

Report of work conducted on the Gault Site 41BL323
by the TAS Archeological Academy 101
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Introduction

A Texas Archeological Society “Archeology Academy 101” was held January 30 – February 1, 2009 with classroom instruction January 30-31 being held in the historic Williamson County Courthouse in Georgetown Texas. On Sunday February 1st 52 class members met at the Gault Site (41BL323) in southwestern Bell County for a half day’s instruction in field techniques including shovel testing, pace & compass mapping, walking survey, and lab work.

Work was conducted in four areas of the site (see Figure 1). Shovel testing was done in the “north pasture” in an area of 5 X 20 meters, mapping in the central part of the site, the survey was done in a 40 X 50 meter area in the “south valley”, and lab work was done in the Gault field laboratory.

The Gault site is located in the Texas ecoregion of the Limestone (or Lampasas) Cut Plain physiographically an extension of the Edwards Plateau. The plateau areas are Edwards Plateau limestone savanna and woodland dominated by Ashe Juniper (*Juniperus ashei*) and Texas Live Oak (*Quercus fusiformis*) with open clearings of savanna grasslands including clumps of prickly pear (*Oppuntia engelmanni* & *lindheimeri*). The soils are thin clayey soils (Speck Association) overlying the Edwards limestone bedrock. The bottomlands surrounding Buttermilk Creek are significantly different. Here there are deep well watered soils with a mixed broadleaf forest. The springs that feed Buttermilk Creek are clustered close to the western side of the property and the creek bottom is forested with pecan (*Carya*

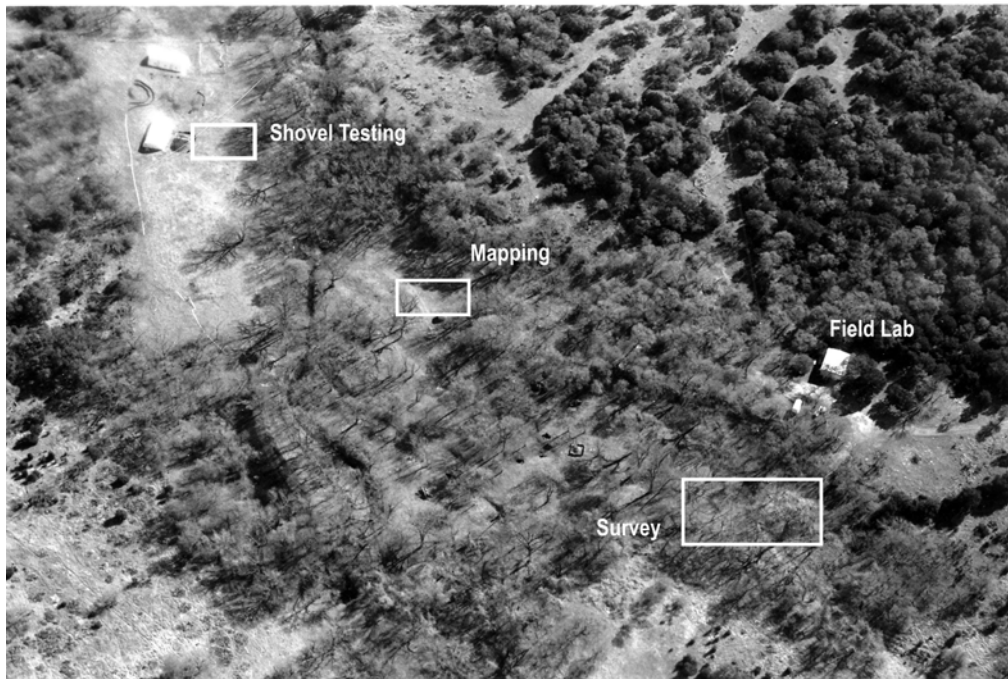


Figure 1: Activity locations at the Gault Site (41BL323)

illinoionensis), black walnut (*Juglans nigra*), willows (*Salix* spp.), cottonwood (*Populus deltoids*), bois d'arc (*Maclura pomifera*), western hackberry (*Celtis occidentalis*), and bur oak (*Quercus macrocarpa*). Ground cover is dominated by grasses, frostweed (*Verbesina virginica*) and poison oak.

