised	Woodstock Comp. Stamped	Napier Comp. Stamped	Etowah Comp. Stamped	Savannah Comp. Stamped	Unident. Comp. Stamped	Red Filmed Plain	Unident. Plain	Bibb Plain	McDougal Plain	Hawkins Fabric Marked	Unident. Incised	Ocmulgee Fields Incised	Shell Tempered (Historic)	Cob Marked	Cord Marked	Combed	Brushed	Fiber Temp. Plain T	ſotals
1	14	38	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56
2	229	222	30	0	0	3	0	1	0	0	0	0	0	4	0	0	0	1	0	0	0	0	0	1	1	0	2	0	494
3	367	731	53	0	0	1	12	6	1	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0	0 1	1175
4	416	889	52	0	1	0	1	1	1	0	0	0	0	0	4	0	0	4	0	0	0	5	0	0	2	0	0	0	1376
5	309	388	34	0	0	0	1	1	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	738
6	216	502	28	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	747
7	307	636	44	0	1	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	1	0	0	993
8	551	645	11	1	0	1	0	0	0	0	0	0	0	1	0	0	0	6	0	1	0	0	0	0	0	2	0	0	1219
9	397	733	0	1	0	1	0	0	0	0	0	0	7	2	0	8	0	10	0	0	2	0	0	0	0	0	0	0	1161
10	169	254	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	3	0	0	0	0	0	0	0	0	0	1	430
11	18	6	0	0	0	0	0	0	0	0	0	0	0	1	30	0	56	3	0	0	0	0	0	0	0	0	0	0	114
12	0	0	0	0	0	0	0	0	0	0	0	0	1	0	6	0	8	0	0	1	0	0	0	0	0	0	0	0	16
PM1	0	0	0	0	0	0	0	0	0	0	2	1	1	0	9	0	2	34	2	0	0	0	0	0	0	0	0	0	51
PM2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4	0	0	5	0	0	0	0	0	0	0	0	0	0	10
PM3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
PM4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
PM5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Profile	e 8	11	0	0	0	0	0	0	0	0	0	0	0	0	10	0	4	0	0	0	0	0	0	0	0	0	0	0	33
Totals	3001	5055	254	2	3	7	15	9	2	1	2	2	10	17	66	8	71	67	2	2	2	5	3	1	3	3	2	1 \$	8616

Table 1.	Ceramics	by L	evel,	Excavation	Unit	1
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	Folded Pinched	Folded Pinched	Folded Pinched	Folded Notched	Folded Notched	Folded Punctated	Folded Punctated	Folded,	Simple,	Simple,	Simple,	Simple,	Rolled,	Pinched	Notched	Flattened Notched				
Level	Plain	Stamped	Incised	Plain	Stamped	Plain	Stamped	Unknown	Plain	Incised	Stamped	Punctated	Stamped	Lip	Lip	Lip	L-Shaped	T-Rim	Rosette	Totals
1	1	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	4
2	3	1	0	2	1	1	1	0	9	7	5	1	0	2	0	0	0	0	1	34
3	15	1	3	1	0	6	0	0	20	13	21	1	0	6	0	3	1	1	0	92
4	21	4	0	2	0	4	1	4	12	19	4	0	2	0	0	0	0	2	0	75
5	9	4	0	1	0	2	0	1	13	10	5	0	1	7	1	0	0	0	0	54
6	8	1	0	5	2	6	0	0	11	7	1	1	0	5	1	0	1	0	0	49
7	19	4	0	5	1	7	3	2	15	14	1	0	2	2	0	0	0	0	0	75
8	19	4	1	2	0	3	0	0	16	1	3	0	1	8	1	0	0	1	1	61
9	40	15	0	0	0	1	0	0	13	0	9	0	9	4	1	0	1	0	0	93
10	7	4	0	0	0	0	0	0	7	0	3	0	6	6	3	0	0	0	0	36
11	0	0	0	0	0	0	0	0	2	0	1	0	0	1	0	0	0	0	0	4
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	142	38	4	18	4	30	5	7	119	73	53	3	21	41	7	3	3	4	2	577

**Table 2.** Rim Sherds by Level, Excavation Unit 1

Level	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	Totals
1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	0	0	0	0	0	1	2	2	2	1	0	0	0	0	1	0	2	0	0	0	0	0	0	0	11
3	2	0	0	0	3	0	2	1	0	1	3	0	1	0	1	1	1	0	2	0	0	0	0	0	18
4	0	0	1	2	0	2	2	3	3	1	2	2	0	0	3	3	1	0	3	0	0	0	1	0	29
5	0	0	0	0	0	0	0	3	1	0	2	2	1	2	1	0	0	0	1	0	0	0	1	0	14
6	0	0	0	2	0	0	0	1	1	4	1	2	3	2	0	0	1	0	0	0	0	0	0	0	17
7	0	0	1	0	3	1	3	2	3	2	1	1	2	4	0	1	2	1	0	0	0	0	0	0	27
8	0	0	0	2	1	1	2	6	0	2	2	3	1	0	1	0	1	0	0	0	0	0	0	1	23
9	0	0	0	0	6	7	11	9	6	2	1	0	0	2	1	1	0	0	0	0	0	0	0	1	47
10	0	1	0	3	1	0	0	3	3	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	14
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	2	1	2	10	14	12	22	30	19	15	12	11	8	10	8	6	8	1	6	0	0	0	2	2	201

**Table 3.** Folded Rim Widths (in mm) by Level, Excavation Unit 1

Level	Disk	Effigy	Pipe	Blob	Bead	Handle	Node	Totals
1	0	0	0	0	0	0	0	0
2	1	0	2	0	0	1	0	4
3	5	0	7	1	0	1	2	16
4	1	0	2	1	0	0	1	5
5	0	1	2	0	0	0	2	5
6	2	0	0	4	0	1	0	7
7	5	0	0	0	0	2	0	7
8	1	0	1	2	1	1	3	9
9	1	0	6	0	0	1	1	9
10	4	0	0	0	0	1	1	6
11	1	0	0	0	0	0	0	1
12	0	0	0	0	0	0	0	0
PM1	0	0	0	0	0	1	0	1
PM2	0	0	0	0	0	0	0	0
PM3	0	0	0	0	0	0	0	0
PM4	0	0	0	0	0	0	0	0
PM5	0	0	0	0	0	0	0	0
Profile	0	0	0	0	0	0	0	0
Totals	21	1	20	8	1	9	10	70

 Table 4. Oddities by Level, Excavation Unit 1

Level	Primary R&V	Primary CP/H	Primary CP/NH	Secondary R&V	Secondary CP/H	Secondary CP/NH	Tertiary R&V	Tertiary CP/H	Tertiary CP/NH	Quartz Crystal	Quartzite	Metavolcanic	Totals
1	0	0	0	0	0	0	0	2	2	0	0	0	4
2	0	0	0	0	3	3	2	9	18	1	0	0	36
3	0	1	1	0	1	2	0	15	25	3	0	0	48
4	0	2	0	1	5	6	0	12	22	5	3	1	57
5	0	0	0	0	3	4	1	19	34	0	1	0	62
6	0	0	2	2	9	8	1	12	27	0	2	0	63
7	0	0	0	0	3	4	0	11	24	4	3	0	49
8	1	0	1	3	5	9	5	11	20	1	1	1	58
9	0	0	1	1	3	2	0	14	23	2	2	0	48
10	0	0	2	0	4	4	3	6	21	0	4	0	44
11	0	0	0	0	0	4	1	5	16	0	1	0	27
12	0	0	0	0	0	0	0	0	2	0	0	0	2
PM1	0	1	0	0	2	1	1	11	0	5	1	0	22
PM2	0	0	0	0	0	4	0	8	23	1	1	1	38
PM3	0	0	0	0	2	0	0	0	23	0	1	0	26
PM4	0	0	0	0	15	13	0	21	47	0	2	0	98
PM5	0	0	0	0	2	5	1	18	44	2	4	0	76
Profiles	0	0	0	0	0	0	0	2	2	0	0	1	5
Totals	1	4	7	7	57	69	15	176	373	24	26	4	763

 Table 5. Flakes by Level, Excavation Unit 1

	Flake Tool	Flake Tool	Bifacial Tool	Bifacial Tool	Bifacial Tool	РРК	PPK	РРК	РРК	Core	Core	Core	Core	Other	Other	Other	Other	
Level	CP/H	CP/NH	R&V	CP/NH	Meta-Vol	R&V	CP/H	CP/NH	Quartz	CP/H	CP/NH	Quartz	Quartzite	CP/H	CP/NH	Quartz	Quartzite	Totals
1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
2	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	3
3	2	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	7
4	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	2
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2
7	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	3
9	0	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	3
10	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
11	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	3
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	2
PM2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM4	1	6	0	0	0	0	0	0	0	1	1	0	0	6	7	0	0	22
PM5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	3	7	1	1	1	1	3	1	2	1	1	1	1	10	17	1	2	54

**Table 6.** Lithic Tools by Level, Excavation Unit 1

Level	Bone	Charcoal	Daub	Unmodified Rock	Red Pebbles	Small Sherds
1	7.8	0.0	129.5	171.0	8.2	65.3
2	17.6	0.6	1422.3	603.7	97.3	511.2
3	120.7	1.2	2524.5	4892.9	156.9	979.2
4	473.2	21.7	3024.5	3915.0	148.7	836.6
5	293.5	63.1	2359.3	1791.2	137.2	576.4
6	321.6	12.3	1650.8	1445.3	135.6	457.8
7	337.3	12.8	3319.7	908.7	360.4	434.3
8	845.4	5.9	1514.5	1490.3	85.7	879.3
9	1144.6	15.0	870.6	1308.7	213.6	770.5
10	631.2	11.2	532.0	805.9	83.0	385.1
11	59.4	3.2	198.3	376.3	36.3	80.1
12	4.2	0.4	42.2	35.5	0.0	0.0
PM1	0.4	0.1	10.3	298.5	16.0	28.0
PM2	0.1	0.2	32.4	146.1	18.9	6.1
PM3	0.1	0.2	2.7	0.0	3.1	2.2
PM4	0.0	0.0	7.0	444.6	33.6	1.3
PM5	0.0	0.2	0.0	472.4	17.1	1.0
Backdirt	17.8	0.0	0.0	0.0	0.0	0.0
Profiling	4.5	0.5	114.5	86.4	41.9	39.7
Totals	4279.4	148.4	17755.0	19192.5	1593.5	6054.0

**Table 7.** Weights of Items by Level in Grams, Excavation Unit 1

# **Excavation Unit 2**

Excavation Unit 2 was placed on the south-southeastern edge of Mound B. This location did not have as

prominently a raised area as did Mound A, but there was a small rise or lump in this area – presumably from garbage thrown off Mound B in that direction. As with Excavation Unit 1, this unit was not placed in alignment with the grid for the same reasons as on Mound A. Further, the excavation levels were also thicker on the uphill side just as in Excavation Unit 1.

This unit was not nearly as deep as was Excavation Unit



Figure 24. Work in Progress at Excavation Unit 2

1, however. The maximum depth on the higher northwestern wall was 140 centimeters, and the depth on the lower side was 105 centimeters. A probable human burial was encountered in the northwestern part of the square at a depth of 90 centimeters on the high wall. This area was isolated and not excavated further. There is even some doubt of the identification of this area as a burial because the area was neither exposed nor



Figure 25. Completed Excavation Unit 2

photographed in accord with the wishes of the Monument. The size of the isolated area implies that the possible burial was in the flexed position, but this is uncertain.

As with Excavation Unit 1, we stopped excavating deeper, not because it was certain the unit was to sterile soil – it probably was not – but because the soil was very wet clay, which was almost completely unscreenable. There may well be Archaic period deposits below, but, based upon the post hole tests, they likely are not very rich. Two profiles were recorded of Excavation Unit 2. These are presented here as Figures 26 and 27. Both units show a covering of recent brown-red clay alluvium as a result of flooding of the site in the last 200 years from poor agriculture practices upstream. As expected, this sterile layer is thicker on the downhill side where it is approximately 25 centimeters thick. On the uphill side it is only about 11 centimeters thick and apparently disappears quickly as one goes up the side of Mound B.

Layers B, C, D, and F (only on Figure 26) are all slight variations on what archaeologically can be called very rich midden. The only variation here is just how dark the midden is. Certainly all of these layers produced much in the way of Indian pottery, since it is clear that this area was a garbage dump off Mound B at several stages during the history of the mound.

Layer E on the two profiles represents a reddish sandy soil that apparently predates the garbage deposition in this area. This layer may be close to the level of the original village or premound topsoil layer, but this is uncertain.

### **Ceramics**

The ceramics from Excavation Unit 2 are presented by stratigraphic level in Table 8. As can be seen, there were 2501 sherds recovered in this excavation, or only 29.03 percent as many as were recovered from Excavation Unit 1 – the garbage dump on Mound B was not as rich as was the one on Mound A (or perhaps it should be said that Mound B was not as dirty!). Still, this is a relatively large amount of pottery from such a small unit, particularly when it is remembered that a portion of the unit was unexcavated because of the probable burial located there.

As with Excavation Unit 1, a small amount of Macon Plateau pottery (Bibb Plain) was located in this unit, as well as some historic Walnut Roughened pottery. Further there was some Middle Mississippian Savannah Complicated Stamped pottery, as well as a full complement of Lamar period pottery. Certainly, numerically, the Lamar pottery completely outweighed all the other earlier and later materials.

The rim sherds from Excavation Unit 2 are presented in Table 9. The 178 sherds represented here break down almost identically to those from Excavation Unit 1 in almost all respects. The proportion of folded rim jar sherds (74) is almost identical to the simple cazuela rims (76), just as was the case in Excavation Unit 1. There is little to point to in the way of stratification patterns within the garbage dump either.

Table 10 shows the widths of measurable folded rims, just as was done for Excavation Unit 1. A similar pattern to that from Mound A is present in Mound B, although there seem to be fewer of the widest rims present in Mound B. This might be ephemeral evidence that Mound B was not used as long as Mound A, but the evidence is only barely suggestive at best. Certainly this question should be addressed in the future. There seems no real doubt, however, that the mound was used to some degree throughout the majority of the Lamar period, based upon the present evidence.



Figure 26. Excavation Unit 2, Northwestern Profile

A - Brownish Red Clay Alluvium

B - Dark Brown to Black Loam with much Pottery and Charcoal

C - Medium Brown loam with some Charcoal

D - Dark Brown / Greyish Brown Loam with some Charcoal

E - Reddish Brown Sandy Loam

F - Dark Brown Loam with much Pottery and Charcoal



Figure 27. Excavation Unit 2, Northeastern Profile

- A Brownish Red Clay Alluvium B Dark Brown to Black Loam with much Pottery and Charcoal
- C Medium Brown loam with some Charcoal
- D Dark Brown / Greyish Brown Loam with some Charcoal
- E Reddish Brown Sandy Loam

Table 11 shows the stratigraphic distribution of the odd ceramic artifacts from Excavation Unit 2. There were only 21 items total, with fragments of tobacco pipes being the most common. The majority of the pipe fragments were located in the upper levels of the garbage dump here off Mound B.

#### Lithics

The lithic pattern from Excavation Unit 2 is, not too surprisingly, very similar to that from Excavation Unit 1. The data on the flakes from Excavation Unit 2 are shown in Table 12, and the data on the lithic tools are presented in Table 13.

A total of 580 flakes was located in this unit. These are divided by material as follows: Coastal Plain chert - 518 (89.31 percent); Ridge and Valley chert - 15 (2.58 percent); quartz of all types - 43 (7.41 percent); and Piedmont Metavolcanic material - 4 (.69 percent). These percentages are almost identical to those percentages from Excavation Unit 1 and likely represent good percentages for all of the lithic inventory for any future excavations at Lamar. It should also be noted that, like the unit on Mound A, the lithic material is quite evenly distributed by level and likely represents material thrown from the summit of Mound B.

A total of 228 of the 518 Coastal Plain flakes from Excavation Unit 2 had been heat treated, a percentage of 44.01. This is 10 percent greater than that from Excavation Unit 1 (34.55) and gives a range to be expected in future work at Lamar.

