Ref: Ancient Echoes 2019, Vol. 8: 1-14.

KEMOSABE: A Rich Multicomponent Site, Kerr County, Texas

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ABSTRACT

This paper is an interim report on the Kemosabe archeology project and will summarize the results to date. Included will be the estimated temporal range of the multiple intermittent occupations at the site by prehistoric Indians, the diagnostic lithics and their temporal spans, the entire lithic tool kit analyzed, and the faunal and floral material recovered to date. Preliminary interpretations of site subsistence will also be discussed. Kemosabe has also been chosen by the Texas Archeology Association as its 2020 Field School location, but due to the cancelation of this year's TAS field school, Kemosabe is now planned for June 2021. Much more site material and interpretations will come from this event.

INTRODUCTION

In November of 2013 the owner of the Kemosabe private property (Figure 1) approached officials of the Hill Country Archeological Association regarding an investigation of the archeological content of the property. Initial efforts to investigate the property were led by Mr. Bryant Saner, serving as Principal Investigator for the HCAA. Surface Pedestrian Surveys by Mr. Saner and his team of select HCAA members yielded an apparent dense population of lithic tools and projectile points over a wide area. Several dense accumulations of surface Fire Cracked Rock also suggested that there were multiple middens on the property.

Figure 1. Location of the Kemosabe Archeological Site Complex.

Initial hand excavated test units were opened on the northern part of the property in early 2014. These would become the basis for recording site 41KR739 (Figure 2). This was a disturbed midden area where operations were suspended when the crews realized that virtually all the materials excavated were out of context.

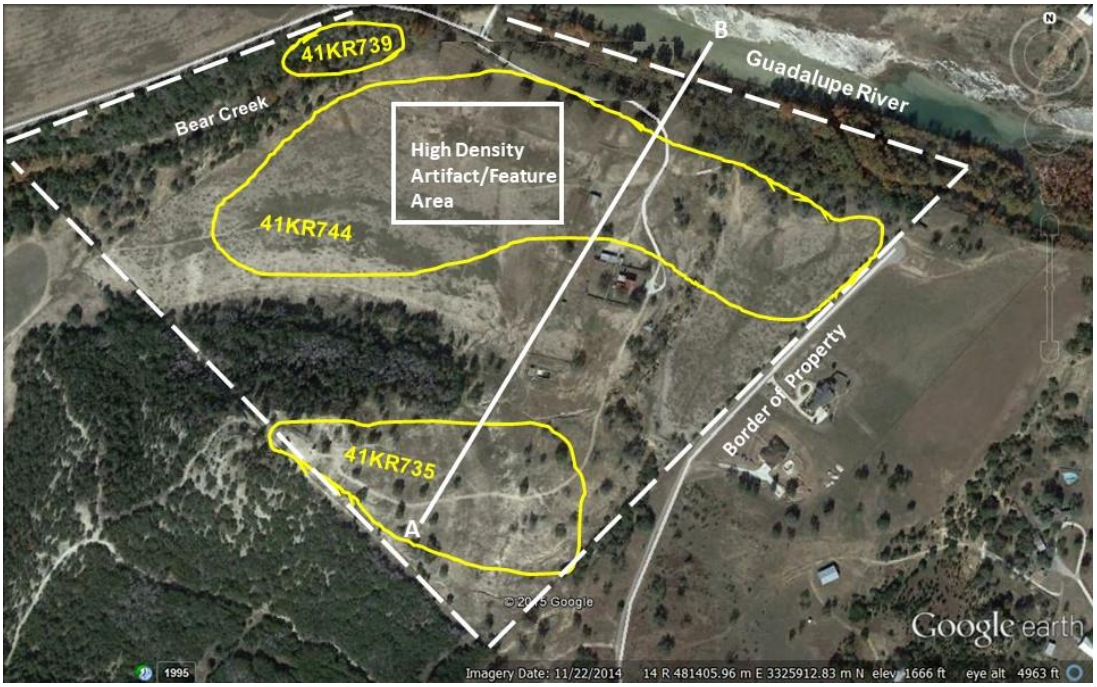

Figure 2. The three state recorded sites within Kemosabe; and the geological line of section.

HCAA crews then undertook a shovel test survey using a power auger, to locate subsurface cultural areas in the highest artifact density surface areas. At this time Mr. Steve Stoutamire assumed the position as Principal Investigator for the project. After the auger tests had further defined subsurface cultural areas, backhoe trenches (BHT's) were dug. One of the trenches passed through what appeared to be the largest midden of the four middens identified by the auger tests. Other backhoe trenches, auger tests and hand dug units proceeded from this point during the period of late 2014 to December 2019. These investigations produced excellent results, yielding a diverse dart point and tool assemblage, multiple discrete fire hearths and other cultural materials. Based on the diagnostic dart points and two C14 dates from hearth charcoals, the span of intermittent occupations for the site is 7420-7280 cal. BP to 800/400 BP (Figure 3).

All the excavations at the site complex were done by members of the HCAA and lab work for the materials was done on site at the property's ranch house. During the course of the investigations on the property there were three archeological sites recorded with the State, 41KR735, 41KR739 and 41KR744 (Figure 2). Subsequent to these recordings, and more work at the complex, it was determined that all sites are contiguous, in effect forming a single site on the property.

LOCALITY AND SITE ENVIRONS

The Kemosabe complex is an 88-acre private property located on the south side of the Guadalupe River, west of the Kerrville city limits (Figure 1). Bear Creek also passes through the northern portion of the property. The property contains historic ranch and outbuildings as well as

foundations of historic ranch buildings which no longer exist. Approximately 75% of the property is a broad river terrace, whose underlying sediments are a mixture of clay, silt, sand, gravel and cobbles with an average elevation of 1,660 fasl. The remaining portion of the property consists of a hill with a maximum elevation of 1,820 fasl. The hill is principally covered with native grasses, cedar and oak while the bulk of the broad river terrace is an open field consisting of native grasses. The streams within or adjacent to the property are bordered by hard woods within their valleys.

