An Inventory of Bifaces and Other Formal Tools from the Paleoindian Occupation Locus on 9GO32, The Graham Creek East Site, Lee Thomas Collection

Cover illustration shows selected bifaces found by Lee Thomas in 1979 on the surface of 9GO32.

An Inventory of Bifaces and Other Formal Tools from the Paleoindian Occupation Locus on 9GO32, The Graham Creek East Site, Lee Thomas Collection

Authored by

Scott Jones

Jerald Ledbetter

and

Lee Thomas

(Images provided and assembled by Jerald Ledbetter)

February 14, 2014

Abstract

This report presents the results of an initial examination of a group of 86 artifacts collected from the surface of site 9GO32 by Mr. Lee Thomas in 1979. The site, also known as Graham Creek East, is located on the banks of Oostanaula River, in Gordon County, Georgia. Graham Creek enters the river just west of the site. The site is one of several sites found and recorded during his survey of part of the upper Coosa River in the general vicinity of Calhoun, Georgia. At 9GO32, a number of artifacts were found in the plowed field in a low depression that appeared to be a river scour. Mr. Thomas recovered a large number of lanceolate bifaces from this area which he recognized as being quite early point types (only formal tools were collected). Unfortunately, the occupation period was listed as Early Woodland on the Georgia site form, and that attribution has remained in the site files database since 1979.

In 2013, Mr. Thomas contacted David Anderson (PaleoIndian Database of the Americas, PIDBA) for assistance with the collection, who referred him to Jerald Ledbetter. An arrangement was made for the documentation of the collection which is the purpose of this report. Our examination of the material supports Mr. Thomas' conclusions of an early assemblage. The bifaces found in the collection are heavily curated and many display extensive reworking of broken bifaces. Many attributes generally attributed to Clovis are evident in the collection, but it does not appear to be "classic Clovis." For that reason, the technology used to produce these tools has been examined in Chapter 3 with respect to both pre-Clovis and post-Clovis. A highly unusual feature of this collection is the predominant use of very tough "cherty" raw materials that have yet to be identified to a specific source. The material was identified on the 1979 site form as a silicous slate of probable Piedmont origin. That identification was based on examination of similar artifacts recovered from a nearby site (9GO36) by Jim Michie (see Appendix A). We now feel that the source of the "cherty" material lies to the west or southwest.

This brief report includes an introductory chapter with an emphasis on prior Paleoindian Point survey data for northwestern Georgia, a site description by Mr. Thomas, and the results of preliminary analysis of the collection (Chapter 3). The appendices include relevant documentation related to the site and Mr. Thomas's survey, photographic documentation of the collection, and a list of the metric data for the individual specimens. The final appendix includes photographs of later projectile points found at higher elevations on the site.

Table of Contents

List of Figures

Chapter 1. Introduction and Cultural Context

This report has been prepared to document a collection of mostly bifacial tools, recovered in the late 1970s from the surface of an exposed terrace above the Oostanaula River, in Gordon County, Georgia. Mr. Lee Thomas, the original collector and present owner of the material, is in the process of determining how the artifacts from this site, and several other sites, may be best preserved for future study. Over the past few decades, several archaeologists (beginning with Jim Michie in South Carolina) have had the opportunity to examine portions of these site collections and it is the opinion of Mr. Thomas that most, if not all, of the material in this specific collection locus dates to the Paleoindian period. Other artifacts date to later time periods, but that material was found on other parts of the site. A brief description of the site's history, by Mr. Thomas, is presented in Chapter 2. Chapter 3 is written by the Scott Jones and provides a narrative discussion of the results of our preliminary analysis. The appendices provide additional documentation, photographs, notes, and measurements for the collection.

The Graham Creek East site (9GO32) is located in northwestern Georgia, which is probably the least studied part of the state with respect to the Paleoindian period. The northwestern corner of the state is primarily part of the Ridge & Valley Physiographic Province, but also includes a small part of the Cumberland Plateau, and the western edge of the Blue Ridge foothills. The Ridge and Valley province contains a unique geographic feature known as the Great Valley or Coosa Valley (Figure 1). The Great Valley extends down from Tennessee diagonally across northwest Georgia and extends nearly halfway down the state of Alabama.