Of the 534 chert flakes from the unit, 442 (82.77 percent) were of tertiary stage finishing or retouch flakes. This is very similar to the percentage of 79.55 from Excavation Unit 1. The number of secondary flakes in Excavation Unit 2 was 86 (16.10 percent), and the number of primary flakes was only 6 (1.12 percent). Again these figures indicate some limited lithic tool manufacture on Mound B but much more finishing and resharpening of tools.

As shown in Table 13, the number of actual lithic tools was low – numbering only 18 total. Oddly, these were concentrated in Levels 3 and 5. Why this might be the case is unknown. There were no projectile points recovered from this unit.

### Miscellaneous

The weights of miscellaneous items recovered from Excavation Unit 2 are presented in Table 14. Like Excavation Unit 1, there seems to be no clear pattern of distribution of any items by level. There are a few interesting comparisons that can be made, however. Animal bone is less common in Excavation Unit 2. The total was only 657 grams, or only 15.35 percent of the quantity in Excavation Unit 1. Was food preparation less important on Mound B than A? Also, there is a small amount of river clam present in the deposits from Mound B while river clam was absent from Mound A's garbage.

Charcoal was almost as abundant from Mound B as from Mound A (94.2 grams as opposed to 148.4 grams). Daub, however, was much rarer in the Mound B unit,

amounting to only 3395.7 grams or only 19.13 percent. It was present in every level, however. What this lower daub amount might mean is unknown at present.

The unmodified rock quantity (15,283.4 grams) was slightly less than the 19,192.5 grams from Excavation Unit 1, but this is not considered to be a significant difference. The small sherds were only 37.35 percent as plentiful in Excavation Unit 2 (2261.4 as opposed to 6054 from Excavation Unit 1), but this merely reflects the proportionately lower amount of pottery form Excavation Unit 2.

Interestingly, the amount of red pebbles from Excavation Unit 2 was greater than the amount from Excavation Unit 1, 2059.6 compared to 1593.5 grams. Further, there was a peak in the bottom Levels 10 and 11 of Excavation Unit 2. Was this sort of rockpebble baking more common in the early history of Mound B? For the present this is merely food for future thought about the Lamar site.

		Lamar	Lamar				Savannah		Red		Napier	Alabama		
	Lamar	Complicated	Bold		Punctated/	Stamped/	Complicated	Bibb	Filmed	Walnut	Complicated	River	Columbia	
Level	Plain	Stamped	Incised	Punctated	Incised	Incised	Stamped	Plain	Plain	Roughened	Stamped	Incised	Incised	Totals
1	13	21	0	0	0	0	0	0	0	0	0	0	0	34
2	141	263	5	1	0	0	1	0	0	4	0	0	0	415
3	77	318	19	0	1	0	1	4	0	3	0	0	0	423
4	214	157	5	0	0	1	3	0	0	0	0	1	0	381
5	89	201	21	1	0	0	3	0	0	0	0	0	0	315
6	73	179	10	0	0	0	4	1	0	0	0	0	0	267
7	140	173	2	0	0	0	1	0	0	0	0	0	0	316
8	122	77	0	0	0	0	0	1	1	0	1	0	1	203
9	43	35	11	0	0	0	0	0	0	0	0	0	0	89
10	13	11	0	0	0	0	0	0	0	1	0	0	1	26
11	4	4	0	0	0	0	0	0	0	0	0	0	0	8
Profile	8	16	0	0	0	0	0	0	0	0	0	0	0	24
Totals	937	1455	73	2	1	1	13	6	1	8	1	1	2	2501

**Table 8.** Ceramics by Level, Excavation Unit 2

	Folded	Folded	Folded	Folded	Folded	Folded	Folded	Folded	Unident.	Unident.	Pinched	Pinched	Notched									
	Pinched	Pinched	Pinched	Punctated	Punctated	Punctated	Notched	Notched	Folded	Folded	Lip	Lip	Lip	Simple,	Simple,	Simple,	Rosette	T Rim	Rolled	Rolled	Rolled	
Level	Plain	Stamped	Incised	Plain	Stamped	Incised	Plain	Stamped	Plain	Stamped	Plain	Stamped	Plain	Incised	Plain	Stamped	Plain	Plain	Plain	Stamped	Other	Totals
1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2	2	0	0	0	0	0	1	0	0	0	0	1	0	3	6	1	0	0	0	0	0	14
3	14	1	1	1	0	1	1	2	1	1	1	0	2	4	6	1	1	1	0	0	0	39
4	1	0	0	3	0	0	0	0	0	0	2	0	0	1	6	3	0	0	0	0	0	16
5	7	2	0	3	1	0	0	0	0	0	2	0	0	6	5	5	0	0	2	0	0	33
6	2	3	0	0	0	0	4	0	0	0	0	0	0	7	3	4	0	0	10	1	0	34
7	8	0	0	0	0	0	0	0	0	0	3	0	0	2	6	1	0	0	0	0	0	20
8	7	0	0	0	0	0	2	0	0	0	0	0	0	4	0	0	0	0	1	0	1	15
9	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	4
10	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	44	8	1	7	1	1	8	2	1	1	8	1	2	27	34	15	1	1	13	1	1	178

**Table 9.** Rim Sherds by Level, Excavation Unit 2

Level	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Totals
1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	0	0	1	1	0	1	1	0	1	0	1	0	0	6
3	0	0	0	9	2	1	3	1	2	0	0	1	2	1	1	0	1	0	0	24
4	0	0	0	0	1	3	1	0	2	0	0	0	1	0	0	0	0	0	1	9
5	0	0	0	0	0	1	0	0	2	0	1	1	1	0	0	0	0	0	0	6
6	1	0	0	3	2	1	1	0	0	0	0	0	1	0	0	0	0	0	0	9
7	0	0	0	2	0	0	2	1	2	1	0	0	0	0	0	0	0	0	0	8
8	0	0	0	1	1	1	1	1	1	1	0	0	0	1	0	0	0	0	0	8
9	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Profile	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Totals	1	0	0	15	7	7	8	4	11	3	1	3	6	2	2	0	2	0	1	73

**Table 10.** Folded Rim Widths (in mm) by Level, Excavation Unit 2

Level	Disks	Effigy	Pipes	Beads	Handles	Nodes	Totals
1	0	0	0	0	0	0	0
2	0	0	4	0	0	0	4
3	0	0	4	0	0	0	4
4	0	0	1	0	0	2	3
5	0	1	1	0	0	0	2
6	0	0	0	0	0	0	0
7	0	0	0	0	2	1	3
8	0	2	0	0	0	0	2
9	0	1	0	0	0	0	1
10	0	0	1	0	0	0	1
11	0	0	0	0	0	0	0
Profile	0	0	0	1	0	0	1
Totals	0	4	11	1	2	3	21

 Table 11. Oddities By Level, Excavation Unit 2

Level	Primary CP/NH	Secondary R&V	Secondary CP/H	Secondary CP/NH	Tertiary R&V	Tertiary CP/H	Tertiary CP/NH	Quartz Crystal	Quartzite	Meta- Volcanic	Totals
1	1	0	1	1	1	7	7	1	3	0	22
2	2	1	6	3	2	20	42	4	2	0	82
3	1	2	8	9	4	24	18	1	1	0	68
4	1	0	5	7	1	19	44	2	2	1	82
5	0	0	14	6	0	23	22	1	1	0	67
6	0	1	1	0	2	8	12	0	2	0	26
7	0	0	0	1	0	27	8	0	4	0	40
8	1	0	1	0	0	15	17	0	1	0	35
9	0	0	9	0	1	23	33	2	5	3	76
10	0	0	0	0	0	0	0	0	0	0	0
11	0	0	5	1	0	9	48	0	11	0	74
Profile	0	0	3	0	0	0	5	0	0	0	8
Totals	6	4	53	28	11	175	256	11	32	4	580

**Table 12.** Flakes by Level, Excavation Unit 2

Level	Flake Tool CP/H	Flake Tool CP/NH	Bifacial Tool CP/H	Bifacial Tool CP/NH	Other CP/H	Other CP/NH	Totals
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	0	0	0	0	4	1	5
4	0	0	0	0	0	0	0
5	1	2	0	0	1	6	10
6	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0
8	0	0	2	0	0	0	2
9	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
11	0	0	0	1	0	0	1
Totals	1	2	2	1	5	7	18

**Table 13.** Lithic Tools by Level, Excavation Unit 2

					Unmodified	Red	Small
Level	Bone	Shell	Charcoal	Daub	Rock	Pebbles	Sherds
1	0.0	0.0	0.9	30.3	132.3	10.6	36.3
2	6.9	0.0	1.4	357.9	1894.8	129.5	480.2
3	14.5	0.0	21.3	354.5	1320.7	131.6	409.9
4	65.4	0.0	13.9	277.4	1118.0	77.6	354.8
5	74.0	1.1	1.7	740.3	1660.3	112.5	390.4
6	208.3	0.7	1.0	731.0	858.9	61.9	99.3
7	90.7	0.8	13.0	393.8	500.7	178.0	238.9
8	31.3	0.0	8.8	21.6	861.2	88.3	135.0
9	107.1	0.0	4.8	310.5	1621.0	289.0	72.4
10	11.6	0.0	27.3	66.1	2765.0	460.3	14.2
11	37.8	0.3	0.0	82.8	2485.0	501.7	13.9
Profile	9.4	3.5	0.1	29.5	65.5	18.6	16.1
Totals	657.0	6.4	94.2	3395.7	15283.4	2059.6	2261.4

**Table 14.** Weights of Items by Level in Grams, Excavation Unit 2

#### **Summary and Recommendations**

#### Summary

The 1996 testing at the Lamar site was designed to accomplish a few simple goals. These were reasonably well accomplished. A new grid was installed at the site (with two permanent concrete markers that will permit the grid to be reimplemented when needed in the future). With this new grid, it was possible to clear up some confusion about the location of several past excavations at the site, particularly the locations of the many trenches excavated at the end of the WPA era that defined the famous Lamar palisade.

With this grid in place, a new contour map of the site was made using the Surfer computer program. This data is stored on the CD at the end of this report so it can be reused to create maps with different contour intervals if desired in the future. It is clearer than ever that the highest area of the site is south of Mound A, and this area should perhaps be interpreted as an old eroded natural levee fragment in the back swamp of the Ocmulgee River flood plain. If this is true, this may have been the original location of the site that eventually expanded to the east and assumed its present size and shape.

A series of posthole tests were made throughout the village area and permitted the creation of density maps for ceramics and lithics across the site – a shorthand way of determining where the most intense occupation at the site had been located. It is clear that the high area south and southeast of Mound A is the most intensively occupied area on the site. With 20-20 hindsight, this is exactly why James Ford put most of his excavation units in this area. Interestingly, there is a substantial amount of midden between Mound A and B. and thus it is not at all clear that this area between the mounds should be thought of as a plaza in the sense suggested by William Bartram (Figure 28). Indeed, the similarity of Figure 28 to the layout at the Lamar site (two mounds, one rectangular and one round) has caused some people to suspect that his drawing literally was made after seeing the Lamar site. While Bartram's model may apply in many (some?) Late Mississippian sites, I am not sure it is true for 9Bi2.



**Figure 28.** William Bartram's "Ancient Creek Ceremonial Center"

New contour maps were made on the summits of both mounds at Lamar, and the results are quite interesting. In spite of much earlier looting, it appears that a large earthlodge or earth-banked structure may have sat upon the northwestern portion of the summit of Mound A as its final structure/habitation. Both the presence of this possible structure and its non-central location on the summit are remarkable.

Mound B has a raised rim around 75 percent of its summit perimeter as was made clear from the contour map of the summit. This must be interpreted in light of the strange spiral ramp around this mound. A new functional hypothesis for this "ramp" was put forward, conjecturing that this mound was in the process of being enlarged when it was abandoned, and the spiral ramp is a feature of the construction method rather than the eventual intended final shape.

Two excavation units, each 2 by 2 meters in size, were placed into apparent garbage dumps off the lower edges of Mounds A and B. Both of these provided the best available stratigraphic excavations into rich midden for any Lamar period site from central Georgia. Unlike any other Lamar period mound center examined to date, this site appears to have been continuously occupied throughout the entire Lamar period (1350-1600 A.D.). This is unusual and will eventually need to be explained on economic, social, and political levels.

It was also clear from the unit at the base of Mound A that there was likely a Macon Plateau period mound stage or two deeply buried in the southeastern part of the edge of that mound. Certainly the relationship of Lamar to the main Macon Plateau site, 9Bi1, must be further explored in the future.

It was also found that some very late Ocmulgee Fields occupation (1690-1715 A.D.) occurred in the area around Excavation Unit 2 on the southeastern edge of Mound B. Certainly the relationship of this material to that from the Trading Post at the Macon Plateau site should be examined in the future. Was there a substantial occupation at Lamar at this time, or is just a small farmstead represented?

More detailed analyses of the 1996 material are certainly possible and will be pursued, time permitting, in the future. For example, even though the sherds from the post hole tests were quite small in size, and thus difficult to assign to known types, it may be possible to carefully reexamine this data with an eye toward defining different component distributions within the full site boundaries.

#### Recommendations

The Lamar site is a wonderful and important archaeological resource. It was the possible home for the 16<sup>th</sup> century chiefdom of Ichisi (Hudson 1997:160). It was occupied longer than almost any other known Lamar period mound site. It has the only extant spiral shaped mound in North America. For all this, however, it is unknown to the general public.

In light of these facts, I feel compelled to make some recommendations for the future care of the site. The fact that the site has regrown since the 1930s into a near

climax forest has had unforseen consequences. As the mature trees reach the end of their lives, they will fall with their extracted root balls further disturbing the archaeological remains at the site. Figure 29, made in 1996, shows that this process is underway now. In the past, most people have assumed that these trees were growing only in recent alluvium. While this may be true for portions of the site, in some areas the midden is shallow enough that such tree tips will severely damage the archaeological deposits.

The understory at Lamar is presently dominated by privet hedge. This has

created a virtually impenetrable mass over most of the site, and made any research (or even cursory examination!) at the site extremely difficult. I believe all the privet should be removed from the site (a monumental task in itself!), and probably most of the trees should be removed as well. The site should be planted in grass and regularly bushhogged. Certainly trees should be removed from the mounds. As these trees



Figure 29. Large Tree Tip at the Lamar Site, 1996

fall in the future, they will certainly do great damage. Opening the site would make it more enjoyable by the general public as well.

It is uncertain to me whether the levee, if ever completed, would really offer much protection to the site. Certainly the three walls of the present levee create a strange addition to the present character of the site. Also, it appears that some of the palisade was unfortunately covered by the eastern levee in 1940. Maybe the levees should be completely and carefully removed in the future. Perhaps the earth in them could be used to elevate the base of a visitor station above any reasonable flood level there. Flooding of the site cannot reasonably be permanently stopped – even if the levee was completed. The ground there stays muddy and wet all the time now. By returning the area to grass or pasture, it would dry out rapidly after floods.

In any event, Lamar is a vital and important part of Ocmulgee National Monument, and it should not forever be relegated to second class citizenship simply because it is in located deep in the swamps of central Georgia.