The Kemosabe complex is 0.6 miles upstream of the Gatlin Site (41KR621) and occupies the same river terrace as Gatlin (Figure 1). The Gatlin site was an accidental discovery by the Texas Department of Transportation as they began operations for construction of Highway Spur 98 in approximately 2000. Operations were stopped and a cultural resource management company was brought in to do shovel tests, backhoe trenching and controlled hand excavations of the site within the Right of Way for the proposed highway. After almost seven years from site discovery the excavations and analysis of materials yielded an amazing complex of culture marking intermittent occupations of prehistoric Indians from 7570-7420 cal to 1300-1070 cal bp at the site (Figure 3). In subsequent literature Gatlin was hailed as one of the most significant Early and Middle Archaic sites ever found in the southern Edwards Plateau of Texas (Houck et al. 2009).

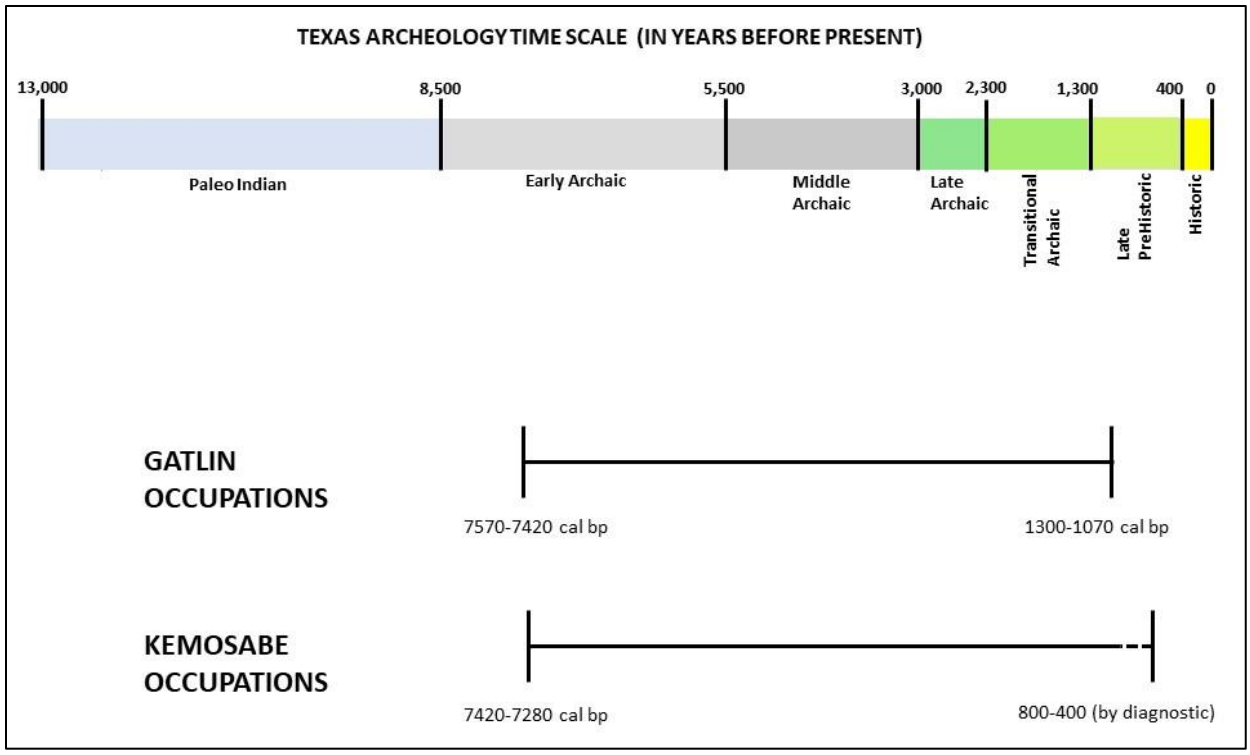

Figure 3. Temporal span of occupations at the Gatlin and Kemosabe sites.

SITE CONSTRUCTION AND GEOARCHEOLOGY

The Guadalupe River and, to a much lesser extent, Bear Creek provided sediments to the Kemosabe area from Late Pleistocene to recent, via multiple flood events of those streams which created terrace deposits of different ages (Figure 4). In order to understand the stratigraphy at the

site and its relation to cultural remains, we constructed stratigraphic columns and performed sediment granulometric analyses from BHT's, excavation units, cut banks of the Guadalupe River, Bear Creek and the arroyo which cuts through the eastern side of the property. Figure 4 depicts our interpretation of the stratigraphy at Kemosabe. This is very similar to the stratigraphic interpretations at Gatlin by Abbot (2008) and Frederick (2008). Charles Frederick also visited the Kemosabe project, reviewed our interpretations and agreed that they were essentially the same as at Gatlin (personal communication 2015). Figure 4 illustrates that there are four river terraces at Kemosabe and that the deposits of T3 and T2 have been partially eroded away leaving only portions of their original extent. At the time of construction of T3 and T2 the Guadalupe River typically had more flood waters due to wetter climates, and the river had a wider expanse of meander across the valley (Frederick 2008). The bed of the river was also higher in elevation than it is now.