The northern headwaters of the Coosa, which contains the site, include the Oostanaula, Coosawattee, and Conasauga Rivers. Site 9GO32 is located at the confluence of a small stream known as Graham Creek and the Oostanaula River, and west of the city of Calhoun, Georgia. From an environmental and ecological perspective, the Great Valley is viewed as a wide and important corridor linking the Coastal Plain and areas to the north.(Wharton (1978:123). With this in mind, we should think this corridor would have been an important route for herd animals of the late Pleistocene and early Holocene, but evidence of their exploitation during the Paleoindian period has been remarkably scarce to date.

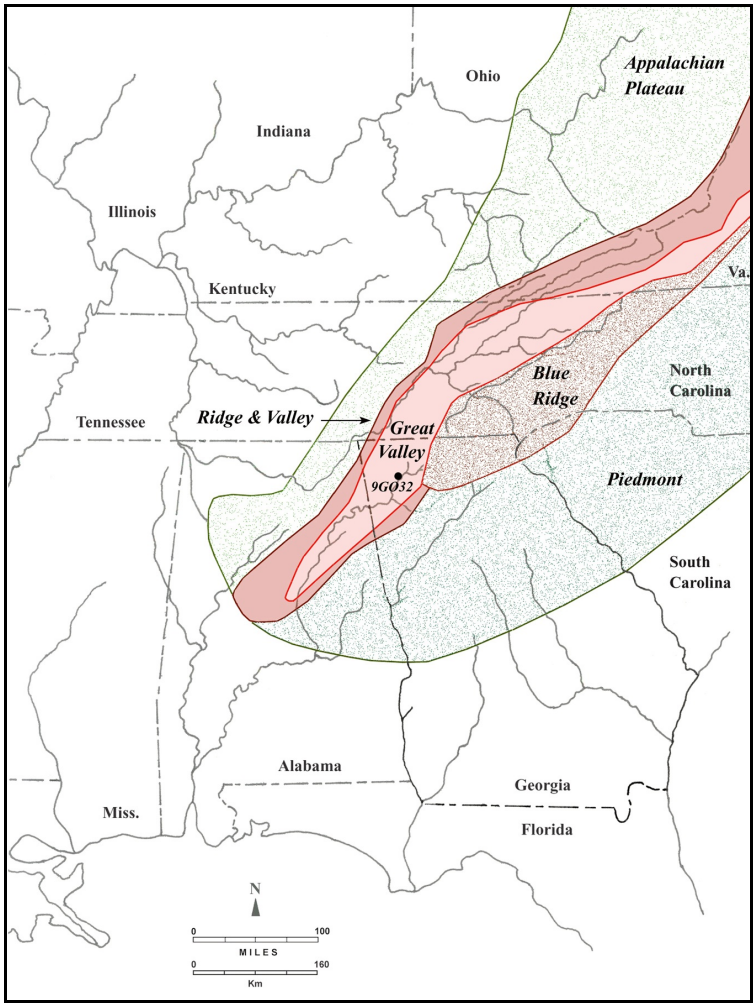


Figure 1. Map showing 9GO32 within the Great Valley in Northwest Georgia. (adapted from Ledbetter et al. 2008: Figure 2).

Previous Paleoindian research in northwestern Georgia has been limited. Robert Wauchope conducted an extensive archaeological survey of north Georgia in the late 1930s but apparently did not venture into Gordon County. Wauchope provides a good overview of Paleoindian point types as known in the mid-1960s but, and he notes that such types as Clovis and Cumberland were found in his survey and observed in private collections. Unfortunately, his typological scheme basically "lumps" the earliest point types (particularly unfluted lanceolates) with those of the much later Woodland period (Wauchope 1966:99-112). In a summary section on Paleoindian point distribution data in the Southeast,, Michie (1977:97), noted that three probable fluted points illustrated by Wauchope (1966:100) were found in northwestern Georgia and all were found at major rivers and stream confluences. Although the data was minimal, Michie (1977:98) suggested that Wauchope's distribution pattern was consistent with the riverine and large creek Paleoindian point distribution pattern that he was seeing in South Carolina.