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# Appendix 1 Artifact Catalog

Provenience	rovenience Lot Location / Description		Date
1	1	290 North, 350 East, Posthole Test	July 15, 1996
1	2	290 North, 380 East, Posthole Test	July 15, 1996
1	3	290 North, 410 East, Posthole Test	July 15, 1996
1	4	290 North, 560 East, Posthole Test	July 2, 1996
1	5	320 North, 260 East, Posthole Test	July 15, 1996
1	6	320 North, 290 East, Posthole Test	July 15, 1996
1	7	320 North, 290 East, Posthole Test	July 15, 1996
1	8	320 North, 320 East, Posthole Test	July 8, 1996
1	9	320 North, 350 East, Posthole Test	July 8, 1996
1	10	320 North, 380 East, Posthole Test	July 8, 1996
1	11	320 North, 410 East, Posthole Test	July 8, 1996
1	12	320 North, 440 East, Posthole Test	July 15, 1996
1	13	320 North, 470 East, Posthole Test	July 15, 1996
1	14	320 North, 500 East, Posthole Test	July 2, 1996
1	15	320 North, 530 East, Posthole Test	July 2, 1996
1	16	320 North, 560 East, Posthole Test	July 2, 1996
1	17	350 North, 260 East, Posthole Test	July 15, 1996
1	18	350 North, 290 East, Posthole Test	July 15, 1996
1	19	350 North, 320 East, Posthole Test	July 8, 1996
1	20	350 North, 350 East, Posthole Test	July 8, 1996
1	21	350 North, 380 East, Posthole Test	July 8, 1997
1	22	350 North, 410 East, Posthole Test	July 8, 1996
1	23	350 North, 440 East, Posthole Test	July 8, 1996
1	24	350 North, 470 East, Posthole Test	July 2, 1996
1	25	350 North, 500 East, Posthole Test	July 2, 1996
1	26	350 North, 530 East, Posthole Test	July 2, 1996
1	27	350 North, 560 East, Posthole Test	July 2, 1996
1	28	350 North, 590 East, Posthole Test	July 3, 1996
1	29	350 North, 620 East, Posthole Test	July 15, 1996
1	30	380 North, 260 East, Posthole Test	July 10, 1996
1	31	380 North, 290 East, Posthole Test	July 10, 1996
1	32	380 North, 320 East, Posthole Test	July 10, 1996
1	33	380 North, 350 East, Posthole Test	July 10, 1996
1	34	380 North, 380 East, Posthole Test	July 10, 1996
1	35	380 North, 410 East, Posthole Test	July 10, 1996
1	36	380 North, 440 East, Posthole Test	July 10, 1996
1	37	380 North, 470 East, Posthole Test	July 2, 1996
1	38	380 North, 500 East, Posthole Test	July 2, 1996
1	39	380 North, 530 East, Posthole Test	July 15, 1996

Provenience	Lot Location / Description		Date
1	40	380 North, 560 East, Posthole Test	July 2, 1996
1	41	380 North, 590 East, Posthole Test	July 3, 1996
1	42	380 North, 620 East, Posthole Test	July 10, 1996
1	43	410 North, 260 East, Posthole Test	July 10, 1996
1	44	410 North, 290 East, Posthole Test	July 10, 1996
1	45	410 North, 320 East, Posthole Test	July 10, 1996
1	46	410 North, 350 East, Posthole Test	July 10, 1996
1	47	440 North, 350 East, Posthole Test	July 10, 1996
1	48	440 North, 380 East, Posthole Test	July 10, 1996
1	49	440 North, 410 East, Posthole Test	July 9, 1996
1	50	440 North, 440 East, Posthole Test	June 26, 1996
1	51	440 North, 470 East, Posthole Test	June 26, 1996
1	52	440 North, 500 East, Posthole Test	June 26, 1996
1	53	440 North, 530 East, Posthole Test	July 2, 1996
1	54	440 North, 560 East, Posthole Test	July 2, 1996
1	55	440 North, 590 East, Posthole Test	July 3, 1996
1	56	440 North, 620 East, Posthole Test	July 3, 1996
1	57	470 North, 260 East, Posthole Test	July 15, 1996
1	58	470 North, 290 East, Posthole Test	July 11, 1996
1	59	470 North, 320 East, Posthole Test	July 11, 1996
1	60	470 North, 410 East, Posthole Test	July 9, 1996
1	61	470 North, 440 East, Posthole Test	July 9, 1996
1	62	470 North, 440 East, Posthole Test	July 2, 1996
1	63	470 North, 500 East, Posthole Test	June 26, 1996
1	64	470 North, 530 East, Posthole Test	July 2, 1996
1	65	470 North, 560 East, Posthole Test	July 2, 1996
1	66	470 North, 590 East, Posthole Test	July 3, 1996
1	67	470 North, 620 East, Posthole Test	July 3, 1996
1	68	500 North, 260 East, Posthole Test	July 11, 1996
1	69	500 North, 290 East, Posthole Test	July 11, 1996
1	70	500 North, 320 East, Posthole Test	July 11, 1996
1	71	500 North, 350 East, Posthole Test	July 11, 1996
1	72	500 North, 410 East, Posthole Test	July 15, 1996
1	73	500 North, 440 East, Posthole Test	June 27, 1996
1	74	500 North, 470 East, Posthole Test	July 16, 1996
1	75	500 North, 470 East, Posthole Test	June 26, 1996
1	76	500 North, 500 East, Posthole Test	June 26, 1996
1	77	500 North, 530 East, Posthole Test	July 3, 1996
1	78	500 North, 590 East, Posthole Test	July 3, 1996
1	79	500 North, 620 East, Posthole Test	July 3, 1996
1	80	530 North, 620 East, Posthole Test	July 11, 1996
1	81	530 North, 290 East, Posthole Test	July 11, 1996
1	82	530 North, 320 East, Posthole Test	July 11, 1996

Provenience	Lot	Location / Description	Date
1	83	530 North, 350 East, Posthole Test	July 11, 1996
1	84	530 North, 380 East, Posthole Test	June 27, 1996
1	85	530 North, 410 East, Posthole Test	July 12, 1996
1	86	530 North, 440 East, Posthole Test	June 26, 1996
1	87	530 North, 470 East, Posthole Test	July 12, 1996
1	88	530 North, 500 East, Posthole Test	June 28, 1996
1	89	530 North, 530 East, Posthole Test	July 9, 1996
1	90	530 North, 560 East, Posthole Test	July 9, 1996
1	91	530 North, 590 East, Posthole Test	July 9, 1996
1	92	530 North, 620 East, Posthole Test	July 3, 1996
1	93	560 North, 260 East, Posthole Test	July 11, 1996
1	94	560 North, 290 East, Posthole Test	July 16, 1996
1	95	560 North, 320 East, Posthole Test	July 11, 1996
1	96	560 North, 350 East, Posthole Test	July 11, 1996
1	97	560 North, 380 East, Posthole Test	June 27, 1996
1	98	560 North, 410 East, Posthole Test	June 27, 1996
1	99	560 North, 440 East, Posthole Test	July 16, 1996
1	100	560 North, 440 East, Posthole Test	June 27, 1996
1	101	560 North, 470 East, Posthole Test	July 12, 1996
1	102	560 North, 500 East, Posthole Test	June 28, 1996
1	103	560 North, 530 East, Posthole Test	July 9, 1996
1	104	560 North, 560 East, Posthole Test	July 8, 1996
1	105	560 North, 590 East, Posthole Test	July 9, 1996
1	106	560 North, 620 East, Posthole Test	July 9, 1996
1	107	590 North, 260 East, Posthole Test	July 11, 1996
1	108	590 North, 290 East, Posthole Test	July 11, 1996
1	109	590 North, 320 East, Posthole Test	July 11, 1996
1	110	590 North, 350 East, Posthole Test	July 12, 1996
1	111	590 North, 380 East, Posthole Test	June 27, 1996
1	112	590 North, 410 East, Posthole Test	July 12, 1996
1	113	590 North, 440 East, Posthole Test	July 12, 1996
1	114	590 North, 470 East, Posthole Test	July 12, 1996
1	115	590 North, 500 East, Posthole Test	June 28, 1996
1	116	590 North, 530 East, Posthole Test	July 1, 1996
1	117	590 North, 560 East, Posthole Test	July 2, 1996
1	118	590 North, 590 East, Posthole Test	July 9, 1996
1	119	590 North, 620 East, Posthole Test	July 16, 1996
1	120	590 North, 620 East, Posthole Test	July 9, 1996
1	121	620 North, 260 East, Posthole Test	July 11, 1996
1	122	620 North, 290 East, Posthole Test	July 11, 1996
1	123	620 North, 290 East, Posthole Test	July 11, 1996
1	124	620 North, 320 East, Posthole Test	July 11, 1996
1	125	620 North, 350 East, Posthole Test	July 11, 1996

Provenience	enience Lot Location / Description		Date
1	126	620 North, 380 East, Posthole Test	June 27, 1996
1	127	620 North, 410 East, Posthole Test	July 12, 1996
1	128	620 North, 440 East, Posthole Test	July 12, 1996
1	129	620 North, 470 East, Posthole Test	July 12, 1996
1	130	620 North, 470 East, Posthole Test	July 1, 1996
1	131	620 North, 500 East, Posthole Test	June 28, 1996
1	132	620 North, 530 East, Posthole Test	July 1, 1996
1	133	620 North, 560 East, Posthole Test	July 9, 1996
1	134	620 North, 590 East, Posthole Test	July 9, 1996
1	135	620 North, 620 East, Posthole Test	July 9, 1996
1	136	650 North, 500 East, Posthole Test	July 9, 1996
1	137	Posthole Test on Southeastern Flank of Mound A	July 11, 1996
1	138	Posthole Test on Southeastern Flank of Mound B	July 15, 1996
1	139	440 North, 260 East, Posthole Test	July 10, 1996
1	140	440 North, 290 East, Posthole Test	July 10, 1996
1	141	440 North, 320 East, Posthole Test	July 10, 1996
1	142	440 North, 380 East, Posthole Test	July 10, 1996
1	143	410 North, 410 East, Posthole Test	July 10, 1996
1	144	410 North, 440 East, Posthole Test	July 10, 1996
1	145	410 North, 470 East, Posthole Test	July 2, 1996
1	146	410 North, 500 East, Posthole Test	July 2, 1996
1	147	410 North, 530 East, Posthole Test	July 2, 1996
1	148	410 North, 560 East, Posthole Test	July 2, 1996
1	149	410 North, 590 East, Posthole Test	July 3, 1996
1	150	410 North, 620 East, Posthole Test	July 3, 1996
2	1	XU1, Level 1	July 15, 1996
2	2	XU1, Level 2	July 15, 1996
2	3	XU1, Level 3	July 15, 1996
2	4	XU1, Level 3 & Profile Cleaning	July 16, 1996
2	5	XU1, Level 4	July 16, 1996
2	6	XU1, Level 4	July 17, 1996
2	7	XU1, Level 5	July 17, 1996
2	8	XU1, Level 6	July 17, 1996
2	9	XU1, Level 6	July 18, 1996
2	10	XU1, Level 7	July 18, 1996
2	11	XU1, Level 8	July 18, 1996
2	12	XU1, Level 8	July 19, 1996
2	13	XU1, Level 9	July 19, 1996
2	14	XU1, Level 9	July 22, 1996
2	15	XU1, Level 10	July 22, 1996
2	16	XU1, Level 11	July 22, 1996
2	17	XU1, Level 11	July 23, 1996

Provenience	Lot	Location / Description	Date
2	18	XU1, Level 11	July 24, 1996
2	19	XU1, Level 12	July 25, 1996
2	20	XU1, Level 1 (0-7 Centimeters) in Pre-mound Midden	July 25, 1996
2	21	XU1, Level 2 (7-10 Centimeters) in Pre-mound Midden	July 25, 1996
2	22	XU1, Level 3 (10-20 Centimeters) in Pre-mound Midden	July 25, 1996
2	23	XU1, Level 4 (20-30 Centimeters) in Pre-mound Midden	July 25, 1996
2	24	XU1, Level 5 (30-40 Centimeters) in Pre-mound Midden	July 25, 1996
2	25	XU1, in Backdirt	July 22, 1996
2	26	XU1, Profile Cleaning	July 23, 1996
2	27	XU1, Profile Cleaning	July 24, 1996
2	28	XU1, Profile Cleaning	July 25, 1996
3	1	XU2, 0-10 Centimeters on Northwestern Half	July 16, 1996
3	2	XU2, 10-20 Centimeters on Northwestern Half	July 16, 1996
3	3	XU2, 20-30 Centimeters on Northwestern Half	July 16, 1996
3	4	XU2, Level 1, 0-10 Centimeters on Southeastern Half	July 17, 1996
3	5	XU2, Level 2, 30-42 Uphill, 10-20 Downhill	July 17, 1996
3	6	XU2, Level 2, 30-42 Uphill, 10-20 Downhill	July 17, 1996
3	7	XU2, Level 3, 42-54 Uphill, 20-30 Downhill	July 18, 1996
3	8	XU2, Level 4, 54-66 Uphill, 30-40 Downhill	July 18, 1996
3	9	XU2, Level 5, 66-78 Uphill, 40-50 Downhill	July 18, 1996
3	10	XU2, Level 6, 78-90 Uphill, 50-60 Downhill	July 19, 1996
3	11	XU2, Level 7, 90-102 Uphill, 60-70 Downhill	July 22, 1996
3	12	XU2, Level 7, 90-102 Uphill, 60-70 Downhill	July 22, 1996
3	13	XU2, Level 8, 102-114 Uphill, 70-80 Downhill	July 22, 1996
3	14	XU2, Level 9, 114-126 Uphill, 80-90 Downhill	July 22, 1996
3	15	XU2, Level 9, 114-126 Uphill, 80-90 Downhill	July 23, 1996
3	16	XU2, Level 10, 126-138 Uphill, 90-100 Downhill	July 23, 1996
3	17	XU2, Level 11, 138-150 Uphill, 100 Downhill	July 24, 1996
3	18	XU2, Preliminary Profile Cleaning	July 23, 1996
3	19	XU2, Profile Cleaning	July 24, 1996
3	20	XU2, Floor & Profile Cleaning	July 25, 1996
4	1	Surface CollectionMound B	July 15, 1996
4	2	Surface CollectionMound A	July 11, 1996

Angle	Distance	Raw	From 10
0.0	1	1.61	8.39
0.0	2	1.43	8.57
0.0	3	1.46	8.54
0.0	4	1.43	8.57
0.0	5	1.43	8.57
0.0	6	1.45	8.55
0.0	7	1.44	8.56
0.0	8	1.44	8.56
0.0	9	1.49	8.51
0.0	10	1.53	8.47
0.0	11	1.68	8.32
22.5	1	1.59	8.41
22.5	2	1.52	8.48
22.5	3	1.51	8.49
22.5	4	1.56	8.44
22.5	5	1.51	8.49
22.5	6	1.55	8.45
22.5	7	1.58	8.42
22.5	8	1.58	8.42
22.5	9	1.65	8.35
22.5	10	1.73	8.27
22.5	11	1.83	8.17
22.5	12	1.94	8.06
22.5	13	2.12	7.88
45.0	1	1.61	8.39
45.0	2	1.88	8.12
45.0	3	1.49	8.51
45.0	4	1.57	8.43
45.0	5	1.66	8.34
45.0	6	1.68	8.32
45.0	7	1.75	8.25
45.0	8	1.81	8.19
45.0	9	1.88	8.12
45.0	10	1.96	8.04
45.0	11	2.03	7.97
45.0	12	2.13	7.87
45.0	13	2.21	7.79
67.5	1	1.63	8.37
67.5	2	2.04	7.96

# Appendix 2 Mound A Summit Elevation Data

Angle	Distance	Raw	From 10
67.5	3	1.89	8.11
67.5	4	1.56	8.44
67.5	5	1.73	8.27
67.5	6	1.79	8.21
67.5	7	1.86	8.14
67.5	8	1.91	8.09
67.5	9	1.95	8.05
67.5	10	2.05	7.95
67.5	11	2.15	7.85
67.5	12	2.25	7.75
90.0	1	1.60	8.40
90.0	2	1.56	8.44
90.0	3	1.41	8.59
90.0	4	1.69	8.31
90.0	5	1.77	8.23
90.0	6	1.80	8.20
90.0	7	1.96	8.04
90.0	8	2.02	7.98
90.0	9	2.07	7.93
90.0	10	2.15	7.85
90.0	11	2.24	7.76
90.0	12	2.37	7.63
112.5	1	1.61	8.39
112.5	2	1.51	8.49
112.5	3	1.51	8.49
112.5	4	1.68	8.32
112.5	5	1.88	8.12
112.5	6	2.00	8.00
112.5	7	2.11	7.89
112.5	8	2.16	7.84
112.5	9	2.24	7.76
112.5	10	2.36	7.64
112.5	11	2.49	7.51
112.5	12	2.61	7.39
112.5	13	2.83	7.17
130.0	1	1.60	8.40
130.0	2	1.60	8.40
130.0	3	1.60	8.40
130.0	4	1.67	8.33
130.0	5	1.78	8.22
130.0	6	1.87	8.13
130.0	7	1.98	8.02
130.0	8	2.05	7,95