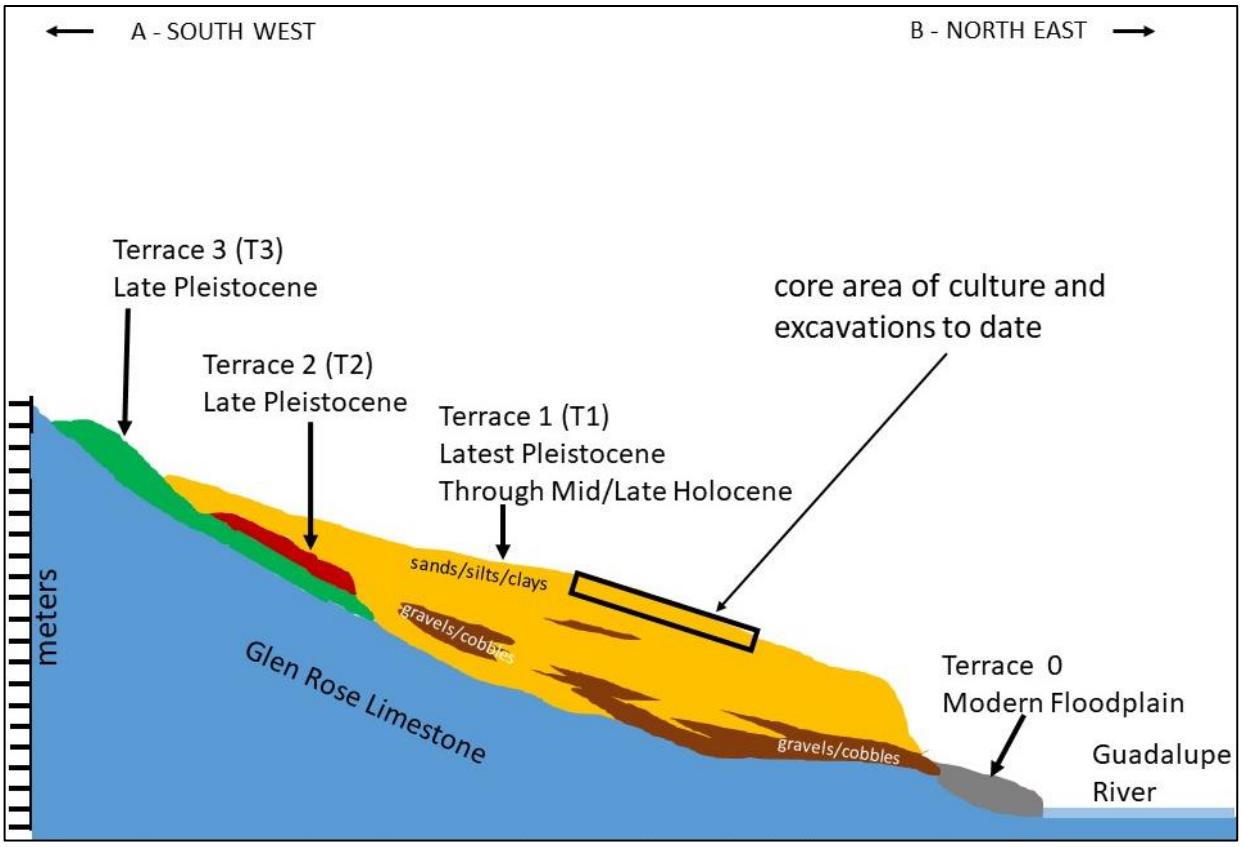

Figure 4. Composite geologic cross section, Kemosabe complex (vertical exaggerations 10x).

Prehistoric Indians began to use the site in the Early Holocene, based upon time diagnostic dart points found there. It is possible that some Late Pleistocene occupations also occurred but that cannot be proven at this time. Based upon the work to date, the cultural deposits at Kemosabe average only one meter in thickness below the Terrace 1 surface (see Figure 4). The oldest of the diagnostics found in situ are Early Archaic Gower and Baker points. A broken Laguna point found in the subsurface would also establish this age, but it was found out of temporal context at only 19

centimeters below surface. Four broken bases of Paleoindian points, Midland and Angostura, were also found on the surface. Within the one-meter interval of archeology deposits there is approximately 8,000 years of culture preserved. This represents a very compressed site where, on average, sedimentation had occurred at only 0.0125 centimeters per year or, 1.0 centimeter/80 years. With perhaps hundreds of intermittent occupations at the site, it is easy to see how artifacts left at each occupation could be mixed with artifacts of other occupations hundreds of years apart before they were adequately buried by river flood sediments and sealed into the deposits. However, the sedimentation by over bank deposits did not occur at a steady rate due to sporadic flooding caused by climate changes.

SITE INVESTIGATIONS

Initial investigations began on the property in late 2013 by the Hill Country Archeological Association. Surface Pedestrian Surveys were made over much of the property to determine areas of artifact density. Once done, the Pedestrian Survey indicated areas to be further investigated with shovel tests, to determine subsurface culture density.

There were 156 preliminary tests performed. A power auger and a backhoe were used to perform these. The results indicated that the highest density area of culture was located on the T1 surface in the north central portion of the property (Figure 2). At this time areas within the Kemosabe property were recorded with the State as 41KR735, 41KR739 and 41KR744. Only later, after further work on the property, was it realized that there was culture over the entire property and that these three recorded sites actually constituted one large site.

The HCAA then proceeded to investigate the site stratigraphy by examining cut banks in the adjacent Guadalupe River and Bear Creek, and the arroyo which cuts through the properties east side (Figure 5). Stratigraphic columnar sections were created and granulometric analyses were done on selected stratigraphic intervals. Later, backhoe trenches and hand dug test units were sampled in order to perform sediment granulometric analysis.