The perceived scarcity of Paleoindian point finds in the upper Coosa River drainage is documented in two articles published by avocational archaeologist Frank Manley in the 1960s. Manley's search of the area resulted in the discovery of only two fluted points. One is mentioned in a paper on Horseleg Mountain in Floyd County published in *Archaeology Magazine* (Manley 1968a:54-60). A second point, referenced as an isolated find near the Coosawattee River in Gordon County, was recorded in *Archaeology Magazine* during the same year (Manley 1968b:138-139). Figure 2 illustrates the two points found by Mr. Manley. For reference, the point on the left is Ridge and Valley chert. The one from Gordon County is described as a type of exotic "flint" that lithic specialists from Emory University could not identify as belonging to any common Georgia formation (Manley 1968:139).

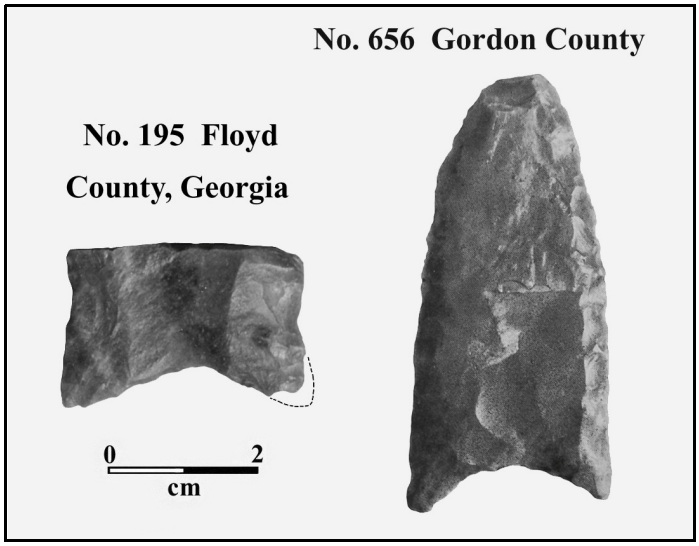


Figure 2. Two fluted points found in the 1960s in the Coosa River drainage by avocational archaeologist Frank Manley in the 1960s (source: PIDBA files).

The first concerted effort to record Paleoindian points in Georgia began in 1986 as a Society for Georgia Archaeology (SGA) project headed by David G. Anderson. The project proceeded slowly for the next few years before publication of the Paleoindian Period Archaeology in Georgia (Anderson et al. 1990). Only 15 points (of 216 statewide) were recorded for northwest Georgia, mostly from a few small private collections and a few CRM surveys (Anderson et al. 1990: Table 2). Reasons for the scarcity of data were given as follows.

> A second distributional void characterizes the northern, mountainous region of the state. Given the large numbers of fluted points recorded to date in the central portion of the Tennessee River Valley, the almost complete absence of these forms in northwest Georgia is surprising, and may well reflect an absence of data. This suspicion is reinforced by the fact that large numbers of Paleolndian points have been found in counties across the state line in both in Alabama and Tennessee. Away from the Tennessee River Valley, however, the general absence of early diagnostics may accurately represent Paleolndian land use. Throughout the Eastern Woodlands few Early and Middle Paleolndian artifacts have been found in mountainous terrain, except along major drainages bisecting these landscapes; a similar pattern may hold true in Georgia (Anderson et al. 1990:76).

The Georgia Paleoindian Point Recordation project has continued over the years, through the volunteer efforts of several individuals, and is no longer under the sponsorship of SGA. Point data has been procured from a number of sources, including events sponsored primarily by the Augusta and Ocmulgee Archaeological Societies, and the Peach State Archaeological Society. Collector data for the area has become more available in the past decade as the work has become better publicized through sources such as the Paleoindian Database of America (PIDBA). We now have information on 121 points of probable Paleoindian age from northwest Georgia (excluding this collection), and while still scarce (5.6% of state total), they show the range of expected "classic" types (Figure 3-4).