A great deal of previous work has been done in the study area both scientific and non-scientific. The property has been subject to looting and surface collecting as well as being subject of a pay-to-dig operation for many years. Scientific study began with an 8 week excavation in 1929 under the direction of J.E. Pearce, the first archeologist in Texas. In 1991 a team from the University of Texas at Austin under the direction of Drs. Tom Hester and Michael Collins excavated a small area along the western fence line for a week looking for intact Paleoindian strata. Drs. Hester and Collins were called in by new landowners in 1998 to examine artifacts and bone on the property and, with the held of Dr. Ernie Lundelius of UT, identified extinct mammoth and horse in conjunction with Clovis artifacts. A three-year

archeological lease was arranged and, from 1999-2002, Dr. Collins led extensive excavations at the site. The site was acquired and donated to the Archaeological Conservancy in 2007 and excavation has resumed on site.

In the context of the TAS Academy it is important to note that there were numerous nonscientific excavations in the area that the shovel tests were in. There is also evidence of pot hunters or collectors disturbance in the area chosen for the surface survey. In both cases the areas were picked precisely because there would be archeological evidence for the participants but little chance of damaging or destroying archeological data.

The purpose of this project was primary educational. The shovel testing was unlikely to uncover any new evidence and the mapping exercise was done with “manufactured site” in an open area rather than with any real archeological features. The survey area was picked in part because the Gault Project has not systematically walked this area but volunteers have occasionally made interesting surface finds. The area, as previously stated, does show signs of previous pot hunting pits. In contrast the lab activities were conducted utilizing materials from the current Gault excavations and some work of real benefit to the project was completed.

The field work was conducted by the GSAR and supervised by their staff members while actual field work was done by the members of the Archeology Academy class. An initial report was drawn up by the supervisors of the four exercises and the final summary report assembled by the Principal Investigator, D. Clark Wernecke. Artifacts were processed in the Gault Project laboratory at the Texas Archeological Research Laboratory of the University of Texas at Austin and will be curated at TARL along with the rest of the Gault Site artifacts. This report covers the background, research design, fieldwork and analysis of the results.

Previous Archeological Work

The area has been under intense scrutiny by collectors as far back as the beginning of the 20th century. In 1929 one of the middens at Gault was excavated under the direction of J.E. Pearce, the first anthropologist at the University of Texas at Austin. Pearce was specifically examining the large low burnt rock midden that covers much of “north pasture” on Henry Gault’s farm. Pearce’s collection from this excavation is curated at TARL and is currently being analyzed by the Gault Project. His excavations showed nearly continuous use of the site over thousands of years characterized by enormous quantities of artifacts.

Following Pearce’s excavation the site was visited by looter’s and collector’s from all over the country culminating in a period in which the property was operated as a pay-to-dig venture. Parts of the property were sold off including the 40 acre tract on which this excavation took place. In 1991, following a collector’s discovery of incised stones and Paleoindian artifacts, a TARL crew worked for a week and a half on a small excavation investigating this find. In 1999 a new landowner asked for help and another TARL crew worked for a short time excavating Pleistocene faunal remains and Paleoindian artifacts. Following that excavation a three year archeological lease was signed between UT and the landowners and the Gault Project excavated in several areas of the site until May 2002.

In February of 2007 the property on which the Gault site is located and the property on which this TAS Academy took place were acquired for the Gault School of Archeological Research (GSAR), a non-profit corporation. Roughly two thirds of this property was then donated in December 2007 to the Archaeological Conservancy. The Gault School administers and maintains this property on their behalf.

Research Design

The goal of this project was primarily educational; to give members of the TAS Archeological Academy 101 class a hands-on experience in a variety of archeological techniques and to see first-hand how scientific archeology is done. The exercises were held on the Gault site (41BL323) itself. Shovel testing was done just meters from the current excavation, mapping in a clearing near the mammoth mandible find spot, and survey was done in an area that has had no scientific excavation.

The Academy students were split into four groups that rotated through the four activities at the site, spending one hour at each area. Each of these groups was further divided into teams of 3-4 people. At the first station, shovel testing, the students learned about posthole testing by participating in the excavation of ten posthole tests on the site grid that straddle the edge of the burnt rock midden. Using shovels and trowels they excavated roughly 25 cm holes in 10 cm levels, screened the backdirt, collected artifacts and recorded their observations.