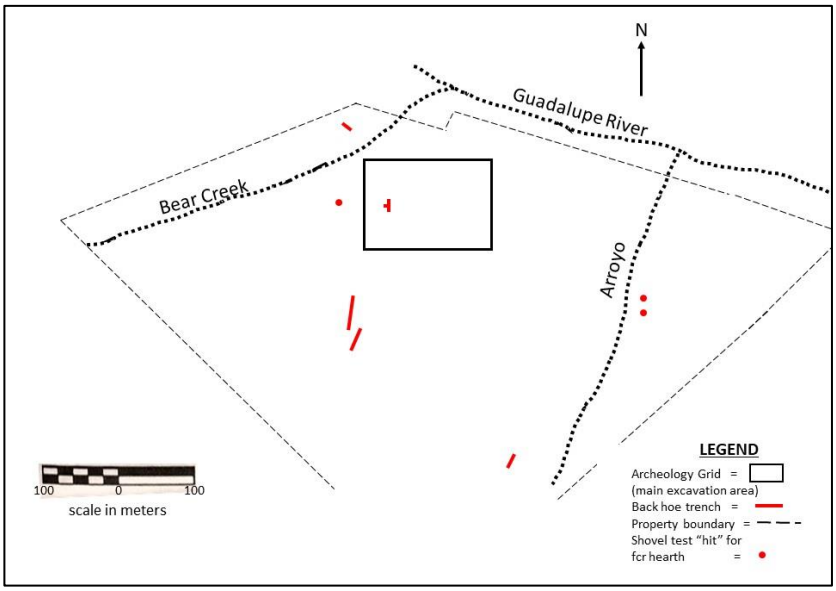

Figure 5. Kemosabe property showing key control points.

All the test units were excavated in the areas of highest artifact and feature density (Figures 5 and 6). The only exception to this was the early 2014 test units opened in disturbed deposits of 41KR739 (Figure 2). A total of 84 square meters were hand excavated by trowel and shovel, in ten-centimeter levels. This yielded approximately 70 cubic meters of cultural deposits which were screened and analyzed. Deposits from two backhoe trenches through the main midden (Figure 6) were also screened and analyzed. The estimated volume of deposits from the two BHT's was 12 cubic meters. All excavations yielded a diverse assemblage of diagnostic dart points (Figures 7-12), stone tools and features (Table 1).

Archeological investigations have been suspended at Kemosabe since December 2019, and preparations for the TAS Field School there have begun. Some of this preparation will involve at least 3 more BHT's for control. The Field School will begin in June of 2021.

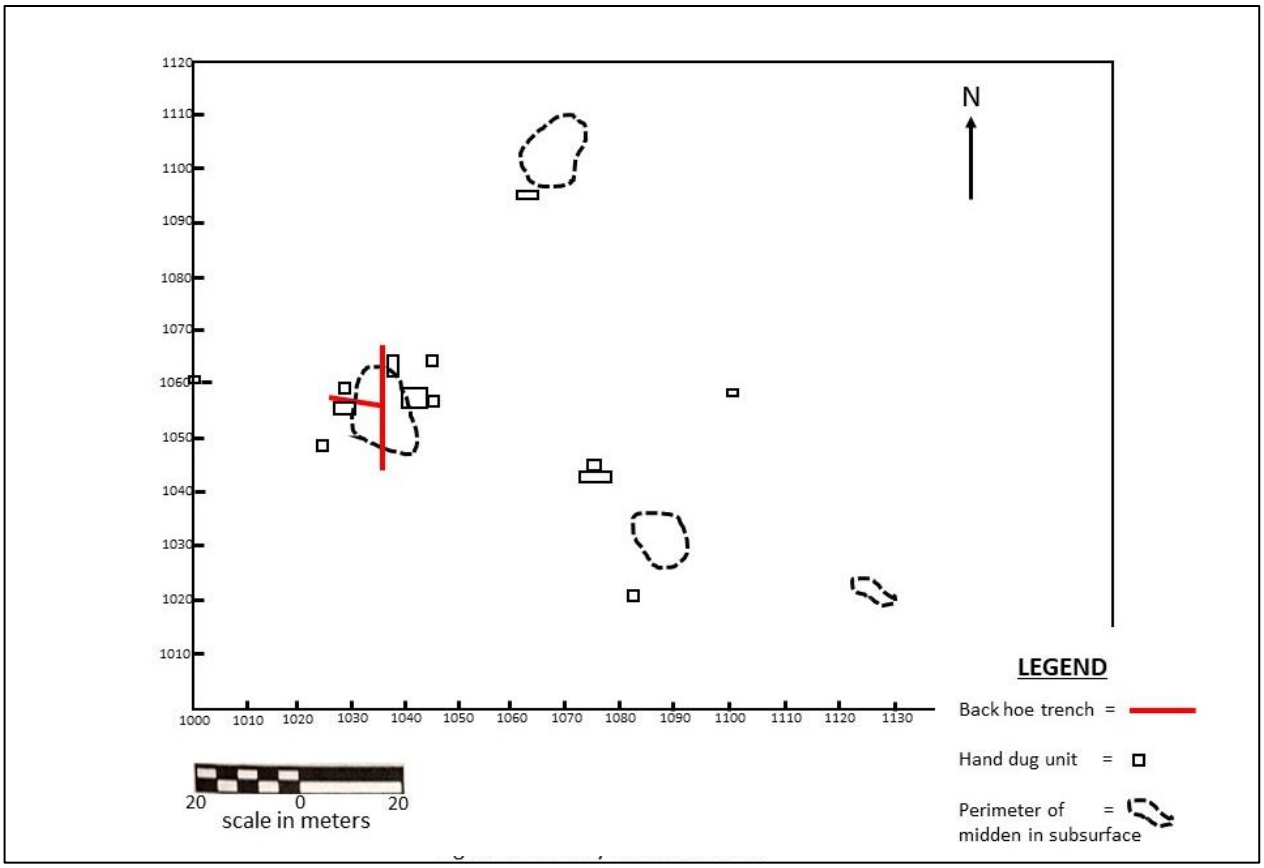

Figure 6. Primary excavation area.