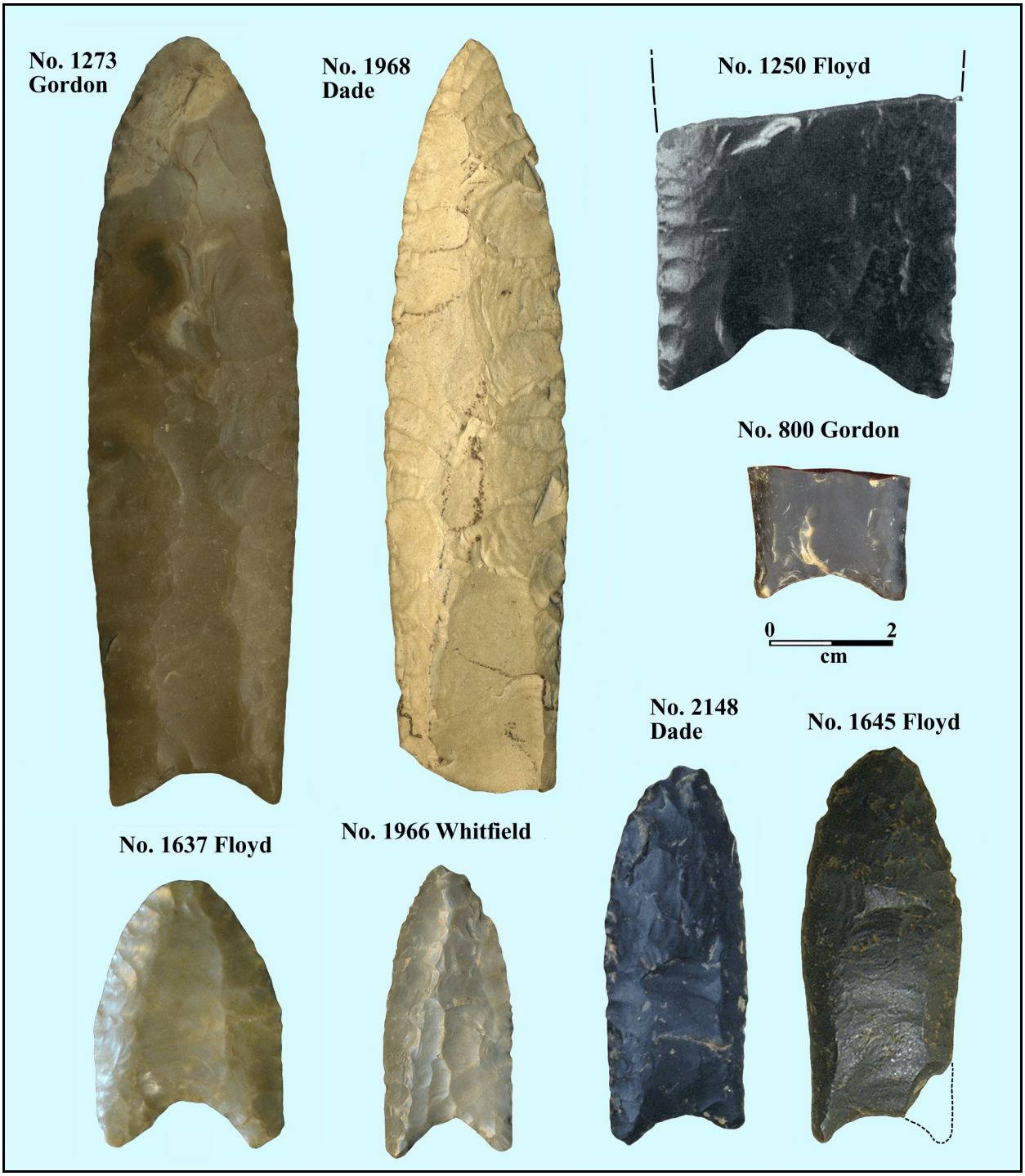


Figure 3. Examples of fluted points currently recorded from northwest Georgia (source: PIDBA files).

Figure 4. Examples of Middle and Late Paleoindian points (Cumberland, Beaver Lake, Quad, and Dalton) currently recorded from northwest Georgia (source: PIDBA files).