At the second station the students learned techniques for making a simple sketch map of an area using their own pace (which they had measured the previous day during the classroom exercises) and a compass. A clearing on the site held several groups of artifacts and other landmarks which the students were expected to map. The teams were given a clipboard, graph paper, a compass, a ruler, and a 360 ° protractor. They were instructed as to proper labeling, legend and orienting their map before beginning.

The group would then proceed to the survey area which was situated in the southwest corner of the site. A ravine opens onto a cleared valley floor here and has left a large alluvial fan deposit. A burnt rock midden to the west, just beyond the fence line, was severely looted in the past and debris from the pits are scattered on

the hillside. This area also had, at the time of the Academy, a thick layer of leaf litter, giving the students an idea of the difficulties that can be encountered in a surface survey. The area was divided into a 10 meter grid and teams were assigned a grid square to scour for any traces of human artifacts (no recovery). They were given a clipboard and a survey form to note the presence of anything of interest in their squares and to record their observations.

The last stop for each group was the field lab where they learned how artifacts proceed from the field to analysis and on to curation. The instruction took place in the large metal barn that the Gault School has outfitted as a field lab and maintenance facility. They participated in washing, sorting (our initial lab triage), labeling and bagging artifacts from our current excavations at Gault. Gault School lab personnel described the process and the steps the artifacts proceed through and then worked with the individual team to help them understand what they were seeing as they worked.

Description of Fieldwork

Shovel testing: This exercise was overseen by Dr. Michael Collins with the assistance of Dr. Robin Benson-Barnes, Wayne Wallace, and Melanie Frist. The primary objective in the “Archeology 101” program of the Texas Archeological Society is to acquaint participants with some of the basic techniques employed in archeological investigations. In this particular instance, there was also the secondary objective of recovering a little information about the surviving cultural evidence for the edge of the large burned rock midden on the north side of Buttermilk Creek at the Gault Site (41BL323). This midden had

been mercilessly potted between about 1908 when the land was first cleared and 1998 when this activity was curtailed. In spite of the years of looting, plowing, erosion, and the presence of a modest amount of grass, the margin of the midden is still fairly distinctly visible. A grid, 20m long north-south and 5m east-west, was established across this margin of the midden and south of excavation Area 15 (Figure 2).

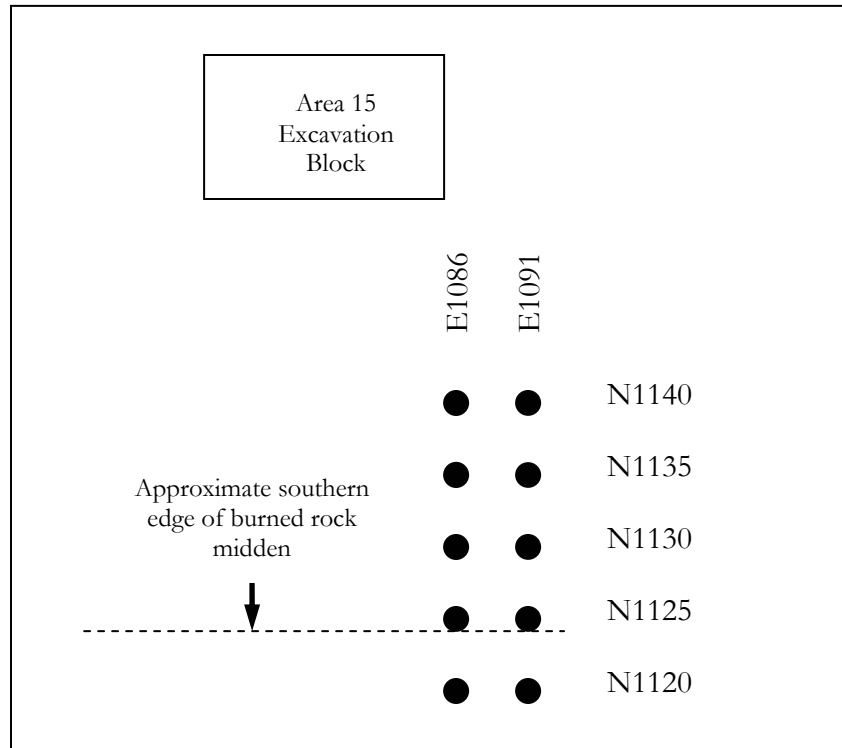


Figure 2: Location of shovel tests in relation to current excavations

Shovel testing in the complete absence of surface indications of a site is appropriate at the reconnaissance level of archeological inquiry to determine if a totally buried site is present. It is also appropriate in known sites to learn something about the subsurface of a site, as was the case in this area of the Gault Site. In either case, shovel testing is an expedient means of probing the subsurface to determine if buried cultural material is