MATERIALS EXCAVATED: ANALYSIS AND SUMMARY

All artifacts were processed through the HCAA lab at the Kemosabe ranch house. Final identifications were made and entered, with provenience, into a Final Lab Catalog for the project. All together there were 85,394 artifacts cataloged, including dart points, flake and other stone

tools, and debitage (Table 1). There were 23 Features recorded (Table 1), of which four were FCR middens ranging in diameter from 10 to 20 meters. Fifteen of the Features were discrete FCR hearths which ranged from 0.5 – 2.0 meters in diameter (Figures 11 and 12 as examples). Two of the Features were "borrow pits". One cluster (0.5 meter by 0.3 meter) of rounded limestone pieces (2-5 centimeters diameter) was recorded. Perhaps the pieces had been used as boiling stones. A final Feature consisted of one 0.5 meter diameter area of burned soil.

Tables 1-4 compare the results of investigations at Kemosabe to the Gatlin Site (41KR621) which is just 0.6 miles east and down river from Kemosabe. Gatlin received extensive analysis by fifteen experts from various archeology and related disciplines of the lithics and organics recovered, and these entire results are presented in Houck et al (2008). We made rough estimates of the volume of soil deposits excavated and analyzed at Gatlin (Houck et al 2008) to be 160 cubic meters. There appeared to be no reliable estimated amounts in the publication. We also estimated volume of soil excavated and analyzed at Kemosabe. The purpose in doing this was to compare the artifact, feature and organics densities of the two sites.

Table 1 summarizes all the materials excavated at both sites while Table 2 summarizes the artifact density per cubic meter of excavated soil at each site. Table 2 also indicates that chipped stone tools such as dart points, flake and core tools are less dense at Kemosabe than at Gatlin.

Table 1. Comparison of cultural material at Kemosabe versus Gatlin.

category	Kemosabe to date	Gatlin (finals)
bifaces	405	1085
cores	172	383
projectile point totals	162 (24 types)	409 (26 types)
typable	84	300
untypable	77	109
debitage		
waste flakes	84,103	149,620
utilized and/or modified flks	511	380
TOTAL FLAKES	84,614	150,000
manos, metates, nutting stones	41	15
features recorded	23 (includes 4 middens)	37 (includes 1 midden)
bone /teeth fragments	59	3,835

Table 2. Comparison of artifact density per cubic meter of deposit excavated at Kemosabe and Gatlin, and percentage of artifact denseness, Kemosabe compared to Gatlin.

Category	Kemosabe (to date)	Gatlin (finals)
bifaces	4.9 (72% as dense as Gatlin)	6.8
cores	2.1 (88% as dense as Gatlin)	2.4
projectile point totals	1.98 (78% as dense as Gatlin)	2.55
utilized and/or modified flks	6.2 (*261% denser than Gatlin*)	2.38
manos, metates, nutting stones	0.5 (*532% denser than Gatlin*)	.094
features recorded	0.28 (*122% denser than Gatlin*)	0 .23
bone /teeth fragments	0.72 (3% as dense as Gatlin)	23.9

Conversely, it appears that utilized/modified flakes and features are denser at Kemosabe than Gatlin.

The number of dart point styles appears to be very similar at the two sites (Tables 1 and 3). Both sites exhibit styles typical of central Texas forms (see also Figures 7-10). Bases of four Paleoindian points (two Midlands, one Angostura, one possible Midland) were found at Kemosabe but were surface finds, thus no context could be established. One complete Big Sandy Paleoindian point was found in subsurface at Gatlin but considerably out of temporal context (Oksanen et al 2008).

Tools typically associated with plant processing such as manos, metates and nutting stones are much more abundant at Kemosabe (532% denser) than Gatlin. The biggest material discrepancy between sites is that Kemosabe yielded only 3% as much density of animal bone/teeth as at Gatlin.

Table 3 indicates that prehistoric Indians at both sites were using essentially the same chert sources, and both sites had areas used for mid to late stage lithic reduction. Likely, cherts from the river or nearby outcrops were worked to mid stage at procurement areas, then finished as tools and points at the site.

Table 4 compares other aspects of two sites. Deer, buffalo, rabbit, small mammal and fish remains were found at Gatlin but only deer remains were found at Kemosabe, and these in very

small quantities. Houck et al. (2008) indicate that items such as end scrapers, Clear Fork tools and gouges were found at Gatlin. Far fewer end scrapers and gouges were found at Kemosabe and no Clear Fork tools were found there.

In summary at this stage of our investigations, both Kemosabe and Gatlin have similarities but there are some obvious differences. Kemosabe seems to have a tool kit and feature assemblage more closely associated with plant processing than animal processing (abundant nutting stones, manos and metates, four middens, and only 3% as dense bone recovered than Gatlin). Gatlin, on the other hand, contains a tool kit such as end scrapers, Clear Fork tools, gouges, flakes and tools with use wear analyses (Table 4) indicating animal processing. Abundant bone and teeth material, and the tool assemblage led Houck et al (2008) to conclude that Gatlin's primary subsistence usage over the millennia was animal butchering/processing.