Angle	Distance	Raw	From 10
130.0	9	2.18	7.82
130.0	10	2.32	7.68
130.0	11	2.43	7.57
130.0	12	2.54	7.46
130.0	13	2.65	7.35
130.0	14	2.82	7.18
130.0	15	2.92	7.08
130.0	16	3.14	6.86
157.5	1	1.59	8.41
157.5	2	1.58	8.42
157.5	3	1.57	8.43
157.5	4	1.55	8.45
157.5	5	1.65	8.35
157.5	6	1.75	8.25
157.5	7	1.83	8.17
157.5	8	1.92	8.08
157.5	9	1.99	8.01
157.5	10	2.09	7.91
157.5	11	2.22	7.78
157.5	12	2.33	7.67
157.5	13	2.45	7.55
157.5	14	2.55	7.45
180.0	1	1.60	8.40
180.0	2	1.58	8.42
180.0	3	1.58	8.42
180.0	4	1.57	8.43
180.0	5	1.60	8.40
180.0	6	1.63	8.37
180.0	7	1.66	8.34
180.0	8	1.72	8.28
180.0	9	1.80	8.20
180.0	10	1.86	8.14
180.0	11	1.93	8.07
180.0	12	1.99	8.01
180.0	13	2.05	7.95
202.5	1	1.59	8.41
202.5	2	1.59	8.41
202.5	3	1.56	8.44
202.5	4	1.58	8.42
202.5	5	1.55	8.45
202.5	6	1.55	8.45
202.5	7	1.56	8.44
202.5	8	1.59	8.41

Angle	Distance	Raw	From 10
202.5	9	1.56	8.44
202.5	10	1.52	8.48
202.5	11	1.57	8.43
202.5	12	1.65	8.35
202.5	13	1.72	8.28
225.0	1	1.61	8.39
225.0	2	1.58	8.42
225.0	3	1.54	8.46
225.0	4	1.55	8.45
225.0	5	1.56	8.44
225.0	6	1.55	8.45
225.0	7	1.50	8.50
225.0	8	1.48	8.52
225.0	9	1.43	8.57
225.0	10	1.41	8.59
225.0	11	1.44	8.56
225.0	12	1.46	8.54
225.0	13	1.52	8.48
225.0	14	1.58	8.42
225.0	15	1.70	8.30
247.5	1	1.60	8.40
247.5	2	1.61	8.39
247.5	3	1.58	8.42
247.5	4	1.58	8.42
247.5	5	1.57	8.43
247.5	6	1.57	8.43
247.5	7	1.58	8.42
247.5	8	1.56	8.44
247.5	9	1.53	8.47
247.5	10	1.51	8.49
247.5	11	1.49	8.51
247.5	12	1.49	8.51
247.5	13	1.50	8.50
247.5	14	1.51	8.49
270.0	1	1.61	8.39
270.0	2	1.60	8.40
270.0	3	1.67	8.33
270.0	4	1.63	8.37
270.0	5	1.62	8.38
270.0	6	1.61	8.39
270.0	7	1.64	8.36
270.0	8	1.63	8.37
270.0	9	1.64	8.36

Angle	Distance	Raw	From 10
270.0	10	1.52	8.48
270.0	11	1.47	8.53
270.0	12	1.43	8.57
270.0	13	1.41	8.59
270.0	14	1.32	8.68
292.5	1	1.60	8.40
292.5	2	1.57	8.43
292.5	3	1.63	8.37
292.5	4	1.59	8.41
292.5	5	1.64	8.36
292.5	6	1.68	8.32
292.5	7	1.57	8.43
292.5	8	1.59	8.41
292.5	9	1.52	8.48
292.5	10	1.49	8.51
292.5	11	1.48	8.52
292.5	12	1.46	8.54
292.5	13	1.41	8.59
292.5	14	1.45	8.55
292.5	15	1.51	8.49
315.0	1	1.73	8.27
315.0	2	1.56	8.44
315.0	3	1.54	8.46
315.0	4	1.53	8.47
315.0	5	1.52	8.48
315.0	6	1.49	8.51
315.0	7	1.46	8.54
315.0	8	1.41	8.59
315.0	9	1.36	8.64
315.0	10	1.32	8.68
315.0	11	1.28	8.72
315.0	12	1.30	8.70
315.0	13	1.32	8.68
315.0	14	1.37	8.63
337.5	1	1.72	8.28
337.5	2	1.47	8.53
337.5	3	1.49	8.51
337.5	4	1.49	8.51
337.5	5	1.47	8.53
337.5	6	1.45	8.55
337.5	7	1.37	8.63
337.5	8	1.32	8.68
337.5	9	1.29	8.71

Angle	Distance	Raw	From 10
337.5	10	1.28	8.72
337.5	11	1.30	8.70

Angle	Distance	Raw	From 10
0.0	1	1.52	8.48
0.0	2	1.50	8.50
0.0	3	1.55	8.45
0.0	4	1.58	8.42
0.0	5	1.49	8.51
0.0	6	1.43	8.57
0.0	7	1.38	8.62
0.0	8	1.47	8.53
0.0	9	1.55	8.45
22.5	1	1.53	8.47
22.5	2	1.81	8.19
22.5	3	1.57	8.43
22.5	4	1.50	8.50
22.5	5	1.36	8.64
22.5	6	1.29	8.71
22.5	7	1.18	8.82
22.5	8	1.28	8.72
22.5	9	1.37	8.63
50.0	1	1.49	8.51
50.0	2	2.04	7.96
50.0	3	1.60	8.40
50.0	4	1.47	8.53
50.0	5	1.43	8.57
50.0	6	1.29	8.71
50.0	7	1.25	8.75
50.0	8	1.24	8.76
50.0	9	1.38	8.62
50.0	10	1.59	8.41
67.5	1	1.48	8.52
67.5	2	1.47	8.53
67.5	3	1.45	8.55
67.5	4	1.56	8.44
67.5	5	1.47	8.53
67.5	6	1.42	8.58
67.5	7	1.38	8.62
67.5	8	1.32	8.68
67.5	9	1.46	8.54
67.5	10	1.51	8.49
67.5	11	1.92	8.08

# Appendix 3 Mound B Summit Elevation Data

Angle	Distance	Raw	From 10
85.0	1	1.46	8.54
85.0	2	1.41	8.59
85.0	3	1.48	8.52
85.0	4	1.55	8.45
85.0	5	1.51	8.49
85.0	6	1.49	8.51
85.0	7	1.39	8.61
85.0	8	1.43	8.57
85.0	9	1.56	8.44
85.0	10	1.65	8.35
112.5	1	1.47	8.53
112.5	2	1.46	8.54
112.5	3	1.40	8.60
112.5	4	1.39	8.61
112.5	5	1.44	8.56
112.5	6	1.38	8.62
112.5	7	1.36	8.64
112.5	8	1.32	8.68
112.5	9	1.45	8.55
112.5	10	1.63	8.37
135.0	1	1.48	8.52
135.0	2	1.49	8.51
135.0	3	1.45	8.55
135.0	4	1.45	8.55
135.0	5	1.43	8.57
135.0	6	1.41	8.59
135.0	7	1.41	8.59
135.0	8	1.37	8.63
135.0	9	1.42	8.58
135.0	10	1.52	8.48
135.0	11	1.90	8.10
157.5	1	1.55	8.45
157.5	2	1.52	8.48
157.5	3	1.49	8.51
157.5	4	1.49	8.51
157.5	5	1.50	8.50
157.5	6	1.49	8.51
157.5	7	1.47	8.53
157.5	8	1.45	8.55
157.5	9	1.52	8.48
157.5	10	1.59	8.41
157.5	11	1.66	8.34
157.5	12	1.85	8.15
Angle	Distance	Raw	From 10
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178.0	1	1.68	8.32
178.0	2	1.52	8.48
178.0	3	1.50	8.50
178.0	4	1.50	8.50
178.0	5	1.48	8.52
178.0	6	1.54	8.46
178.0	7	1.54	8.46
178.0	8	1.51	8.49
178.0	9	1.56	8.44
178.0	10	1.64	8.36
178.0	11	1.77	8.23
178.0	12	1.93	8.07
178.0	13	2.22	7.78
202.5	1	1.56	8.44
202.5	2	1.53	8.47
202.5	3	1.56	8.44
202.5	4	1.56	8.44
202.5	5	1.61	8.39
202.5	6	1.62	8.38
202.5	7	1.64	8.36
202.5	8	1.66	8.34
202.5	9	1.73	8.27
202.5	10	1.93	8.07
202.5	11	2.13	7.87
225.0	1	1.52	8.48
225.0	2	1.55	8.45
225.0	3	1.55	8.45
225.0	4	1.57	8.43
225.0	5	1.60	8.40
225.0	6	1.64	8.36
225.0	7	1.63	8.37
225.0	8	1.60	8.40
225.0	9	1.75	8.25
225.0	10	1.90	8.10
225.0	11	2.04	7.96
225.0	12	2.32	7.68
247.5	1	1.51	8.49
247.5	2	1.51	8.49
247.5	3	1.55	8.45
247.5	4	1.53	8.47
247.5	5	1.54	8.46
247.5	6	1.57	8.43
247.5	7	1.52	8 48

Angle	Distance	Raw	From 10
247.5	8	1.59	8.41
247.5	9	1.73	8.27
247.5	10	1.89	8.11
270.0	1	1.50	8.50
270.0	2	1.57	8.43
270.0	3	1.70	8.30
270.0	4	1.51	8.49
270.0	5	1.49	8.51
270.0	6	1.40	8.60
270.0	7	1.43	8.57
270.0	8	1.52	8.48
270.0	9	1.92	8.08
292.5	1	1.51	8.49
292.5	2	1.50	8.50
292.5	3	1.49	8.51
292.5	4	1.48	8.52
292.5	5	1.38	8.62
292.5	6	1.33	8.67
292.5	7	1.37	8.63
292.5	8	1.52	8.48
315.0	1	1.50	8.50
315.0	2	1.54	8.46
315.0	3	1.59	8.41
315.0	4	1.39	8.61
315.0	5	1.38	8.62
315.0	6	1.29	8.71
315.0	7	1.36	8.64
315.0	8	1.36	8.64
315.0	9	1.89	8.11
337.5	1	1.50	8.50
337.5	2	1.53	8.47
337.5	3	1.49	8.51
337.5	4	1.39	8.61
337.5	5	1.39	8.61
337.5	6	1.39	8.61
337.5	7	1.38	8.62
337.5	8	1.47	8.53
337.5	9	1.58	8.42

## Appendix 4 Village Survey Data

IP #	IP North	<b>IP East</b>	<b>IP Elevation</b>	HI	FS North	FS East	Raw	True
35	290	380	98.66	1.64	290	350	1.54	98.76
35	290	380	98.66	1.64	290	360	1.57	98.73
35	290	380	98.66	1.64	290	370	1.64	98.66
35	290	380	98.66	1.64	290	390	1.67	98.63
35	290	380	98.66	1.64	290	400	1.58	98.72
35	290	380	98.66	1.64	290	410	1.68	98.62
33	320	320	98.94	1.56	320	260	2.55	97.95
33	320	320	98.94	1.56	320	270	2.50	98.00
33	320	320	98.94	1.56	320	280	2.48	98.02
33	320	320	98.94	1.56	320	290	2.23	98.27
33	320	320	98.94	1.56	320	300	2.17	98.33
33	320	320	98.94	1.56	320	310	1.76	98.74
34	320	380	98.95	1.58	290	380	1.87	98.66
34	320	380	98.95	1.58	298	380	1.93	98.60
34	320	380	98.95	1.58	303	380	1.58	98.95
34	320	380	98.95	1.58	309	380	1.82	98.71
34	320	380	98.95	1.58	320	420	1.52	99.01
34	320	380	98.95	1.58	320	430	1.57	98.96
34	320	380	98.95	1.58	320	440	2.42	98.11
32	320	410	98.98	1.56	320	320	1.60	98.94
32	320	410	98.98	1.56	320	331	1.25	99.29
32	320	410	98.98	1.56	320	340	1.64	98.90
32	320	410	98.98	1.56	320	350	1.17	99.37
32	320	410	98.98	1.56	320	360	1.33	99.21
32	320	410	98.98	1.56	320	370	1.49	99.05
32	320	410	98.98	1.56	320	380	1.59	98.95
32	320	410	98.98	1.56	320	390	1.66	98.88
32	320	410	98.98	1.56	320	400	1.56	98.98
89	320	470	97.70	1.65	320	450	1.86	97.49
89	320	470	97.70	1.65	320	460	1.58	97.77
82	320	470	97.70	1.51	320	480	1.60	97.61
82	320	470	97.70	1.51	320	490	1.48	97.73
27	320	500	97.83	1.60	320	510	1.78	97.65
27	320	500	97.83	1.60	320	520	1.71	97.72
27	320	500	97.83	1.60	320	530	1.86	97.57
27	320	500	97.83	1.60	320	540	1.88	97.55
27	320	500	97.83	1.60	320	550	1.77	97.66
27	320	500	97.83	1.60	320	560	1.69	97.74
27	320	500	97.83	1.60	320	570	1.58	97.85

IP #	IP North	<b>IP East</b>	<b>IP Elevation</b>	HI	FS North	FS East	Raw	True
28	320	560	97.74	1.61	330	560	1.50	97.85
28	320	560	97.74	1.61	340	560	1.66	97.69
28	320	560	97.74	1.61	350	560	1.53	97.82
28	320	560	97.74	1.61	360	560	0.94	98.41
28	320	560	97.74	1.61	370	560	0.90	98.45
28	320	560	97.74	1.61	380	560	0.75	98.60
64	350	260	97.74	1.66	320	260	1.57	97.83
64	350	260	97.74	1.66	330	260	1.52	97.88
64	350	260	97.74	1.66	340	260	1.50	97.90
61	350	290	98.12	1.62	350	260	2.00	97.74
61	350	290	98.12	1.62	350	270	1.96	97.78
61	350	290	98.12	1.62	350	280	1.73	98.01
61	350	290	98.12	1.62	360	290	1.37	98.37
61	350	290	98.12	1.62	370	290	1.59	98.15
61	350	290	98.12	1.62	380	290	1.36	98.38
61	350	290	98.12	1.62	390	290	1.32	98.42
61	350	290	98.12	1.62	400	290	1.26	98.48
61	350	290	98.12	1.62	410	290	1.25	98.49
60	350	320	98.57	1.59	350	290	2.04	98.12
60	350	320	98.57	1.59	350	300	1.85	98.31
60	350	320	98.57	1.59	350	310	1.62	98.54
60	350	320	98.57	1.59	360	320	1.46	98.70
60	350	320	98.57	1.59	370	320	1.47	98.69
60	350	320	98.57	1.59	380	320	1.49	98.67
59	350	350	98.82	1.66	350	320	1.91	98.57
59	350	350	98.82	1.66	350	330	1.71	98.77
59	350	350	98.82	1.66	350	340	1.64	98.84
59	350	350	98.82	1.66	360	350	1.80	98.68
59	350	350	98.82	1.66	370	350	1.85	98.63
59	350	350	98.82	1.66	380	350	1.87	98.61
59	350	350	98.82	1.66	390	350	1.76	98.72
58	350	380	98.53	1.64	350	350	1.35	98.82
58	350	380	98.53	1.64	350	360	1.47	98.70
58	350	380	98.53	1.64	350	370	1.55	98.62
58	350	380	98.53	1.64	360	380	1.72	98.45
58	350	380	98.53	1.64	370	380	1.68	98.49
58	350	380	98.53	1.64	380	380	1.50	98.67
58	350	380	98.53	1.64	390	380	1.32	98.85
58	350	380	98.53	1.64	400	380	1.36	98.81
58	350	380	98.53	1.64	410	380	1.55	98.62
31	350	410	99.07	1.51	320	410	1.60	98.98
31	350	410	99.07	1.51	330	410	1.48	99.10
31	350	410	99.07	1.51	340	410	1.42	99.16