Background Information Relating to the Lee Thomas Collections

As a part of the ongoing Georgia Paleoindian Point Survey, the archeological site files and collections housed at the University of Georgia's Laboratory of Archaeology in Athens, was searched by the Ledbetter and Jones (primarily in 2006) for any information on previously recorded Paleoindian finds. During this process, a few points were recorded that were curated at UGA. Four early points were also recorded using drawings and photographs attached to site forms recorded in 1979 by Lee Thomas. The points were from two sites (9GO34 and 9GO36) and had been recorded in the site files database as dating to the late Paleoindian period. Based on the limited amount of diagnostic information found in the drawings and on the site form, three of the points appeared similar to Quad or Dalton and one of the points seemed similar to a slightly later type called Greenbrier. Figure 5 shows a copy of Mr. Thomas' drawing of one point from 9GO34 (Georgia Point Number 1275). A second drawing accompanies a revised survey form for Number 1274 in Appendix A. The drawings include a brief description and characterize the raw material as a Piedmont slate.

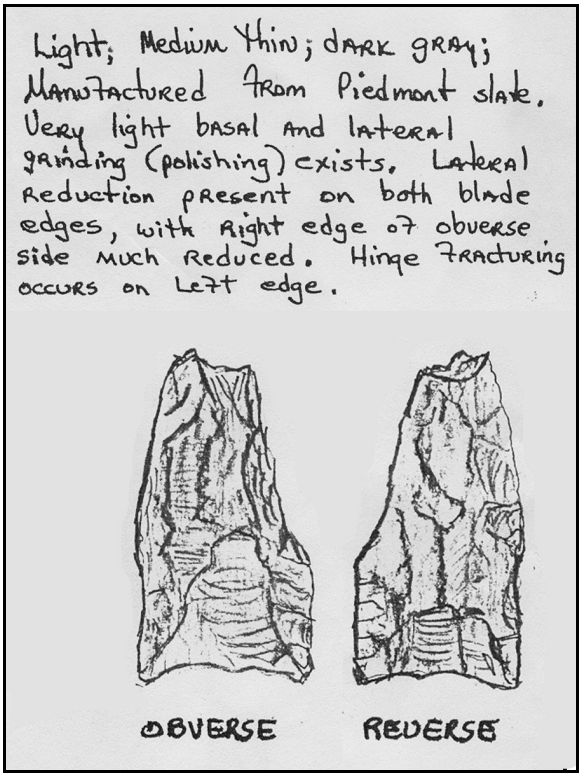


Figure 5. Copy of drawing with description of and early point from site 9GO34 prepared by Lee Thomas in 1979 (Survey No. 1275 (PIDBA files)

Mr. Thomas recognized his drawings while searching the PIDBA images on the University of Tennessee web site. He contacted the junior author in 2013 and we were able to better document these points and the rest of his northwest Georgia collection over the next two years. Upon firsthand inspection, the points appeared to predate Quad/Dalton but were difficult to assign to a specific type because of extensive reworking. The raw material did prove to be unusual and not typical Ridge and Valley lithic resources. The raw material was a dark, tough, cherty material that was unfamiliar to both Ledbetter and Jones. In an earlier examination, Jim Michie described the material as highly silicious slate of probable Piedmont origin. Michie further noted that the points were probably Dalton, but peculiar, and somewhat similar to material from Alabama (Appendix A).

Upon our examination of the collection from the Graham Creek East site, this raw material was found to be the dominant form. Our initial collection of Mr. Thomas' entire collection from northwest Georgia indicated that the raw material seemed to be limited to the few points previously recorded from 9GO34 and 9GO36 and the larger collection from the Graham Creek site (9GO32). A search of Georgia point photographs in the PIDBA database produced one similar example found farther south on the Coosa River in Rome (Figure 6). The nature of this unusual raw material is discussed in detail in Chapter 3.

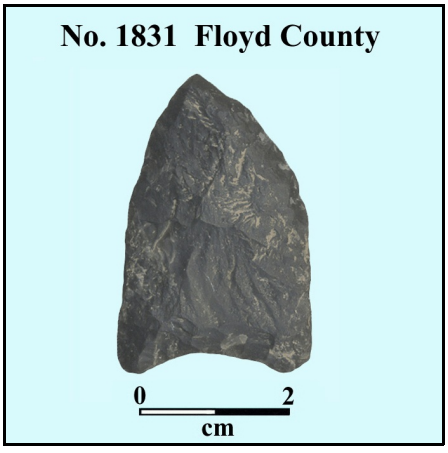


Figure 6. Photograph of a previously recorded Paleoindian point made from a similar raw material (PIDBA files).