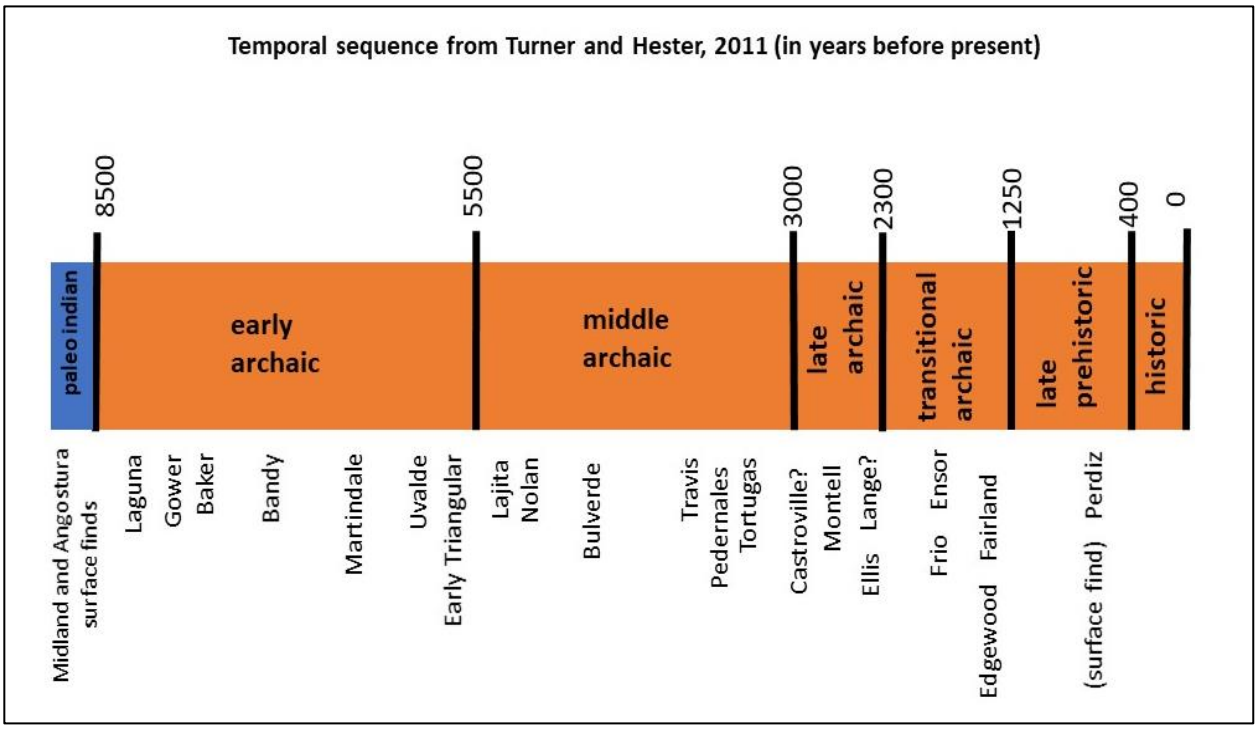

Figure 7. Point types found at Kemosabe and their relative temporal positions.

Table 3. Comparison of stone and artifact types at Kemosabe versus Gatlin.

	Kemosabe (to date)	Gatlin (finals)
Lithic Assemblage		
chert sources	Guadalupe River cobbles and local Edwards outcrops	same as Kemosabe
Chipped Stone Tools		
flake population	indicates mid-final stage lithic reductions and re-sharpening	same as Kemosabe
Tools/weapons projectile points	24 point styles (very similar to Gatlin)	26 styles (very similar to Kemosabe)
scrapers, knives core tools, gravers perforators, drills	reasonable population represented	some difference from Kemosabe, eg. *end scrapers, Clearfork Tools And Gouges much denser than Kemosabe*
utilized and/or modified flakes	*denser than Gatlin*	less dense than Kemosabe

Table 4. Overall Comparisons of Kemosabe to Gatlin.

	KEMOSABE	GATLIN
Use Wear Analysis Of Tools/Weapons	no professional analysis yet done	*professional analysis indicates butchering as main wear pattern*
Non chipped stone tools		
nutting stones, manos and metates	*much denser than Gatlin*	less dense than Kemosabe
Features		
FCR Middens	*4 total, denser than Gatlin*	1 total, less dense than Kemosabe
discrete FCR hearths, burned soil, rounded stone cluster	*denser than Gatlin*	less dense than Kemosabe
ORGANIC REMAINS		
faunal material	59 fragments bone and teeth (*white tail deer, remainder indet.)*	*3835 fragments bone and teeth (primarily white tail deer, with buffalo, rabbit and fish)*
plant material	seeds, but limited analysis to date	walnut/hickory hulls, hackberry, oak wood
stratigraphy, sedimentology, geomorphology geoarcheology	same at both sites	same at both sites