IP #	IP North	<b>IP East</b>	<b>IP Elevation</b>	HI	FS North	FS East	Raw	True
57	350	410	98.47	1.63	350	380	1.57	98.53
57	350	410	98.47	1.63	350	390	1.72	98.38
57	350	410	98.47	1.63	350	400	1.76	98.34
80	350	455	97.88	1.70	360	455	1.60	97.98
80	350	455	97.88	1.70	370	455	1.54	98.04
80	350	455	97.88	1.70	380	455	1.50	98.08
56	350	470	97.79	1.64	350	410	0.96	98.47
56	350	470	97.79	1.64	350	420	0.80	98.63
56	350	470	97.79	1.64	350	430	0.83	98.60
56	350	470	97.79	1.64	350	440	1.16	98.27
56	350	470	97.79	1.64	350	450	1.39	98.04
79	350	470	97.81	1.63	350	455	1.56	97.88
79	350	470	97.81	1.63	350	460	1.52	97.92
30	350	560	97.82	1.52	350	510	0.86	98.48
30	350	560	97.82	1.52	350	520	0.87	98.47
30	350	560	97.82	1.52	350	530	0.84	98.50
30	350	560	97.82	1.52	350	540	0.94	98.40
30	350	560	97.82	1.52	350	550	0.97	98.37
30	350	560	97.82	1.52	350	570	1.65	97.69
30	350	560	97.82	1.52	350	580	1.63	97.71
30	350	560	97.82	1.52	350	590	1.68	97.66
30	350	560	97.82	1.52	350	600	1.78	97.56
30	350	560	97.82	1.52	350	610	1.82	97.52
30	350	560	97.82	1.52	350	620	1.03	98.31
81	380	455	98.08	1.54	380	440	1.37	98.25
81	380	455	98.08	1.54	380	445	1.47	98.15
6	380	470	97.92	1.58	310	470	1.79	97.71
6	380	470	97.92	1.58	320	470	1.80	97.70
6	380	470	97.92	1.58	330	470	1.87	97.63
6	380	470	97.92	1.58	340	470	1.67	97.83
6	380	470	97.92	1.58	380	480	1.56	97.94
6	380	470	97.92	1.58	380	490	1.54	97.96
6	380	470	97.92	1.58	380	500	1.55	97.95
6	380	470	97.92	1.58	380	510	1.41	98.09
6	380	470	97.92	1.58	380	520	1.16	98.34
26	380	500	97.95	1.53	320	500	1.65	97.83
26	380	500	97.95	1.53	330	500	1.76	97.72
26	380	500	97.95	1.53	340	500	1.55	97.93
26	380	500	97.95	1.53	350	500	1.65	97.83
26	380	500	97.95	1.53	360	500	1.41	98.07
26	380	500	97.95	1.53	370	500	1.55	97.93
7	380	500	97.95	1.63	390	500	1.62	97.96
7	380	500	97.95	1.63	400	500	1.65	97.93

IP #	IP North	<b>IP East</b>	<b>IP Elevation</b>	HI	FS North	FS East	Raw	True
7	380	500	97.95	1.63	410	500	1.64	97.94
7	380	500	97.95	1.63	420	500	1.71	97.87
7	380	500	97.95	1.63	430	500	1.70	97.88
7	380	500	97.95	1.63	440	500	1.75	97.83
29	380	560	98.60	1.60	380	570	1.58	98.62
29	380	560	98.60	1.60	380	580	1.63	98.57
29	380	560	98.60	1.60	380	590	1.60	98.60
29	380	560	98.60	1.60	380	600	1.67	98.53
29	380	560	98.60	1.60	380	610	1.95	98.25
29	380	560	98.60	1.60	380	620	2.46	97.74
29	380	560	98.60	1.60	380	630	2.90	97.30
87	410	250	98.82	1.65	400	350	1.71	98.76
63	410	260	98.10	1.60	360	260	1.98	97.72
63	410	260	98.10	1.60	370	260	1.96	97.74
63	410	260	98.10	1.60	380	260	1.87	97.83
63	410	260	98.10	1.60	390	260	1.58	98.12
63	410	260	98.10	1.60	400	260	1.59	98.11
63	410	260	98.10	1.60	420	260	1.58	98.12
63	410	260	98.10	1.60	430	260	1.55	98.15
63	410	260	98.10	1.60	440	260	1.49	98.21
62	410	290	98.49	1.64	420	290	1.56	98.57
62	410	290	98.49	1.64	430	290	1.61	98.52
62	410	290	98.49	1.64	440	290	1.68	98.45
62	410	290	98.49	1.64	450	290	1.66	98.47
88	410	320	98.72	1.55	400	320	1.56	98.71
54	410	320	98.72	1.62	410	260	2.24	98.10
54	410	320	98.72	1.62	410	270	2.16	98.18
54	410	320	98.72	1.62	410	280	1.99	98.35
54	410	320	98.72	1.62	410	300	1.52	98.82
54	410	320	98.72	1.62	410	310	1.59	98.75
65	410	320	98.72	1.53	420	320	1.65	98.60
65	410	320	98.72	1.53	430	320	1.74	98.51
65	410	320	98.72	1.53	440	320	1.78	98.47
65	410	320	98.72	1.53	450	320	1.85	98.40
65	410	320	98.72	1.53	460	320	1.90	98.35
65	410	320	98.72	1.53	470	320	1.83	98.42
53	410	380	98.61	1.60	410	320	1.49	98.72
53	410	380	98.61	1.60	410	330	1.63	98.58
53	410	380	98.61	1.60	410	340	1.54	98.67
53	410	380	98.61	1.60	410	350	1.39	98.82
53	410	380	98.61	1.60	410	360	1.11	99.10
53	410	380	98.61	1.60	410	370	1.29	98.92
66	410	380	98.61	1.55	420	380	1.62	98.54

IP #	IP North	<b>IP East</b>	<b>IP Elevation</b>	HI	FS North	FS East	Raw	True
66	410	380	98.61	1.55	430	380	1.47	98.69
66	410	380	98.61	1.55	440	380	1.47	98.69
52	410	410	98.62	1.63	380	410	1.79	98.46
52	410	410	98.62	1.63	390	410	1.55	98.70
52	410	410	98.62	1.63	400	410	1.75	98.50
52	410	410	98.62	1.63	410	390	1.79	98.46
52	410	410	98.62	1.63	410	400	1.56	98.69
67	410	410	98.62	1.55	420	410	1.34	98.83
67	410	410	98.62	1.55	430	410	1.53	98.64
67	410	410	98.62	1.55	440	410	1.62	98.55
67	410	410	98.62	1.55	450	410	1.62	98.55
67	410	410	98.62	1.55	460	410	1.75	98.42
67	410	410	98.62	1.55	470	410	1.83	98.34
55	410	470	98.09	1.61	350	470	1.91	97.79
55	410	470	98.09	1.61	360	470	1.88	97.82
55	410	470	98.09	1.61	370	470	1.84	97.86
55	410	470	98.09	1.61	380	470	1.80	97.90
55	410	470	98.09	1.61	390	470	1.82	97.88
55	410	470	98.09	1.61	400	470	1.74	97.96
51	410	470	98.09	1.60	410	410	1.07	98.62
51	410	470	98.09	1.60	410	420	1.15	98.54
51	410	470	98.09	1.60	410	430	1.10	98.59
51	410	470	98.09	1.60	410	440	1.07	98.62
51	410	470	98.09	1.60	410	450	1.35	98.34
51	410	470	98.09	1.60	410	460	1.52	98.17
68	430	530	97.55	1.67	410	530	1.01	98.21
68	430	530	97.55	1.67	420	530	1.30	97.92
68	430	530	97.55	1.67	430	530	1.47	97.75
83	440	380	98.69	1.51	440	350	1.62	98.58
83	440	380	98.69	1.51	440	360	1.38	98.82
83	440	380	98.69	1.51	440	370	1.41	98.79
5	440	470	98.39	1.57	410	470	1.87	98.09
5	440	470	98.39	1.57	420	470	1.74	98.22
5	440	470	98.39	1.57	430	470	1.62	98.34
69	440	560	98.02	1.56	410	560	1.35	98.23
69	440	560	98.02	1.56	420	560	1.64	97.94
69	440	560	98.02	1.56	430	560	1.57	98.01
69	440	560	98.02	1.56	440	570	1.26	98.32
69	440	560	98.02	1.56	440	580	1.29	98.29
69	440	560	98.02	1.56	440	590	1.19	98.39
69	440	560	98.02	1.56	440	600	1.23	98.35
69	440	560	98.02	1.56	440	610	1.36	98.22
69	440	560	98.02	1.56	440	620	1.32	98.26

IP #	IP North	<b>IP East</b>	<b>IP Elevation</b>	HI	FS North	FS East	Raw	True
70	440	590	98.39	1.57	410	590	1.84	98.12
70	440	590	98.39	1.57	420	590	1.67	98.29
70	440	590	98.39	1.57	430	590	1.71	98.25
71	440	620	98.26	1.57	380	620	2.65	97.18
71	440	620	98.26	1.57	390	620	2.05	97.78
71	440	620	98.26	1.57	400	620	1.70	98.13
71	440	620	98.26	1.57	410	620	1.64	98.19
71	440	620	98.26	1.57	420	620	1.66	98.17
71	440	620	98.26	1.57	430	620	1.56	98.27
71	440	620	98.26	1.57	450	620	1.84	97.99
71	440	620	98.26	1.57	460	620	1.69	98.14
71	440	620	98.26	1.57	470	620	1.74	98.09
4	441	500	97.70	1.53	440	440	1.03	98.20
4	441	500	97.70	1.53	440	450	0.09	99.14
4	441	500	97.70	1.53	440	460	0.99	98.24
4	441	500	97.70	1.53	440	470	0.84	98.39
4	441	500	97.70	1.53	440	480	0.86	98.37
4	441	500	97.70	1.53	440	490	1.44	97.79
4	441	500	97.70	1.53	440	510	1.60	97.63
4	441	500	97.70	1.53	440	520	1.67	97.56
4	441	500	97.70	1.53	440	530	1.68	97.55
4	441	500	97.70	1.53	440	540	1.59	97.64
4	441	500	97.70	1.53	440	550	1.36	97.87
4	441	500	97.70	1.53	440	560	1.21	98.02
84	470	290	98.55	1.51	460	290	1.57	98.49
50	470	290	98.55	1.57	470	260	1.73	98.39
50	470	290	98.55	1.57	470	270	1.65	98.47
50	470	290	98.55	1.57	470	280	1.65	98.47
50	470	290	98.55	1.57	470	300	1.64	98.48
50	470	290	98.55	1.57	470	310	1.72	98.40
50	470	290	98.55	1.57	480	290	1.48	98.64
50	470	290	98.55	1.57	490	290	1.47	98.65
50	470	290	98.55	1.57	500	290	1.49	98.63
50	470	290	98.55	1.57	510	290	1.45	98.67
50	470	290	98.55	1.57	520	290	1.43	98.69
50	470	290	98.55	1.57	530	290	1.46	98.66
49	470	320	98.42	1.57	470	290	1.44	98.55
3	470	500	97.96	1.63	470	470	1.42	98.17
3	470	500	97.96	1.63	470	480	1.36	98.23
3	470	500	97.96	1.63	470	490	1.31	98.28
3	470	500	97.96	1.63	470	510	1.68	97.91
3	470	500	97.96	1.63	470	520	1.75	97.84
3	470	500	97.96	1.63	470	530	1.82	97.77

IP #	IP North	<b>IP East</b>	<b>IP Elevation</b>	HI	FS North	FS East	Raw	True
3	470	500	97.96	1.63	470	540	1.75	97.84
3	470	500	97.96	1.63	470	550	1.64	97.95
3	470	500	97.96	1.63	470	560	1.45	98.14
3	470	500	97.96	1.63	470	570	1.24	98.35
3	470	500	97.96	1.63	470	580	1.12	98.47
3	470	500	97.96	1.63	470	590	1.17	98.42
38	470	590	98.42	1.59	440	590	1.63	98.38
38	470	590	98.42	1.59	450	590	1.65	98.36
38	470	590	98.42	1.59	460	590	1.59	98.42
38	470	590	98.42	1.59	470	600	1.42	98.59
38	470	590	98.42	1.59	470	610	1.62	98.39
38	470	590	98.42	1.59	470	630	1.68	98.33
38	470	590	98.42	1.59	480	590	1.73	98.28
38	470	590	98.42	1.59	490	590	1.86	98.15
38	470	590	98.42	1.59	500	590	1.90	98.11
38	470	590	98.42	1.59	510	590	1.89	98.12
38	470	590	98.42	1.59	520	590	1.78	98.23
38	470	590	98.42	1.59	530	590	1.74	98.27
38	470	590	98.42	1.59	542	590	1.89	98.12
38	470	590	98.42	1.59	550	590	1.72	98.29
38	470	590	98.42	1.59	560	590	1.92	98.09
9	500	440	98.72	1.61	460	440	2.05	98.28
9	500	440	98.72	1.61	470	440	2.00	98.33
9	500	440	98.72	1.61	480	440	1.96	98.37
9	500	440	98.72	1.61	490	440	1.86	98.47
9	500	440	98.72	1.61	510	440	1.34	98.99
9	500	440	98.72	1.61	520	440	1.23	99.10
9	500	440	98.72	1.61	530	440	1.36	98.97
9	500	440	98.72	1.61	540	440	1.77	98.56
9	500	440	98.72	1.61	550	440	1.99	98.34
8	500	470	98.08	1.60	480	470	1.49	98.19
8	500	470	98.08	1.60	490	470	1.55	98.13
8	500	470	98.08	1.60	510	470	1.49	98.19
2	500	500	98.42	1.61	500	410	1.77	98.26
2	500	500	98.42	1.61	500	420	1.67	98.36
2	500	500	98.42	1.61	500	430	1.58	98.45
2	500	500	98.42	1.61	500	440	1.31	98.72
2	500	500	98.42	1.61	500	450	1.48	98.55
2	500	500	98.42	1.61	500	460	1.79	98.24
2	500	500	98.42	1.61	500	470	1.95	98.08
2	500	500	98.42	1.61	500	480	1.90	98.13
2	500	500	98.42	1.61	500	490	1.88	98.15
2	500	500	98.42	1.61	500	510	1.96	98.07

IP #	IP North	<b>IP East</b>	<b>IP Elevation</b>	HI	FS North	FS East	Raw	True
2	500	500	98.42	1.61	500	520	1.97	98.06
2	500	500	98.42	1.61	500	530	1.93	98.10
39	500	590	98.11	1.68	500	600	1.73	98.06
39	500	590	98.11	1.68	500	610	1.60	98.19
39	500	590	98.11	1.68	500	621	1.59	98.20
1	503	500			450	500	2.30	97.70
1	503	500			460	500	2.17	97.83
1	503	500			470	500	2.04	97.96
1	503	500			480	500	1.95	98.05
1	503	500			490	500	1.66	98.34
1	503	500			500	500	1.58	98.42
1	503	500			510	500	1.65	98.35
1	503	500			520	500	1.72	98.28
85	530	320	98.58	1.59	530	330	1.47	98.70
85	530	320	98.58	1.59	530	340	1.63	98.54
85	530	320	98.58	1.59	530	350	1.67	98.50
86	530	350	98.50	1.61	500	350	1.08	99.03
86	530	350	98.50	1.61	510	350	1.59	98.52
86	530	350	98.50	1.61	520	350	1.61	98.50
18	530	380	98.53	1.55	540	380	1.69	98.39
18	530	380	98.53	1.55	550	380	1.74	98.34
18	530	380	98.53	1.55	560	380	1.80	98.28
18	530	380	98.53	1.55	570	380	1.72	98.36
18	530	380	98.53	1.55	580	380	1.76	98.32
18	530	380	98.53	1.55	590	380	1.71	98.37
18	530	380	98.53	1.55	600	380	1.69	98.39
18	530	380	98.53	1.55	610	380	1.55	98.53
11	530	410	98.43	1.63	530	380	1.53	98.53
10	530	440	98.97	1.58	530	390	2.23	98.32
10	530	440	98.97	1.58	530	400	2.19	98.36
10	530	440	98.97	1.58	530	410	2.12	98.43
10	530	440	98.97	1.58	530	420	2.04	98.51
10	530	440	98.97	1.58	530	430	1.69	98.86
10	530	440	98.97	1.58	530	450	1.91	98.64
10	530	440	98.97	1.58	530	460	2.24	98.31
10	530	440	98.97	1.58	530	470	2.27	98.28
10	530	440	98.97	1.58	560	440	2.23	98.32
12	530	470	98.28	1.62	530	480	1.54	98.36
12	530	470	98.28	1.62	530	490	1.49	98.41
12	530	470	98.28	1.62	530	500	1.58	98.32
40	530	590	98.27	1.64	530	520	1.79	98.12
40	530	590	98.27	1.64	530	530	1.76	98.15
40	530	590	98.27	1.64	530	540	1.72	98.19