present, the nature of any subsurface cultural artifacts or features encountered, and the context of any such materials relative to geologic deposits or soil horizons.

To optimize the effectiveness of shovel testing it is best to employ a systematic and consistent strategy suited to the problem at hand. Systematic horizontal spacing, either lineally or in a grid, is commonly used to discover spatial patterning in the distribution of artifacts in the subsurface. Such things as site boundaries, intra-site patterning in artifact distributions, and horizontal aspects of the geologic structure of a site may be discernible. The same is true in the vertical dimension where shovel testing can sometimes reveal useful stratigraphic distributions of cultural materials and/or the physical structure of the site. In some instances, the expression of horizontal or vertical distributions is strong enough to be discerned in the field whereas in others, it may require some analysis of the raw data to reveal patterns.

Should it be necessary to analyze data from shovel testing, the results are improved if the data were recovered under comparable controls. Shovel tests should be of about the same dimensions and dug in arbitrary levels of uniform thickness, or at least as closely as practicable. Then, quantification of such information as number of flakes per level is directly comparable between tests or within the levels of a single test.

The principle employed in this exercise is that, in spite of extensive disturbance, the dense archeological signature of the midden would still stand in stark contrast with the less dense archeological nature of the area outside of the midden.

The students were divided into groups of 2-3 and assigned one of the shovel tests. The tests were round holes ca. 30 cm in diameter and excavations were done in as close to 10 cm levels as the unit would allow. Dirt from the tests was screened through 1/4" screen.

Each group had a shovel test form to fill out where they described any artifacts recovered and stratigraphic changes noted.

The results of this effort are summarized in the accompanying Table 1. Since the shovel tests were not equal in volume, the recovered materials were divided by the volume of the shovel test and reported density, that is *specimens/cubic meter*. In the westerly row of shovel tests (on the E1086 grid line), the northern two tests, well up on the midden, yielded densities in excess of 11,000 items/cubic meter, whereas the southern two, at and just off of the edge of the midden, dropped to 21 and 720 items per cubic meter. Similarly, the tests along the E1091 grid line yielded densities of 33,000 and 24,000 items per cubic meter on the midden and 3,000 and 6,300 items per cubic meter.

Shovel Test	Levels dug	End depth B.S.	Vol. excavated m ³	Nitems recovered	Density/m ³
N1140 E1086	2	20 cm	.018	340	18,888
N1135 E1086	3	27 cm	.024	445	18,541
N1130 E1086	3	24 cm	.022	262	11,909
N1125 E1086	1	12 cm	.011	23	21
N1120 E1086	2	28 cm	.025	18	720
N1135 E1091	2	20 cm	.018	564	31,333
N1130 E1091	3	26 cm	.023	558	24,261
N1125 E1091	1	10 cm	.009	27	3000
N1120 E1091	1	8 cm	.008	51	6375

Table 1: Summary of recovered materials

Table 2 provides a summary of any notable or diagnostic artifacts recovered in the shovel tests.

Clearly, shovel testing, even in disturbed deposits, has the capacity to reveal patterning in the distribution of artifacts. Limiting factors in the case of this exercise included the very hard, dry nature of the deposits and the density of the clayey matrix, both of which made digging and especially screening quite difficult. The four units off of the

edge of the midden also encountered a significant amount of roots that further hampered the process.