It should be noted that, during our search of the Georgia site forms, a photograph of the collection from 9GO32 was examined (Figure 7). The photograph shows a number of mostly triangular-appearing and stemmed points. Some of the points are more lanceolate in form some display pronounced basal thinning. Unfortunately, the photograph was not detailed enough to pull out much information and there were no line drawings accompanying the form for this site. Also, the cultural periods listed on the site form was Early Woodland (see Appendix A). That cultural designation had been added by UGA site files people, not Mr. Thomas.

Figure 7. Copy of a photograph attached to a 1979 site form prepared by Lee Thomas with the assistance of UGA personnel.

Around the same time that Mr. Thomas was reviewing the PIDBA files, he had also shared photographs of the points from the Graham Creek East site with Mike Gramly. A copy of a 2013 letter is shown in Appendix A. Dr. Gramly noted the difficulty of adequately assessing point types using photographs but he suggested a probably Clovis connection with a few possibly Daltons. He also mentioned that he would not rule out some pre-Clovis materials (Appendix A).

It should also be noted that the collection had been briefly examined at an earlier date by Dr. Albert Goodyear. The following paragraph provides his recollections of the collection in an email to the junior author dated December 16, 2013.

> Lee showed me this assemblage a few years ago and I didn't know quite what to make of it. It certainly looks more Paleo than anything else. Some do seem to have Clovis fluting, and maybe one broken Redstone. I think we should leave our minds open as to just what period it is. It could even be some kind of transitional biface system coming out of the late pre-Clovis to Clovis. I think the collection needs to be preserved for future study, perhaps when more like it are found. I'd be willing to see it come here along with our Paleo collections. In the meantime, and to give it more scientific visibility, it would be good to write up a description of the assemblage for Early Georgia and stating where the material is curated. Scott Jones and Jerald would be good ones to do thing with Lee's help on its history and context. I'd be happy to give my opinions on it as well. In the SCIAA site files, Lee's mapping and documentation of sites is somewhat legendary.

The collection from the Graham Creek East site was examined by Jones and Ledbetter in 2014 through the first month of 2015 using a hand lens and dissecting microscope (25x magnification). The artifacts were scanned and those images were sent to several knowledgeable individuals for comment. Observations from John Whatley, John Arena, George Price, Ashley Smallwood, and Jim Langford. Based on the images, three of the five saw a good Paleoindian assemblage and two raised the possibility of a mixture of Paleo and Woodland types (personal communications December 2013 - January 2014).

The collection from the Graham Creek East site consists of more than 80 bifaces, all of which are patinated and a number of which are fluted, that vary greatly in size and shape. This variety of "types" are all made from the same raw material, a grainy, cherty, material of currently undetermined source. These bifaces are predominantly lanceolate but some are triangular (mostly re-based). Most importantly, this raw material has been rarely recognized locally and the possibility exists that the primary use of this lithic resource is restricted to a brief period of time. The raw material is so distinctive that its distribution can probably be traced using other site collections. The Graham Creek East collection also includes a smaller number of similar biface styles made from locally available Ridge & Valley chert. There are also a few exotic-appearing cherts, one example is made from quartzite, and two pieces are made from quartz. The presence of quartz may indicate some connection to the Piedmont. Figure 8 shows a map with the general locations of the two sites with points made from the grainy cherty material (9GO32 and 9GO34) and three nearby sites (9GO36, 9FL127 and 9FL128) that contain similar biface forms.