IP #	IP North	<b>IP East</b>	<b>IP Elevation</b>	HI	FS North	FS East	Raw	True
40	530	590	98.27	1.64	530	550	1.59	98.32
40	530	590	98.27	1.64	530	560	1.56	98.35
40	530	590	98.27	1.64	530	570	1.55	98.36
40	530	590	98.27	1.64	530	580	1.64	98.27
40	530	590	98.27	1.64	530	601	1.76	98.15
40	530	590	98.27	1.64	530	610	1.68	98.23
40	530	590	98.27	1.64	530	620	1.77	98.14
13	531	500	98.32	1.63	530	510	1.45	98.50
13	531	500	98.32	1.63	540	500	1.58	98.37
13	531	500	98.32	1.63	550	500	1.49	98.46
13	531	500	98.32	1.63	560	500	1.57	98.38
13	531	500	98.32	1.63	570	500	1.56	98.39
43	560	320	98.55	1.58	590	320	1.83	98.30
19	560	380	98.28	1.57	560	290	1.24	98.61
19	560	380	98.28	1.57	560	300	1.29	98.56
19	560	380	98.28	1.57	560	310	1.30	98.55
19	560	380	98.28	1.57	560	320	1.30	98.55
19	560	380	98.28	1.57	560	330	1.29	98.56
19	560	380	98.28	1.57	560	340	1.36	98.49
19	560	380	98.28	1.57	560	350	1.40	98.45
19	560	380	98.28	1.57	560	360	1.48	98.37
19	560	380	98.28	1.57	560	370	1.39	98.46
74	560	380	98.28	1.56	560	390	1.54	98.30
74	560	380	98.28	1.56	560	400	1.54	98.30
74	560	380	98.28	1.56	560	410	1.54	98.30
90	560	410	98.30	1.62	560	420	1.64	98.28
90	560	410	98.30	1.62	560	430	1.58	98.34
14	560	500	98.38	1.55	560	480	1.47	98.46
14	560	500	98.38	1.55	560	490	1.53	98.40
14	560	500	98.38	1.55	580	500	1.55	98.38
14	560	500	98.38	1.55	590	500	1.52	98.41
92	560	530	98.13	1.61	570	530	1.62	98.12
92	560	530	98.13	1.61	580	530	1.46	98.28
41	560	590	98.09	1.69	560	530	1.65	98.13
41	560	590	98.09	1.69	560	540	1.59	98.19
41	560	590	98.09	1.69	560	550	1.58	98.20
41	560	590	98.09	1.69	560	560	1.58	98.20
41	560	590	98.09	1.69	560	570	1.27	98.51
41	560	590	98.09	1.69	560	580	1.49	98.29
41	560	590	98.09	1.69	560	600	1.56	98.22
41	560	590	98.09	1.69	560	610	1.84	97.94
41	560	590	98.09	1.69	560	620	1.89	97.89
41	560	590	98.09	1.69	570	590	1.66	98.12

IP #	IP North	<b>IP East</b>	<b>IP Elevation</b>	HI	FS North	FS East	Raw	True
41	560	590	98.09	1.69	580	590	1.90	97.88
41	560	590	98.09	1.69	590	590	2.15	97.63
41	560	590	98.09	1.69	600	590	2.23	97.55
41	560	590	98.09	1.69	610	590	2.44	97.34
45	590	260	98.15	1.61	500	260	1.45	98.31
45	590	260	98.15	1.61	510	260	1.47	98.29
45	590	260	98.15	1.61	520	260	1.45	98.31
45	590	260	98.15	1.61	530	260	1.42	98.34
45	590	260	98.15	1.61	540	260	1.28	98.48
45	590	260	98.15	1.61	550	260	1.14	98.62
45	590	260	98.15	1.61	560	260	1.55	98.21
45	590	260	98.15	1.61	570	260	2.03	97.73
45	590	260	98.15	1.61	580	260	1.89	97.87
45	590	260	98.15	1.61	590	270	1.54	98.22
45	590	260	98.15	1.61	590	280	1.46	98.30
45	590	260	98.15	1.61	590	290	1.41	98.35
45	590	260	98.15	1.61	590	300	1.25	98.51
45	590	260	98.15	1.61	590	310	1.47	98.29
45	590	260	98.15	1.61	600	260	1.79	97.97
45	590	260	98.15	1.61	610	260	1.57	98.19
45	590	260	98.15	1.61	620	260	1.54	98.22
44	590	320	98.30	1.67	590	260	1.82	98.15
20	590	380	98.37	1.57	590	330	1.66	98.28
20	590	380	98.37	1.57	590	340	1.57	98.37
20	590	380	98.37	1.57	590	350	1.45	98.49
20	590	380	98.37	1.57	590	360	1.57	98.37
20	590	380	98.37	1.57	590	370	1.54	98.40
91	590	380	98.37	1.61	590	390	1.67	98.31
91	590	380	98.37	1.61	590	400	1.61	98.37
91	590	380	98.37	1.61	590	410	1.64	98.34
72	590	380	98.37	1.56	620	380	1.50	98.43
15	590	500	98.41	1.62	590	440	1.37	98.66
15	590	500	98.41	1.62	590	450	1.42	98.61
15	590	500	98.41	1.62	590	460	1.57	98.46
15	590	500	98.41	1.62	590	470	1.61	98.42
15	590	500	98.41	1.62	590	480	1.64	98.39
15	590	500	98.41	1.62	590	490	1.60	98.43
15	590	500	98.41	1.62	590	510	1.76	98.27
15	590	500	98.41	1.62	590	520	1.83	98.20
15	590	500	98.41	1.62	590	530	1.74	98.29
15	590	500	98.41	1.62	590	540	1.86	98.17
15	590	500	98.41	1.62	590	550	1.96	98.07
15	590	500	98.41	1.62	590	560	1.94	98.09

IP #	IP North	<b>IP East</b>	<b>IP Elevation</b>	HI	FS North	FS East	Raw	True
15	590	500	98.41	1.62	600	500	1.71	98.32
15	590	500	98.41	1.62	610	500	1.85	98.18
15	590	500	98.41	1.62	620	500	1.90	98.13
15	590	500	98.41	1.62	630	500	2.07	97.96
15	590	500	98.41	1.62	640	500	2.10	97.93
93	590	590	97.63	1.67	590	570	1.28	98.02
93	590	590	97.63	1.67	590	580	1.71	97.59
42	590	590	97.63	1.65	590	600	1.70	97.58
42	590	590	97.63	1.65	590	610	1.56	97.72
42	590	590	97.63	1.65	590	616	1.62	97.66
42	590	590	97.63	1.65	590	620	0.83	98.45
46	620	260	98.22	1.62	620	270	1.25	98.59
46	620	260	98.22	1.62	620	280	1.65	98.19
46	620	260	98.22	1.62	620	290	1.88	97.96
46	620	260	98.22	1.62	620	300	1.85	97.99
46	620	260	98.22	1.62	620	310	1.99	97.85
46	620	260	98.22	1.62	620	320	1.65	98.19
47	620	320	98.22	1.62	570	320	1.29	98.55
47	620	320	98.22	1.62	580	320	1.54	98.30
47	620	320	98.22	1.62	600	320	1.75	98.09
47	620	320	98.19	1.65	610	320	1.46	98.38
21	620	380	98.43	1.67	620	340	1.84	98.26
21	620	380	98.43	1.67	620	350	1.79	98.31
73	620	380	98.43	1.70	620	350	1.74	98.39
21	620	380	98.43	1.67	620	360	1.78	98.32
73	620	380	98.43	1.70	620	360	1.78	98.35
21	620	380	98.43	1.67	620	370	1.82	98.28
73	620	380	98.43	1.70	620	370	1.74	98.39
73	620	380	98.43	1.70	620	390	1.68	98.45
73	620	380	98.43	1.70	620	400	1.72	98.41
73	620	380	98.43	1.70	620	410	1.75	98.38
73	620	380	98.43	1.70	630	380	1.92	98.21
16	620	500	98.13	1.56	620	440	1.31	98.38
16	620	500	98.13	1.56	620	450	1.36	98.33
16	620	500	98.13	1.56	620	460	1.42	98.27
16	620	500	98.13	1.56	620	470	1.48	98.21
16	620	500	98.13	1.56	620	480	1.43	98.26
16	620	500	98.13	1.56	620	490	1.51	98.18
16	620	500	98.13	1.56	620	510	1.60	98.09
16	620	500	98.13	1.56	620	520	1.73	97.96
16	620	500	98.13	1.56	620	530	1.75	97.94
16	620	500	98.13	1.56	650	500	1.14	98.55
17	620	530	97.94	1.59	600	530	1.37	98.16

IP #	IP North	<b>IP East</b>	<b>IP Elevation</b>	HI	FS North	FS East	Raw	True
17	620	530	97.94	1.59	610	530	1.49	98.04
17	620	530	97.94	1.59	620	540	1.48	98.05
17	620	530	97.94	1.59	620	550	1.62	97.91
17	620	530	97.94	1.59	620	560	1.54	97.99
17	620	530	97.94	1.59	620	570	1.36	98.17
17	620	530	97.94	1.59	620	580	1.95	97.58
17	620	530	97.94	1.59	620	590	1.97	97.56
17	620	530	97.94	1.59	620	600	1.72	97.81
17	620	530	97.94	1.59	620	610	1.62	97.91
17	620	530	97.94	1.59	630	530	1.54	97.99
17	620	530	97.94	1.59	640	530	1.74	97.79
17	620	530	97.94	1.59	650	530	2.50	97.03
94	620	560	97.99	1.60	600	560	1.57	98.02
94	620	560	97.99	1.60	610	560	1.77	97.82

## Appendix 5 Flakes from Post Hole Tests

Lot	Primary CP/H	Primary CP/NH	Secondary R&V	Secondary CP/H	Secondary CP/NH	Tertiary R&V	Tertiary CP/H	Tertiary CP/NH	Quartz Crystal	Quartzite	Meta- Volcanic
1	0	0	0	0	0	0	3	2	0	0	0
2	0	0	0	1	0	0	2	0	0	0	0
3	0	0	0	0	1	0	0	1	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	1	1	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	6	0	0	0
9	0	0	0	1	1	0	0	0	0	0	0
10	0	0	0	0	1	0	0	0	0	0	0
11	0	0	0	1	0	1	2	1	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	1	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	1	0	0	0
19	0	0	0	0	0	0	3	4	0	0	0
20	0	0	0	1	0	0	2	4	0	0	0
21	0	0	0	0	0	0	1	1	0	0	0
22	0	0	0	0	0	0	0	2	0	0	0
23	0	0	1	1	1	0	4	4	0	0	0
24	0	0	0	0	0	0	1	2	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	2	2	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	3	1	0	0	0
32	0	0	0	0	0	0	4	8	1	0	0
33	0	0	0	0	0	0	2	5	0	0	0
34	1	0	0	0	0	0	2	1	0	1	0
35	0	0	0	0	1	0	2	0	0	0	0
36	0	1	0	0	0	0	1	0	0	0	0
37	0	0	0	0	0	0	0	1	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	1	1	2	0	0	0
40	0	0	0	0	0	0	0	1	0	0	0
41	0	0	0	0	0	1	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	1	1	0	0

Lot	Primary CP/H	Primary CP/NH	Secondary R&V	Secondary CP/H	Secondary CP/NH	Tertiary R&V	Tertiary CP/H	Tertiary CP/NH	Quartz Crystal	Quartzite	Meta- Volcanic
44	0	0	0	0	1	0	1	4	0	0	0
45	0	0	0	0	0	0	1	15	1	4	0
46	0	0	0	0	0	1	2	3	0	0	0
47	0	1	0	0	1	0	0	5	0	0	0
48	0	0	0	0	0	0	2	0	0	1	0
49	0	0	0	0	0	1	0	1	0	1	0
50	0	0	0	0	1	0	2	5	0	0	0
51	0	0	0	1	0	0	2	1	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	2	2	7	0	1	0
56	0	0	0	1	0	0	2	1	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	1	0	0	4	1	0	0	0
59	0	0	0	0	0	0	0	1	0	0	1
60	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	1	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	1	1	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	1	4	0	0	0
66	0	0	0	1	0	0	2	7	0	0	0
67	0	0	0	0	0	0	2	3	0	0	0
68	1	0	0	1	0	0	2	1	0	0	0
69	0	0	0	1	0	0	2	1	0	0	0
70	0	0	0	0	0	0	0	1	0	0	0
71	0	0	0	1	0	0	3	0	0	1	0
72	0	0	0	0	0	0	1	ے 1	0	0	0
73	0	0	0	0	0	0	0	1	0	0	0
74	0	0	0	0	0	0	0	1	0	0	0
76	0	0	0	1	0	0	1	0	0	0	0
77	0	0	0	0	1	0	0	1	0	0	0
78	0	0	0	0	0	0	1	2	0	0	0
79	1	0	0	1	0	0	3	2	0	0	1
80	0	0	0	0	1	0	1	0	0	0	0
81	0	0	0	0	0	0	3	1	0	0	0
82	0	1	0	0	2	0	0	4	0	0	0
83	0	0	0	0	0	0	1	1	0	1	0
84	0	0	0	0	0	0	1	1	0	0	0
85	0	0	0	0	1	0	0	0	0	0	0
86	0	0	0	0	0	0	2	7	0	0	0
87	0	0	0	0	0	0	2	0	0	0	0
88	0	0	0	1	0	0	1	0	0	0	0
89	0	0	0	0	1	0	0	0	0	0	0
90	0	0	0	0	0	0	2	1	0	0	0