Unit	Level	Items
N1140 E1086	1	2 heat-damaged biface fragment
	2	1 bifacial thinning flake
N1135 E1086	1	1 burned bone fragment, 2 bone fragments
	2	1 graver on a flake
	3	1 thick biface
N1120 E1086	2	1 burned biface fragment
N1135 E1091	1	1 thick biface
	2	1 plano-convex biface
N1130 E1091	1	1 uniface
	2	1 bone fragment

Table 2: Noteworthy items recovered in shovel tests

Mapping: The pace and compass mapping was overseen by Nancy Littlefield of the Gault School staff assisted by Kristin Littlefield. Each team of 3-4 students was given graph paper, a compass, and a plastic ruler and protractor. The students had measured their paces and become familiar with the compasses during a class exercise the previous day. The area they were to map is a clearing in one corner of which sits a metal utility shed. In an area roughly 10 X 15 meters the staff had placed a small simulated hearth and various scatters of historic and prehistoric artifacts from the Gault School teaching collection.

The first order of business was to point out the elements of a good sketch map beginning with a scale, north area and legend including the names of those drawing the map. Each team was then set loose to interpret the area and represent it on paper in such a way that a subsequent researcher could readily identify the area from the map.

Ultimately 18 maps of the area were generated and discussed with the staff members. Students learned that that there was more than one way to draw the map and represent the artifacts and the area. Choices had to be made, beginning with the scale, that would determine how their final map turned out.

Surface Survey: Dr. Andy Hemmings handled the surface survey exercise assisted by Sabelyn Pussman. A new survey area in the southwest valley (opposite the petroglyphs) was selected that has received minimal archeological investigation because of the steep slope to the west of a Buttermilk Creek tributary. The initial finds of incised stones were made along this slope and in 1991, in an area just north of the survey grid, UT conducted its' first excavation at Gault.

We created a 40 by 46 meter grid with a topographical correction of six meters on the north lines. The northing line "X" adjusted our survey box around particularly difficult to traverse terrain. Units in east columns 3 and 4 were largely avoided because they were in the flat bottom of the valley and have generally been examined in greater detail in the past and the small streambed runs through them leaving a largely eroded surface.

Figure 3 shows the grid with the units surveyed shaded.

Several concentrations of artifacts were found, particularly in Line 1 East. Square 1 N, 1 E produced several point and biface fragments. One tip, found by Albert and Daniel Heinrich, may be a late stage Clovis preform. This tip, a lanceolate end (base or tip is not clear) and a small notched point were collected roughly 8m north and 8 to 8.5 meters east in this square. Several concentrations of artifacts were noted in Units 1N, 1E; 1N, 2E, and in N1, 2-4 E (Figure 4)

Burned artifacts and rocks were found in most units apparently eroding downhill from the burned rock midden on the adjacent property to the west. While artifact concentrations were found in several units most do not appear to be in primary context. It should be noted for possible future work that Units 1N, 1E and 1N, 2E may have a small Clovis activity area near or below the modern surface. Though lacking diagnostic artifacts there were a number of Clovis-like overshot flakes, a possible channel flake, and a couple of Clovis like blades in a roughly 3m diameter circle.