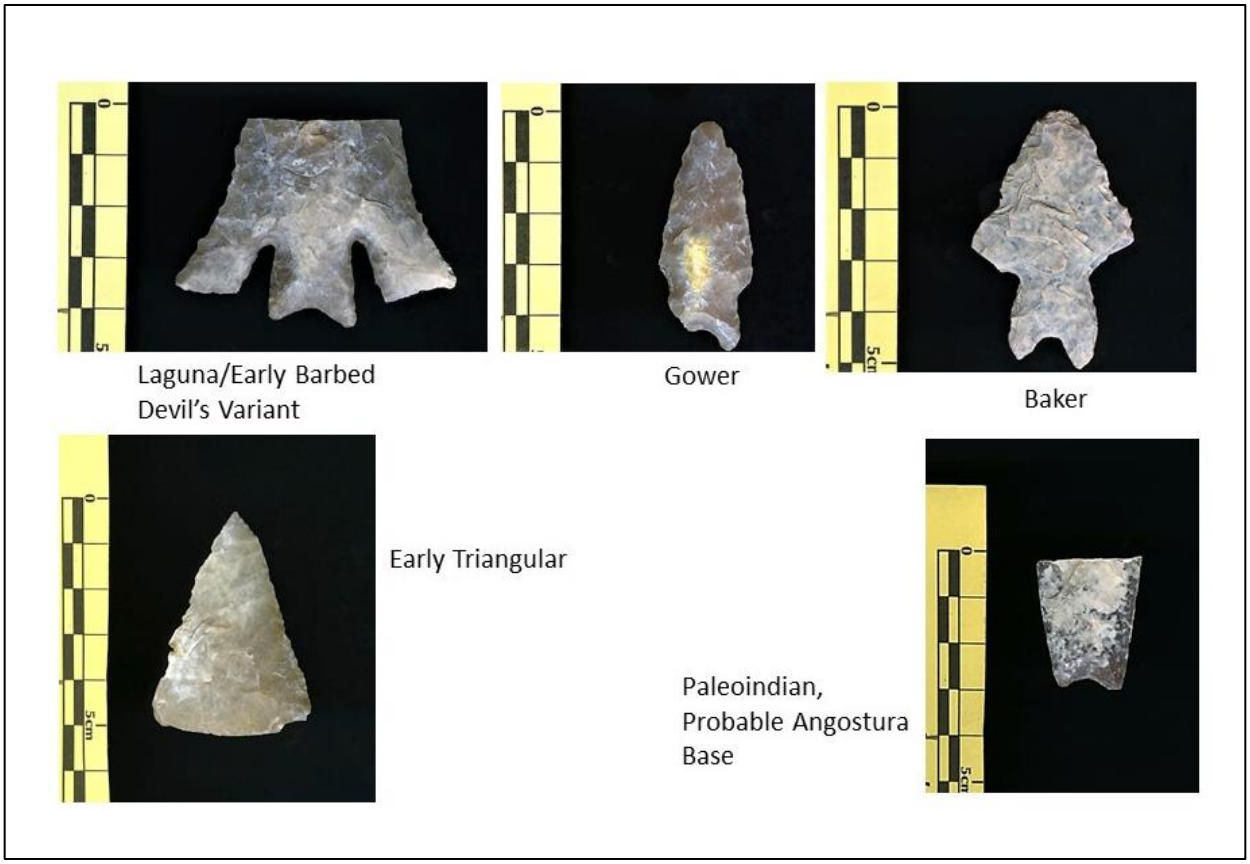

Figure 8. Examples of Paleoindian and Early Archaic dart points found at Kemosabe.

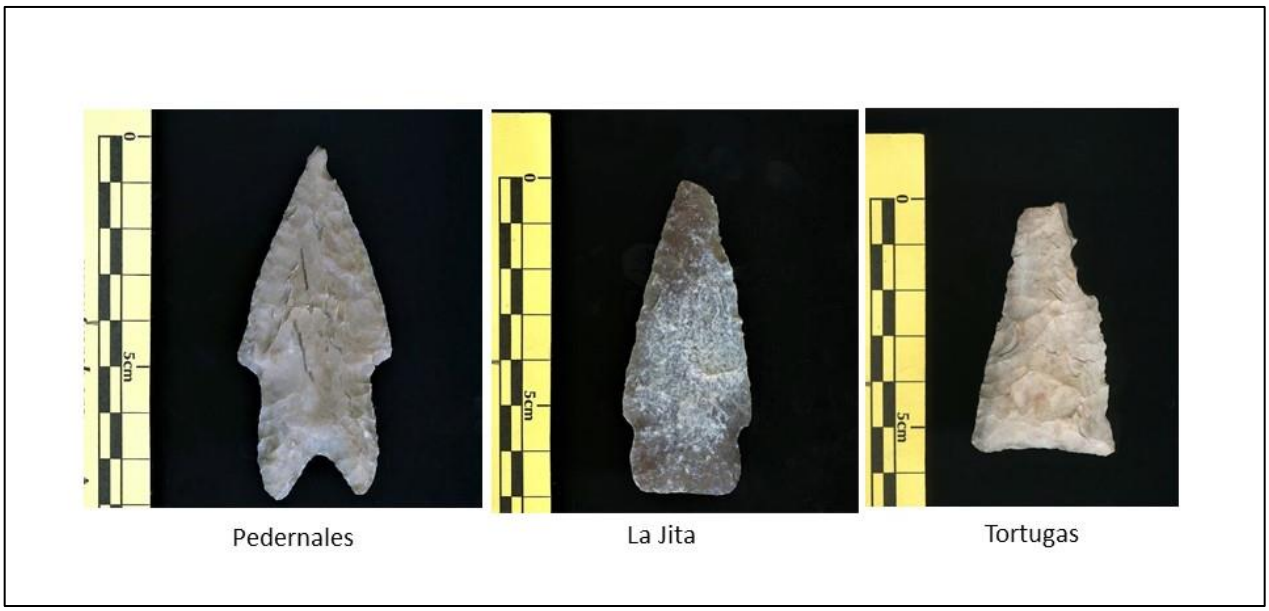

Figure 9. Examples of Middle Archaic dart points found at Kemosabe.