Lot	Primary CP/H	Primary CP/NH	Secondary R&V	Secondary CP/H	Secondary CP/NH	Tertiary R&V	Tertiary CP/H	Tertiary CP/NH	Quartz Crystal	Quartzite	Meta- Volcanic
91	0	0	0	1	1	0	4	4	0	0	0
92	0	0	0	0	0	0	2	5	1	0	0
93	0	0	0	0	0	0	0	0	0	0	0
94	0	0	0	0	0	0	0	2	0	0	0
95	0	0	0	1	0	0	4	1	0	0	0
96	0	0	0	0	0	0	1	1	0	0	0
97	0	0	0	0	0	0	0	0	0	0	0
98	0	0	0	0	0	0	0	0	0	0	0
99	0	0	0	0	0	0	2	4	0	0	0
100	0	0	0	0	0	0	1	1	0	0	0
101	0	0	0	0	0	0	0	5	0	0	0
102	0	0	0	0	0	0	0	1	0	0	0
103	0	0	0	0	0	0	0	1	0	0	0
104	0	0	0	0	0	0	1	1	0	0	0
105	0	0	0	1	0	0	1	1	0	0	0
106	0	0	0	0	0	0	0	0	0	0	0
107	0	0	0	0	0	0	0	0	0	0	0
108	0	0	0	0	0	0	0	0	0	0	0
109	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0
111	0	0	0	0	0	0	0	0	0	0	0
112	0	0	0	0	0	0	0	0	0	0	0
113	0	0	0	0	0	0	1	0	0	0	0
114	0	0	0	0	0	0	0	1	0	0	0
115	0	0	0	0	0	0	1	0	0	0	0
116	0	0	0	1	0	0	0	0	0	0	0
117	0	0	0	0	0	0	1	1	0	0	0
118	0	0	0	0	0	0	0	0	0	0	0
119	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0
121	0	0	0	0	0	0	0	0	0	0	0
122	0	0	0	0	0	0	0	0	0	0	0
123	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	1	0	0	0	0
126	0	0	0	0	0	0	1	0	0	0	0
127	0	0	0	0	0	0	3	2	0	0	0
128	0	0	0	0	0	0	1	1	0	0	0
129	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0
131	0	0	0	0	0	0	0	0	0	0	0
132	0	0	0	0	0	0	0	0	0	0	0
133	0	0	0	0	0	0	0	0	0	0	0
134	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	1	0	0	0	0
136	0	0	0	0	0	0	0	0	0	0	0
137	0	0	0	0	0	0	0	3	0	0	0

Lot	Primary CP/H	Primary CP/NH	Secondary R&V	Secondary CP/H	Secondary CP/NH	Tertiary R&V	Tertiary CP/H	Tertiary CP/NH	Quartz Crystal	Quartzite	Meta- Volcanic
138	0	0	0	0	0	0	1	0	0	0	0
139	0	0	0	0	0	1	3	4	1	0	0
140	0	0	0	1	0	0	6	0	0	0	0
141	0	0	0	0	0	0	0	0	0	0	0
142	0	0	0	0	0	0	0	0	0	0	0
143	0	0	0	0	0	0	3	3	0	0	0
144	0	0	0	1	1	0	3	2	0	0	0
145	0	0	0	0	0	0	1	0	0	0	0
146	0	0	0	0	0	0	0	0	0	0	0
147	0	0	0	0	1	0	1	2	0	0	0
148	0	0	0	1	0	0	0	0	0	0	0
149	1	0	0	0	0	0	1	3	0	0	0
150	0	0	0	0	0	0	3	7	0	0	0
Totals	4	3	1	23	17	8	134	195	5	10	2

Appendix 6	
Lithic Tools from Post Hole Te	sts

Lot	CP/H Flake Tool	CP/NH Flake Tool	Quartz Flake Tool	Quartzite Flake Tool	CP/NH bifacial Tool	Quartzite Bifacial Tool	Quartz Core	Quartzite Core	CP/H Other	CP/NH Other	Quartz Other	Quartzite Other	Meta Volcanic Other
1	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	1
19	0	1	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0
23	1	1	0	2	0	0	0	0	1	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0

Lot	CP/H Flake Tool	CP/NH Flake Tool	Quartz Flake Tool	Quartzite Flake Tool	CP/NH bifacial Tool	Quartzite Bifacial Tool	Quartz Core	Quartzite Core	CP/H Other	CP/NH Other	Quartz Other	Quartzite Other	Meta Volcanic Other
28	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	2	0	0	0	0	0	0	0	0
32	0	0	0	0	1	0	0	0	0	0	0	1	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	2	1	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	1	0	0	0	0	0	0	0
45	0	0	1	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	1	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	1	0	0	0	0	0	0	0	0
50	0	1	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	6	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0

Lot	CP/H Flake Tool	CP/NH Flake Tool	Quartz Flake Tool	Quartzite Flake Tool	CP/NH bifacial Tool	Quartzite Bifacial Tool	Quartz Core	Quartzite Core	CP/H Other	CP/NH Other	Quartz Other	Quartzite Other	Meta Volcanic Other
60	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	1	0	0	0	0	0
67	0	0	0	0	1	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0
72	0	0	0	0	0	0	0	0	0	0	0	0	0
73	0	0	0	0	0	0	1	0	0	0	0	0	0
74	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0
76	1	0	0	0	0	0	0	0	0	0	0	0	0
77	0	0	0	0	0	0	0	0	0	0	0	0	0
78	0	0	0	0	0	0	0	0	0	0	0	0	0
79	0	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0	0
81	0	0	0	0	0	0	0	0	0	0	0	0	0
82	0	0	0	0	0	0	0	0	0	0	0	0	0
83	0	0	0	0	0	0	0	0	0	0	0	0	0
84	0	0	0	0	0	0	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0	0	0	0	0	0	0
86	0	0	0	0	0	0	0	0	0	0	0	0	0
87	0	0	0	0	0	0	0	0	0	0	0	0	0
88	0	0	0	0	0	0	0	0	1	0	0	0	0
89	0	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0	0
91	0	0	0	0	0	0	0	0	0	0	0	0	0

Lot	CP/H Flake Tool	CP/NH Flake Tool	Quartz Flake Tool	Quartzite Flake Tool	CP/NH bifacial Tool	Quartzite Bifacial Tool	Quartz Core	Quartzite Core	CP/H Other	CP/NH Other	Quartz Other	Quartzite Other	Meta Volcanic Other
92	0	0	0	0	0	0	0	0	0	0	0	0	0
93	0	0	0	0	0	0	0	0	0	0	0	0	0
94	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0
96	0	0	0	0	0	0	0	0	0	0	0	0	0
97	0	0	0	0	0	0	0	0	0	0	0	0	0
98	0	0	0	0	0	0	0	0	0	0	0	0	0
99	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0
101	0	0	0	0	0	0	0	0	0	0	0	0	0
102	0	0	0	0	0	0	0	0	0	0	0	0	0
103	0	0	0	0	0	0	0	0	0	0	0	0	0
104	0	0	0	0	0	0	0	0	1	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0
106	0	0	0	0	0	0	0	0	0	0	0	0	0
107	0	0	0	0	0	0	0	0	0	0	0	0	0
108	0	0	0	0	0	0	0	0	0	0	0	0	0
109	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0
111	0	0	0	0	0	0	0	0	0	0	0	0	0
112	0	0	0	0	0	0	0	0	0	0	0	0	0
113	0	0	0	0	0	0	0	0	2	1	0	0	0
114	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0
116	0	0	0	0	0	0	0	0	0	0	0	0	0
117	0	0	0	0	0	0	0	0	0	0	0	0	0
118	0	0	0	0	0	0	0	0	0	0	0	0	0
119	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0
121	0	0	0	0	0	0	0	0	0	0	0	0	0
122	0	0	0	0	0	0	0	0	0	0	0	0	0
123	0	0	0	0	0	0	0	0	0	0	0	0	0

Lot	CP/H Flake Tool	CP/NH Flake Tool	Quartz Flake Tool	Quartzite Flake Tool	CP/NH bifacial Tool	Quartzite Bifacial Tool	Quartz Core	Quartzite Core	CP/H Other	CP/NH Other	Quartz Other	Quartzite Other	Meta Volcanic Other
124	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0
126	0	0	0	0	0	0	0	0	0	0	0	0	0
127	0	0	0	0	0	0	0	0	0	0	0	0	0
128	0	0	0	0	0	0	0	0	0	4	0	0	0
129	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0
131	0	0	0	0	0	0	0	0	0	0	0	0	0
132	0	0	0	0	0	0	0	0	0	0	0	0	0
133	0	0	0	0	0	0	0	0	0	0	0	0	0
134	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0
136	0	0	0	0	0	0	0	0	0	1	0	0	0
137	0	0	0	0	0	0	0	0	0	0	0	0	0
138	0	0	0	0	0	0	0	0	0	0	0	0	0
139	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	1	0	0	0
141	0	0	0	0	0	0	0	0	0	0	0	0	0
142	0	0	0	0	0	0	0	0	0	0	0	0	0
143	0	0	0	0	0	0	0	0	0	0	0	0	0
144	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0
146	0	0	0	0	0	0	0	0	0	0	0	0	0
147	0	0	0	0	0	0	0	0	0	0	0	0	0
148	0	0	0	0	0	0	0	0	0	0	0	0	0
149	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	2	3	1	2	5	1	1	1	5	16	1	1	1

## Appendix 7 Ceramics from Post Holes Tests

Lot	Lamar Bold Incised	Lamar Complicated Stamped	Lamar Plain	Red Filmed Plain	Punctated	Punctated/ Incised	Punctated/ Stamped	Stamped / Incised	Etowah Complicated Stamped	Savannah Complicated Stamped	Unidentified Complicated Stamped	Napier Complicated Stamped	Unidentified Plain	Bibb Plain	McDougal Plain	Unidentified Incised	Fiber Tempered Plain	Disks	Beads
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	1	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	4	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	2	0	0	0	0	0	0	0	0	25	0	1	0	0	0	0	0	0
10	1	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	2	4	20	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	1	0	1	0	0	0	0	0	0	0	5	0	16	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	7	0	0	0	0	0	0	0	0	0	0	24	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	7	0	3	0	0	0	0	0	0
21	5	0	0	0	0	0	0	0	0	0	34	0	0	0	0	0	0	0	0
22	0	2	0	0	0	0	0	0	0	0	3	0	23	0	0	0	0	0	0
23	7	60	51	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
24	1	2	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	1	0	3	0	0	0	0	0	0

	Lamar Bold	Lamar Complicated	Lamar	Red Filmed		Punctated/	Punctated/	Stamped /	Etowah Complicated	Savannah Complicated	Unidentified Complicated	Napier Complicated	Unidentified	Bibb	McDougal	Unidentified	Fiber Tempered		
Lot	Incised	Stamped	Plain	Plain	Punctated	Incised	Stamped	Incised	Stamped	Stamped	Stamped	Stamped	Plain	Plain	Plain	Incised	Plain	Disks	Beads
31	0	11	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
32	1	14	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	2	61	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	2	21	93	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	21	0	11	0	0	0	0	0	0
36	1	26	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	2	11	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
38	0	3	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	7	0	23	0	0	0	0	0	0
40	0	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	19	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	12	74	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	2	42	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	29	0	1	0	0	0	0	0	1	0	0	42	0	0	0	0	0	0
49	0	1	28	0	0	0	0	0	0	0	23	0	0	0	0	0	0	0	0
50	0	43	32	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	75	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	20	0	1	0	0	0	0	0	0
53	0	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	1	2	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	1	9	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	9	0	29	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	14	0	30	3	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	5	0	12	9	0	0	0	0	0
61	1	0	0	0	0	0	0	0	0	0	17	0	26	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	12	0	38	0	0	0	0	0	0
63	0	0	24	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0
64	0	0	17	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0
65	0	11	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Lamar Bold	Lamar Complicated	Lamar	Red Filmed		Punctated/	Punctated/	Stamped /	Etowah Complicated	Savannah Complicated	Unidentified Complicated	Napier Complicated	Unidentified	Bibb	McDougal	Unidentified	Fiber Tempered		
Lot	Incised	Stamped	Plain	Plain	Punctated	Incised	Stamped	Incised	Stamped	Stamped	Stamped	Stamped	Plain	Plain	Plain	Incised	Plain	Disks	Beads
66	1	10	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	5	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0
68	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	7	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	22	0	54	0	0	0	0	1	0
72	0	0	0	3	0	0	0	0	0	0	4	0	17	0	0	1	0	0	0
73	0	27	57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
74	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0
75	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76	0	6	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77	0	0	0	0	0	0	0	0	0	0	2	0	6	0	0	0	0	0	0
78	0	0	0	0	0	0	0	0	0	0	3	0	7	0	0	0	0	0	0
79	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
82	0	0	1	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0
83	0	0	0	0	0	0	0	0	0	0	10	0	3	0	0	0	0	0	0
84	0	0	0	0	0	0	0	0	0	0	11	0	12	0	0	0	0	0	0
85	4	42	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
86	3	60	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
87	1	15	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
88	0	0	0	0	0	0	0	1	0	0	3	0	24	0	0	1	0	0	0
89	0	11	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0
91	0	0	0	0	0	0	0	0	0	0	1	0	9	0	0	0	0	0	0
92	0	6	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
96	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
97	0	0	15	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
98	0	8	0	0	0	0	0	0	0	0	0	0	24	0	0	0	0	0	0
99	0	7	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	1	0	7	0	0	0	0	0	0

	Lamar Bold	Lamar Complicated	Lamar	Red Filmed		Punctated/	Punctated/	Stamped /	Etowah Complicated	Savannah Complicated	Unidentified Complicated	Napier Complicated	Unidentified	Bibb	McDougal	Unidentified	Fiber Tempered		
Lot	Incised	Stamped	Plain	Plain	Punctated	Incised	Stamped	Incised	Stamped	Stamped	Stamped	Stamped	Plain	Plain	Plain	Incised	Plain	Disks	Beads
101	0	0	0	0	0	1	0	0	0	0	15	0	67	0	0	0	0	0	0
102	1	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0
103	0	0	0	0	0	0	0	0	0	0	2	0	13	0	0	0	0	0	0
104	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
105	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
109	0	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
112	0	4	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113	0	0	0	0	0	0	0	0	0	0	8	0	24	0	0	0	0	0	0
114	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	12	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0
117	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
118	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
119	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
128	0	0	1	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0
129	0	2	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
131	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
133	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0
134	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Lot	Lamar Bold Incised	Lamar Complicated Stamped	Lamar Plain	Red Filmed Plain	Punctated	Punctated/ Incised	Punctated/ Stamped	Stamped / Incised	Etowah Complicated Stamped	Savannah Complicated Stamped	Unidentified Complicated Stamped	Napier Complicated Stamped	Unidentified Plain	Bibb Plain	McDougal Plain	Unidentified Incised	Fiber Tempered Plain	Disks	Beads
136	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
137	4	12	1	0	0	0	0	0	2	0	74	0	122	0	0	1	0	0	0
138	0	0	26	0	0	0	0	0	0	0	28	0	0	0	0	0	0	0	0
139	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141	1	20	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142	0	0	0	0	1	0	0	0	0	0	24	0	37	0	0	0	0	0	0
143	1	36	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144	4	18	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	1	25	27	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
146	1	0	0	0	0	0	0	0	0	0	5	0	7	2	0	0	0	0	0
147	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
148	0	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
149	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0
150	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	62	919	1097	4	3	3	1	1	2	1	456	2	802	17	1	3	1	1	1

Append	lix 8
Rim Sherds from I	ost Hole Tests

	Folded	Folded	Folded	Folded				Notched	Pinched	Pinched				
_	Pinched	Pinched	Punctated	Notched	Simple,	Simple,	Simple,	Lip	Lip	Lip	T-Rim	T-Rim	Rolled	Rolled
Lot	Plain	Stamped	Plain	Plain	Plain	Incised	Stamped	Plain	Plain	Stamped	Punctated	Stamped	Incised	Plain
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	1	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	1	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	1	0	0	0	0	0	0	0	0
11	0	0	0	0	1	0	0	0	0	0	0	0	0	0
12	0	0	0	0	1	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	2	0	0	0	5	2	0	0	0	0	0	0	0	0
24	0	0	0	0	0	1	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Folded	Folded	Folded	Folded				Notched	Pinched	Pinched				
Lot	Pinched Plain	Pinched Stamped	Punctated Plain	Notched Plain	Simple,	Simple,	Simple,	Lip Plain	Lip Plain	Lip Stamped	T-Rim	T-Rim	Rolled	Rolled
LOC	1 14111	Stampeu	1 14111	1 14111	Plain	Incised	Stamped	1 14111	1 14111	Stampeu	Punctated	Stamped	Incised	Plain
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	1	0	0	0	0	0	0	0	0	0	0	0	0	0
32	1	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	1	1	0	0	0	0	0	0	0	1
34	0	0	0	0	8	3	0	0	1	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	3	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	1	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	1	0	1	0	0	0	0	0	0	0	0	0
46	0	0	0	0	1	0	0	0	0	0	1	0	0	0
47	1	0	0	0	1	0	0	0	0	0	0	0	0	0
48	0	0	0	0	1	0	1	0	0	0	0	0	0	0
49	1	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	1	0	0	0	0	0	0	0	0	0
51	0	0	0	0	2	1	0	1	0	0	0	0	0	1
52	0	0	0	0	0	0	1	0	0	0	0	0	0	0
53	0	0	0	0	1	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	1	0	0	0	0	0	0	0	0	0