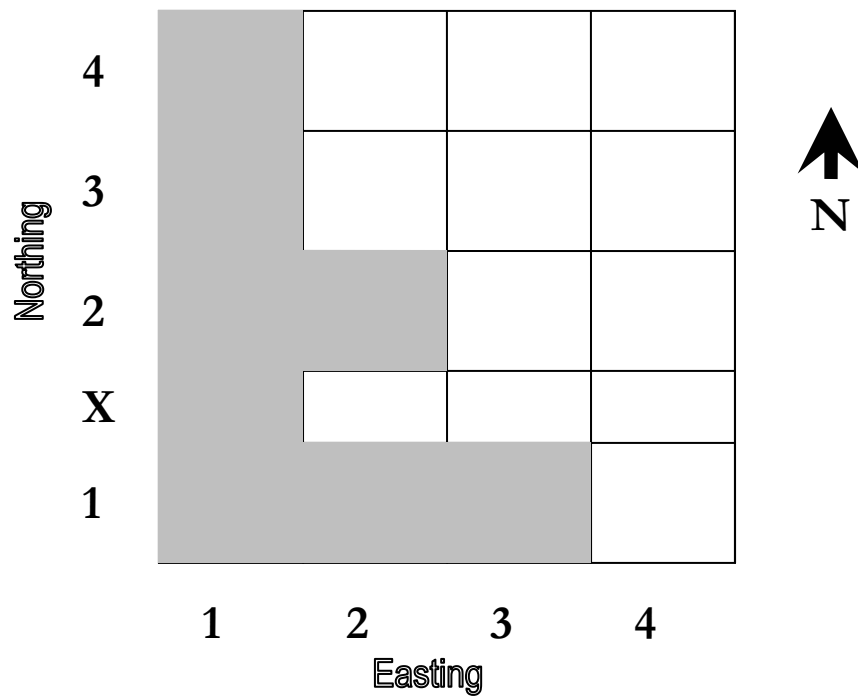


Figure 3: The survey grid in the south valley with grid squares surveyed shaded.

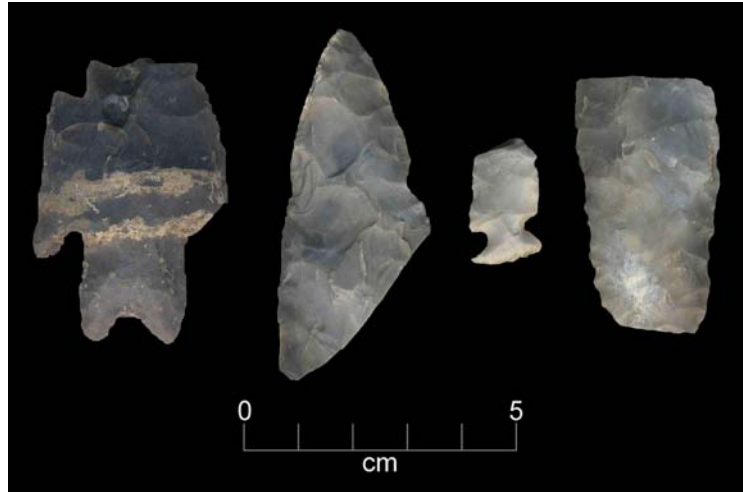


Figure 4: Artifacts found during the surface survey. Left to right, a burned Pedernales point, proximal biface fragment (possibly Clovis), Scallorn point, distal biface fragment.

Lab: Cinda Timperley served as Lab Chief during this Academy session. Jonelle Miller-Chapman and Marilyn Shoberg assisted in identification and checking sorted material.

Four groups moved through the lab, one per hour. Each group was split into five smaller teams of 3 to 4 people per table. These teams either counted and cataloged artifacts or washed artifacts. Each team worked with only one lot per table. The washers washed only one lot at a time to avoid the possibility of mixing. Since the surface survey was non-collecting and the shovel tests were not expected to yield many artifacts the students worked on excavation materials from Gault site Area 15. Area 15 is a 21 square meter excavation in the pasture north of Buttermilk Creek that has been designed to examine deposits found in this area below the Clovis strata. The excavation currently is in primarily Archaic strata.

The day's efforts resulted in four lots washed and placed in the drying racks (a lot number is assigned to individual 10 cm levels in 1 X 1 meter units) and four more lots were

sorted and tagged for analysis. These were sent back to the Gault lab at the Texas Archeological Research Laboratory (TARL) for further processing.

Conclusions

The primary purpose of these exercises at the Gault Site was educational and that purpose seems to have been admirably met. Post-Academy questionnaires reveal that the participants not only learned from their experience but also that most seemed to really enjoy themselves while doing it.

Archeologically the class also accomplished several notable tasks. The shovel testing demonstrated the marked difference between artifact densities on and off the burned rock midden despite the mixing of strata over the years. The surface survey examined an area never closely looked at by the project and identified a possible Clovis component. The lab washed and sorted materials from the ongoing excavations in Area 15 which the GSAR hopes will help us to better understand the Archaic of Central Texas and ultimately help to define the technology used by the earliest peoples in Texas.

There are limits on what you can learn from books or the classroom - archeology is an apprenticeship discipline. It has long been understood that successfully understanding and practicing archeology requires not only the background knowledge but meaningful field experience. This is one of the primary goals of the Gault School of Archaeological Research and we have been happy to participate in, and commend the Texas Archeological Society for offering, the Archaeology Academy 101 classes.

Acknowledgements

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Lastly I would like to applaud the 56 individuals who took the Academy course and helped us answer some of our questions about the Gault Site.