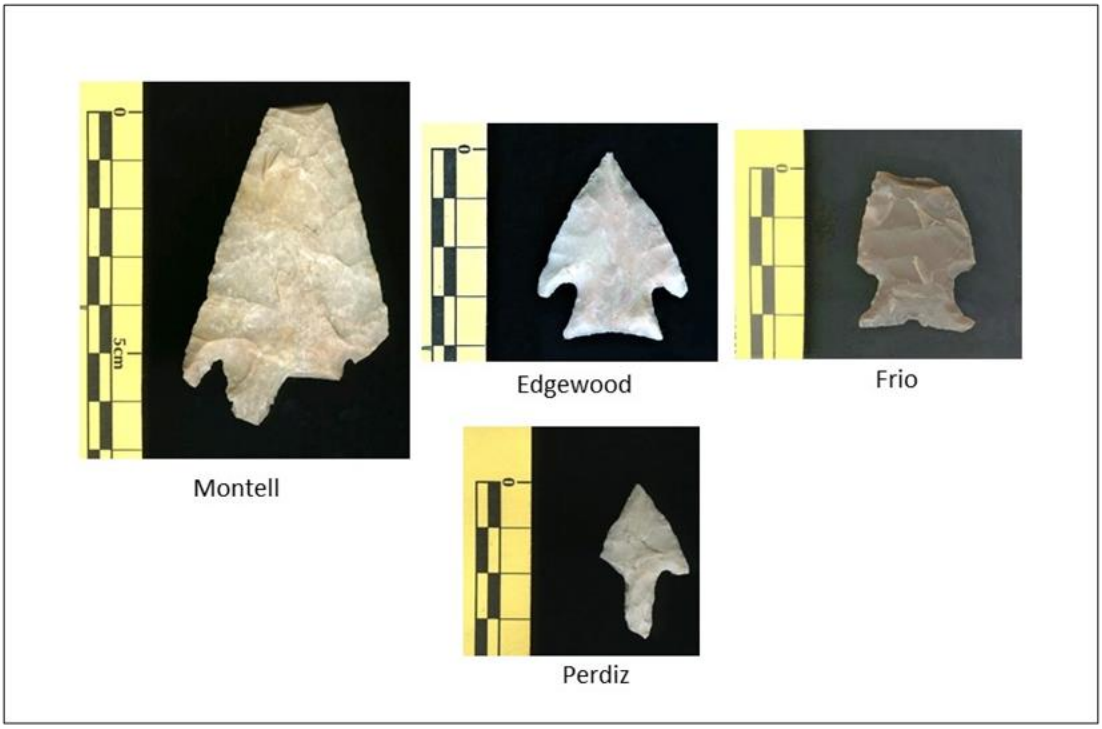

Figure 10. Examples of Late Archaic and Transitinal Archaic dart points, and a Late Prehistoric arrow point found at Kemosabe.

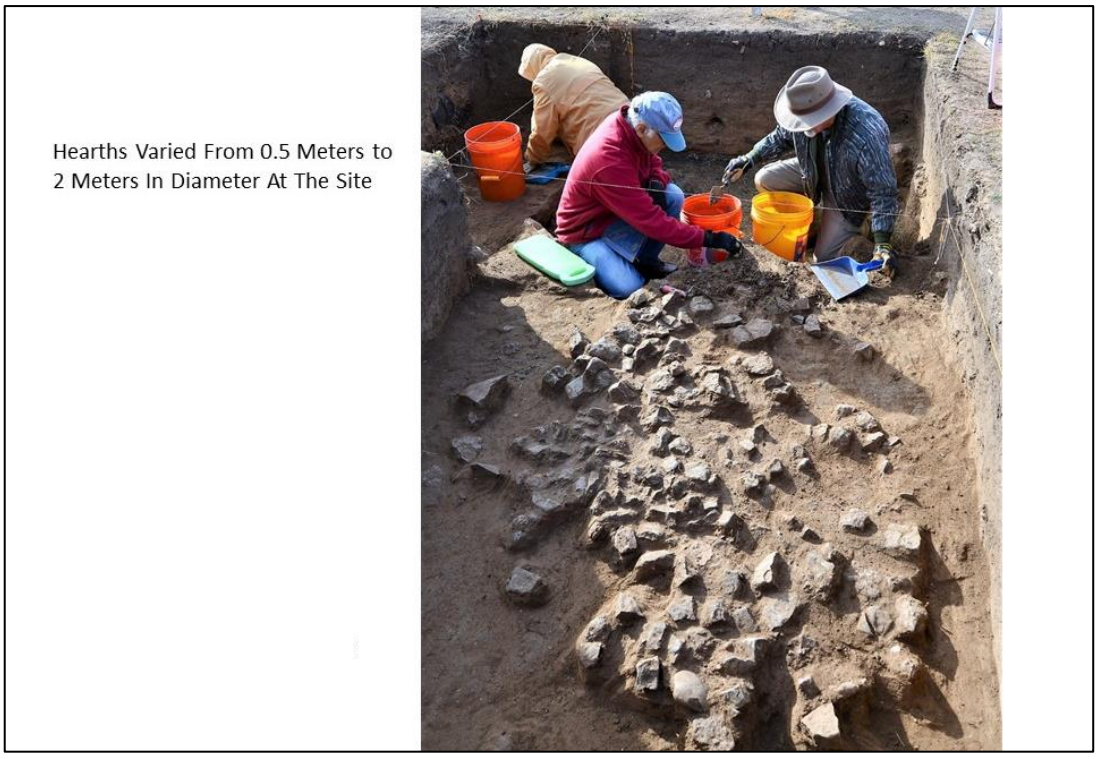

Figure 11. Example of typical FCR Hearth, Early Archaic level.

Figure 12. FCR hearth, feature 1 of unit 15. Early Archaic feature at 60-65 cmbs. Associated charcoal yielded 2 sigma calibrated dates of 7,420-7,280 BP. Bandy dart point associated with the feature.

ACKNOWLEDGEMENTS

Special thanks to members of the Hill Country Archeological Association for their field and lab work, to advance this project. Thanks also to the following professional archeologists and those in related disciplines for their generous contribution of advice and/or work on this project:

Dr. Steve Black
Dr. Charles Frederick
Dr. Chris Lintz
Mr. Arlo McKee
Ms. Tiffany Osburn
Dr. Harry Shafer
Mr. Elton Prewitt
Dr. Thomas Hester
Dr. Michael Collins
Mr. Charles Koenig
Dr. David Madsen
Mr. Erik Oksanen
Dr. Michael O'Brien
Dr. Leslie Bush
Mr. Chuck Hixon

A special thanks from the Hill Country Archeological Association to Mr. Marvin Gohlke, who is the owner of the Kemosabe property, for giving access for the archeology evaluations. Mr. Gohlke is also a member of the HCAA and is a Texas Historical Commission Archeology Steward. Finally, we wish to thank John Benedict for his final edits to this paper.

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