	Folded	Folded	Folded	Folded				Notched	Pinched	Pinched				
Lot	Pinched Plain	Pinched Stamped	Punctated Plain	Notchea Plain	Simple, Plain	Simple,	Simple, Stamped	Lip Plain	Lip Plain	Lip Stamped	T-Rim Punctated	T-Rim Stamped	Rolled Incised	Rolled Plain
50		0	0			neiseu		0		0	1 unctateu	o	neiseu	0
59	0	0	0	0	0	0	0	0	1	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02	1	0	0	0	0	0	0	0	0	0	0	0	0	0
03		1	0	0	0	0	0	0	0	0	0	0	0	0
04	0				0	0	U	U		0	0	0	0	0
00	0	0	0	0	2	0	U	U	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	U	U	0	U	0	U	U	U	U	U	U	U	U	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	1	0	0	0	0	0	0	0	0
71	1	0	0	0	2	0	0	1	0	0	0	0	0	0
72	2	0	0	0	1	0	0	0	0	0	0	0	0	0
73	0	0	1	0	3	0	0	0	0	0	0	0	0	0
74	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77	0	0	0	0	0	0	0	0	0	0	0	0	0	0
78	1	0	0	0	0	0	0	0	0	0	0	0	0	0
79	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81	0	0	0	0	0	0	0	0	0	0	0	0	0	0
82	0	0	0	1	0	0	0	0	0	0	0	0	0	0
83	0	0	0	0	0	0	0	0	0	0	0	0	0	0
84	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85	1	0	0	0	2	0	0	0	0	0	0	0	0	0
86	0	0	0	0	5	1	1	0	0	0	0	0	0	0
87	0	0	0	0	0	0	0	0	1	0	0	0	0	0
88	0	0	0	0	0	0	0	0	0	1	0	0	0	0
89	1	0	0	0	0	0	0	0	0	0	0	0	0	0

	Folded	Folded	Folded	Folded				Notched	Pinched	Pinched				
Lot	Pinched	Stamped	Punctated Plain	Notched Plain	Simple, Plain	Simple, Incised	Simple, Stamped	Lıp Plain	Lip Plain	Lip Stamped	T-Rim Punctated	T-Rim Stamped	Rolled Incised	Rolled Plain
00	0	0	0	0	0	neiseu		0	0	0	1 unctateu	o	nciscu	0
90	0	0	0	0	1	0	0	0	0	0	0	0	0	0
91	0	0	0	0	1	0	0	0	0	0	0	0	0	0
92	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	1	0	0	0	1	0	0	0	0	0	0	0	0	0
97	1	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99 100	0	0	0	0	2 0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101	1	0	0	0	1	0	0	0	0	0	0	0	0	0
102	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	0	0	0	0	0	0	0	0	0	0	0	0	0	0
104	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111	0	0	0	0	0	0	0	0	0	0	0	0	0	0
112	0	0	0	0	1	0	0	0	0	0	0	0	0	0
113	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117	0	0	0	0	1	0	0	0	0	0	0	0	0	0
118	0	0	0	0	0	0	0	0	0	0	0	0	0	0
119	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Folded	Folded	Folded	Folded				Notched	Pinched	Pinched				
Tat	Pinched	Pinched	Punctated	Notched	Simple,	Simple,	Simple,	Lip	Lip	Lip	T-Rim	T-Rim	Rolled	Rolled
Lot	Plain	Stamped	Plain	Plain	Plain	Incised	Stamped	Plain	Plain	Stamped	Punctated	Stamped	Incised	Plain
121	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122	0	0	0	0	0	0	0	0	0	0	0	0	0	0
123	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128	1	0	0	0	0	0	0	0	0	0	0	0	0	0
129	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0
131	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132	0	0	0	0	0	0	0	0	0	0	0	0	0	0
133	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136	0	0	0	0	0	0	0	0	0	0	0	0	0	0
137	0	0	0	0	2	4	0	0	3	0	0	1	0	0
138	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141	1	0	0	0	0	1	0	0	0	0	0	0	0	0
142	0	0	0	0	1	0	0	0	0	0	0	0	0	1
143	1	0	0	0	1	0	0	0	0	0	0	0	0	0
144	0	0	0	0	2	1	0	0	0	0	0	0	0	0
145	0	0	0	0	2	0	0	0	0	0	0	0	1	0
146	0	0	0	0	1	1	0	0	0	0	0	0	0	0
147	0	0	0	0	1	0	0	0	0	0	0	0	0	0
148	0	0	0	0	0	0	0	0	0	0	0	0	0	0
149	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	19	1	2	1	61	18	3	2	7	1	1	1	1	3

<b>.</b> .					Unmodified	Red
Lot	Bone	Shell	Charcoal	Daub	Rock	Pebbles
1	0.0	0.0	0.0	12.1	22.9	1.7
2	0.0	0.0	0.0	0.0	23.2	8.9
3	0.0	0.0	0.8	5.2	33.7	0
4	0.0	0.0	0.0	0.5	0.0	0
5	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.9	50.9	0.0
7	0.0	0.0	0.0	0.0	1.2	0.0
8	0.0	0.0	0.0	1.8	33.8	2.4
9	0.0	0.0	0.3	7.4	3.7	8.6
10	0.0	0.0	0.0	0.0	8.9	1.2
11	0.0	0.0	0.0	0.6	91.7	3.4
12	0.0	0.0	0.0	0.5	33.7	8.4
13	0.0	0.0	0.0	97.3	18.4	0.0
14	0.0	0.0	1.1	1.6	4.6	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	1.3	0.0	2.3	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	2.1	112.0	1.0
19	0.0	0.0	0.0	0.9	77.6	1.8
20	0.0	0.0	0.0	0.0	437.5	0.6
21	0.0	0.0	0.2	2.8	19.0	0.4
22	0.0	0.0	0.0	6.6	22.7	2.3
23	0.3	0.0	0.6	20.4	36.0	38.1
24	0.0	0.0	0.0	14.8	76.8	0.0
25	0.0	0.0	0.0	2.0	1.0	0.0
26	0.0	0.0	0.1	0.0	19.2	4.4
27	0.0	0.0	0.0	0.0	1.2	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	33.0	0.6
31	0.0	0.0	0.0	2.4	110.3	5.7
32	0.0	0.0	0.0	30.0	0.0	3.9
33	0.0	0.0	0.0	4.4	144.1	3.9
34	0.1	0.0	0.0	35.8	50.0	14.1
35	0.0	0.0	0.6	14.2	86.0	19.9

## Appendix 9 Weights of Other Items from Post Hole Tests in Grams

					Unmodified	Red
Lot	Bone	Shell	Charcoal	Daub	Rock	Pebbles
36	0.0	0.0	0.0	29.1	39.2	12.8
37	0.0	0.0	0.0	1.1	9.2	0.6
38	0.0	0.0	0.4	0.0	82.3	10.3
39	0.0	0.0	0.0	11.0	185.2	19.9
40	0.0	0.0	0.0	0.0	82.7	6.3
41	0.0	0.0	0.0	0.3	241.3	11.4
42	0.0	0.0	0.0	0.0	0.0	0.0
43	0.0	0.0	0.0	0.0	53.0	1.4
44	0.0	0.0	0.0	1.8	104.6	0.6
45	0.1	0.0	2.5	146.1	12.9	0.0
46	0.0	0.0	0.3	47.0	84.9	14.3
47	0.0	0.0	0.1	63.2	117.2	5.3
48	0.2	0.0	0.0	13.3	39.4	0.8
49	0.0	0.0	0.0	21.9	10.5	5.3
50	0.0	0.0	0.0	14.2	23.8	1.7
51	3.7	0.0	0.2	21.2	35.2	3.7
52	0.1	0.0	0.0	2.5	0.8	0.0
53	0.0	0.0	0.0	0.0	0.0	0.0
54	0.1	0.0	0.1	2.7	41.0	3.6
55	0.0	0.0	0.0	2.0	62.7	13.4
56	0.0	0.0	0.0	2.8	317.0	101.2
57	0.0	0.0	0.0	0.0	48.7	0.0
58	0.0	0.0	0.0	15.6	52.3	9.6
59	0.0	0.0	0.0	6.9	98.0	1.3
60	0.0	0.0	3.3	7.7	2.9	1.2
61	0.0	0.0	0.0	114.7	38.6	1.5
62	0.2	0.0	0.0	4.1	9.8	2.2
63	0.0	0.0	0.0	0.9	3.3	2.9
64	0.0	0.0	0.0	31.2	30.8	0.0
65	1.0	0.0	0.0	9.4	28.1	5.8
66	0.0	0.0	0.0	2.2	58.6	20.9
67	0.0	0.0	0.0	7.9	0.0	6.5
68	28.1	0.0	0.0	0.6	3.1	1.4
69	0.0	0.0	0.0	2.2	12.9	4.4
70	0.0	0.2	0.0	10.2	196.2	2.7
71	0.2	0.0	0.5	73.0	44.0	3.4
72	0.0	0.0	0.0	59.8	0.0	0.9
73	2.9	0.0	0.1	51.7	0.0	7.7
74	0.0	0.0	0.0	0.0	5.4	0.5

					Unmodified	Red
Lot	Bone	Shell	Charcoal	Daub	Rock	Pebbles
75	0.0	0.0	0.0	0.0	1.4	1.0
76	0.0	0.0	0.0	10.2	80.4	2.5
77	0.0	0.0	0.0	53.4	0.0	2.3
78	0.0	0.0	0.0	2.2	56.4	9.2
79	0.0	0.0	0.0	0.6	77.3	20.0
80	0.0	0.0	0.0	1.0	4.6	0.0
81	0.0	0.0	0.0	0.3	26.3	1.9
82	0.0	0.0	0.4	6.0	65.4	3.6
83	0.0	0.0	0.0	15.9	25.4	3.5
84	0.0	0.0	0.0	8.5	27.3	1.4
85	0.2	0.0	0.0	62.1	0.0	13.0
86	0.6	0.0	0.3	48.2	70.0	6.6
87	0.0	0.0	0.5	10.7	13.0	1.2
88	0.0	0.0	0.0	6.9	10.4	9.7
89	0.0	0.0	0.3	5.8	10.4	0.0
90	0.0	0.0	0.0	0.0	47.2	1.8
91	0.0	0.0	0.0	0.0	89.7	6.9
92	0.0	0.0	0.0	0.6	78.0	7.9
93	0.0	0.0	0.0	0.0	5.0	2.6
94	0.0	0.0	0.0	0.2	8.0	0.0
95	0.0	0.0	0.0	0.0	12.9	2.6
96	0.0	0.0	0.0	8.3	2.8	0.0
97	0.0	0.0	0.0	6.4	1.1	0.0
98	0.0	0.0	0.3	6.3	5.3	1.8
99	0.0	0.0	0.0	0.4	7.7	0.4
100	0.0	0.0	0.0	1.6	155.4	0.0
101	0.0	0.0	0.0	15.0	107.3	3.1
102	0.0	0.0	0.4	0.2	101.4	0.0
103	0.0	0.0	0.0	2.6	1.1	1.2
104	0.0	0.0	0.0	0.0	0.0	0.8
105	0.0	0.0	0.2	5.0	78.6	17.2
106	0.0	0.0	0.0	0.0	260.8	0.0
107	0.0	0.0	0.0	2.2	0.0	0.0
108	0.0	0.0	0.0	0.0	2.8	0.0
109	0.0	0.0	0.0	17.5	0.0	0.0
110	0.0	0.0	0.0	0.5	1.2	0.0
111	0.0	0.0	0.0	0.6	39.8	0.0
112	0.0	0.0	0.0	0.0	9.8	0.3
113	0.0	0.0	0.0	1.4	0.0	1.0
					Unmodified	Red
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Lot	Bone	Shell	Charcoal	Daub	Rock	Pebbles
114	0.0	0.0	0.0	4.5	39.5	0.0
115	0.0	0.0	0.0	6.1	21.3	0.0
116	0.0	0.0	0.6	0.0	2.2	0.0
117	0.0	0.0	0.0	0.0	0.0	2.3
118	0.0	0.0	0.1	0.0	22.7	0.0
119	0.0	0.0	0.0	2.3	878.6	0.0
120	0.0	0.0	0.0	23.8	24.7	0.0
121	0.0	0.0	0.5	0.0	0.0	0.0
122	0.0	0.0	0.2	1.7	0.9	0.4
123	0.0	0.0	0.0	63.8	0.0	0.0
124	0.0	0.0	0.0	0.0	0.0	0.0
125	0.0	0.0	0.0	0.0	17.7	1.1
126	0.0	0.0	0.0	0.0	23.1	2.0
127	0.0	0.0	0.0	0.0	39.7	5.7
128	0.0	0.0	0.0	0.9	44.4	0.3
129	0.0	0.0	0.8	1.5	13.6	0.0
130	0.0	0.0	0.0	0.6	0.0	0.0
131	0.0	0.0	0.0	0.0	2.9	0.0
132	0.0	0.0	0.0	0.0	0.0	0.0
133	0.0	0.0	0.0	0.0	50.4	0.0
134	0.0	0.0	0.0	0.0	1.6	0.0
135	0.0	0.0	0.0	0.0	3.9	0.0
136	0.0	0.0	0.0	13.7	57.7	0.4
137	41.2	0.0	0.0	209.8	51.4	0.0
138	0.0	0.0	0.2	4.4	139.8	15.0
139	0.0	0.0	0.0	0.0	41.2	3.4
140	0.0	0.0	0.0	0.0	112.3	5.5
141	0.0	0.0	0.0	14.7	171.7	4.7
142	0.0	0.0	0.0	23.6	33.0	4.7
143	0.5	0.0	0.0	151.0	38.3	1.2
144	0.0	0.0	1.2	30.9	56.5	10.0
145	0.6	0.1	1.0	21.3	46.8	4.2
146	0.0	0.0	0.0	3.4	2.0	2.0
147	0.0	0.0	0.5	9.1	145.0	0.2
148	0.0	0.0	0.0	0.0	0.0	0.0
149	0.0	0.0	0.5	3.1	57.7	9.0
150	0.0	0.0	0.2	4.9	125.4	19.3
Totals	80.0	0.3	20.7	1938.3	7481.2	631.6

# Appendix 10 About the CD Included in Back Cover

The CD Rom inside the back cover contains all of the tables included in this report, and others from which many in the report were created. In addition, and of perhaps more importance, the GIS database for the Lamar site created as a part of this project is included. These files will, perhaps, be useful for planning purposes for Lamar in the future.

The data on the CD are organized in five different folders as follows.

### **All Photos**

This folder contains digital versions of color slides taken at Lamar. The ones used in the report are included in the folder **Used Photos** within this folder. Some of the photos were of slides I made for professional talks.

### **ArcView Data**

This includes the four profiles used in the report for the two excavation units. These were created in ArcView from ESRI because of the availability of streaming mode digitizing in that program.

## **Atlas GIS**

This contains the files created by the Atlas GIS program (version 4.0) from ESRI which was used to combine all the geographical data from the site, including both the work from the 1930s and in 1996. This program was selected for its simplicity of use. The data here could be converted for use with ArcView (also from ESRI) if one desired.

## Tables

This includes five separate subfolders.

Catalog	The catalog data in Microsoft Excel format.
Elevations	The Surfer data and grid files for the village and mound
	elevation maps.
Post Hole	The Surfer data for the artifact density maps.
XU1	The various Excel and WordPerfect files for the artifact data
	from Excavation Unit 1.
XU2	The various Excel and WordPerfect files for the artifact data
	from Excavation Unit 2.

## **WP Files**

This report, as well as my 1996 Southeast Archaeological Conference paper, and the near identical 1996 Society for Georgia Archaeology paper, as well as a few forms used in the project.