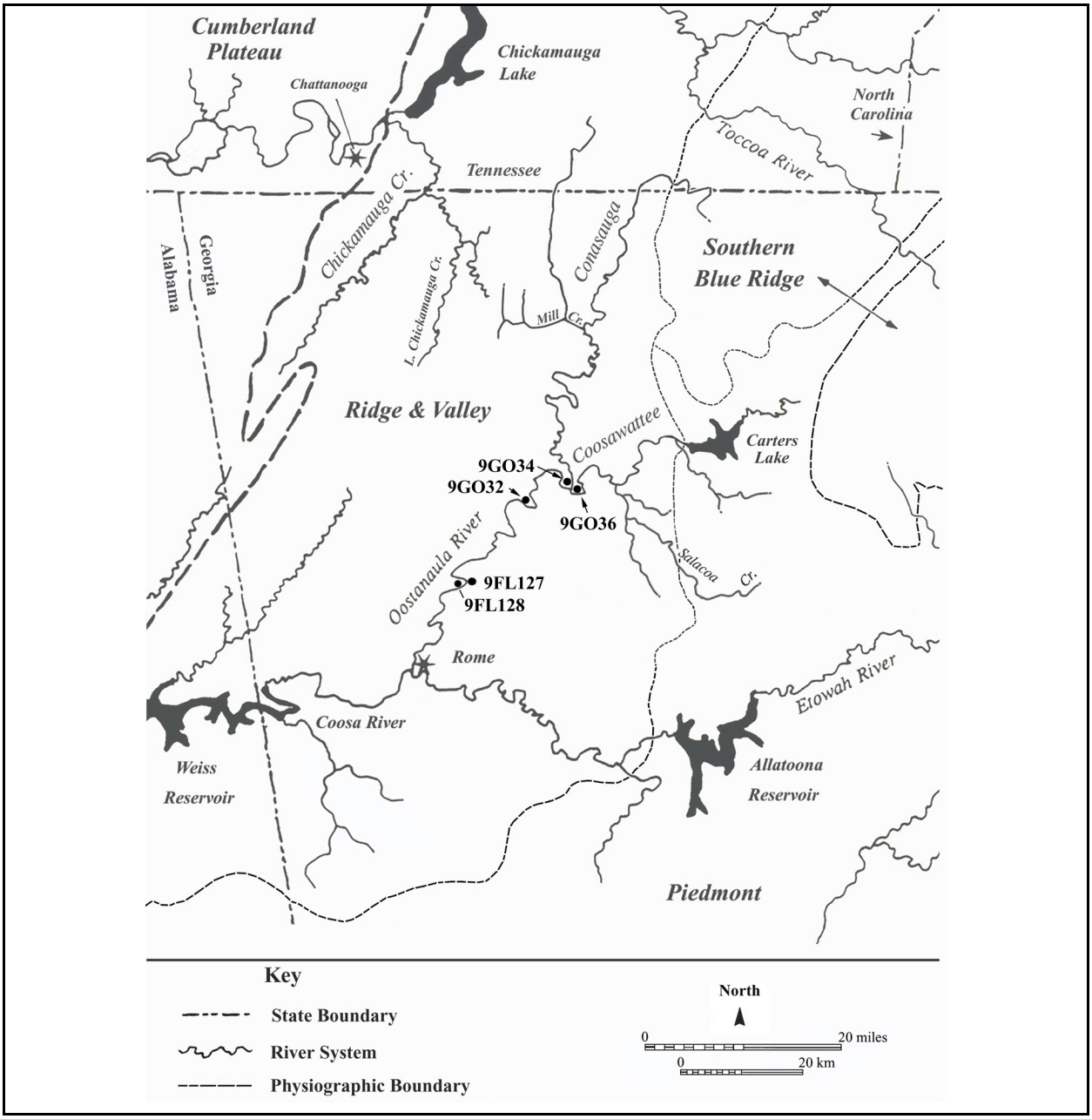


Figure 8. Map showing locations of four early sites recorded by Lee Thomas.

Of the sites shown in Figure 8, 9FL127 is most similar to the Graham Creek East site in that it produced a moderate number of lanceolate to triangular bifaces, some of which appear reworked or re-based. Figure 9 shows examples of the points from 9FL127 and one example from site 9FL128, which lies directly across the river. The first two points are fluted bifaces that are tentatively identified as Clovis. The other bifaces are lanceolate to slightly triangular in shape and have well-defined, thickened, and ground haft elements. With the exception of the quartz point, the raw materials used on 9FL127 appear to be tougher grades of Ridge and Valley chert or jasper. Based on the photographic image, the re-based point from 9FL128 is to the material from the Graham Creek East site, although the glossy appearance may indicated another variety of chert. The collections from 9FL127 and 9FL128 have yet to be carefully examined, but for the time being, clear stylistic similarities with 9GO32 are simply noted.

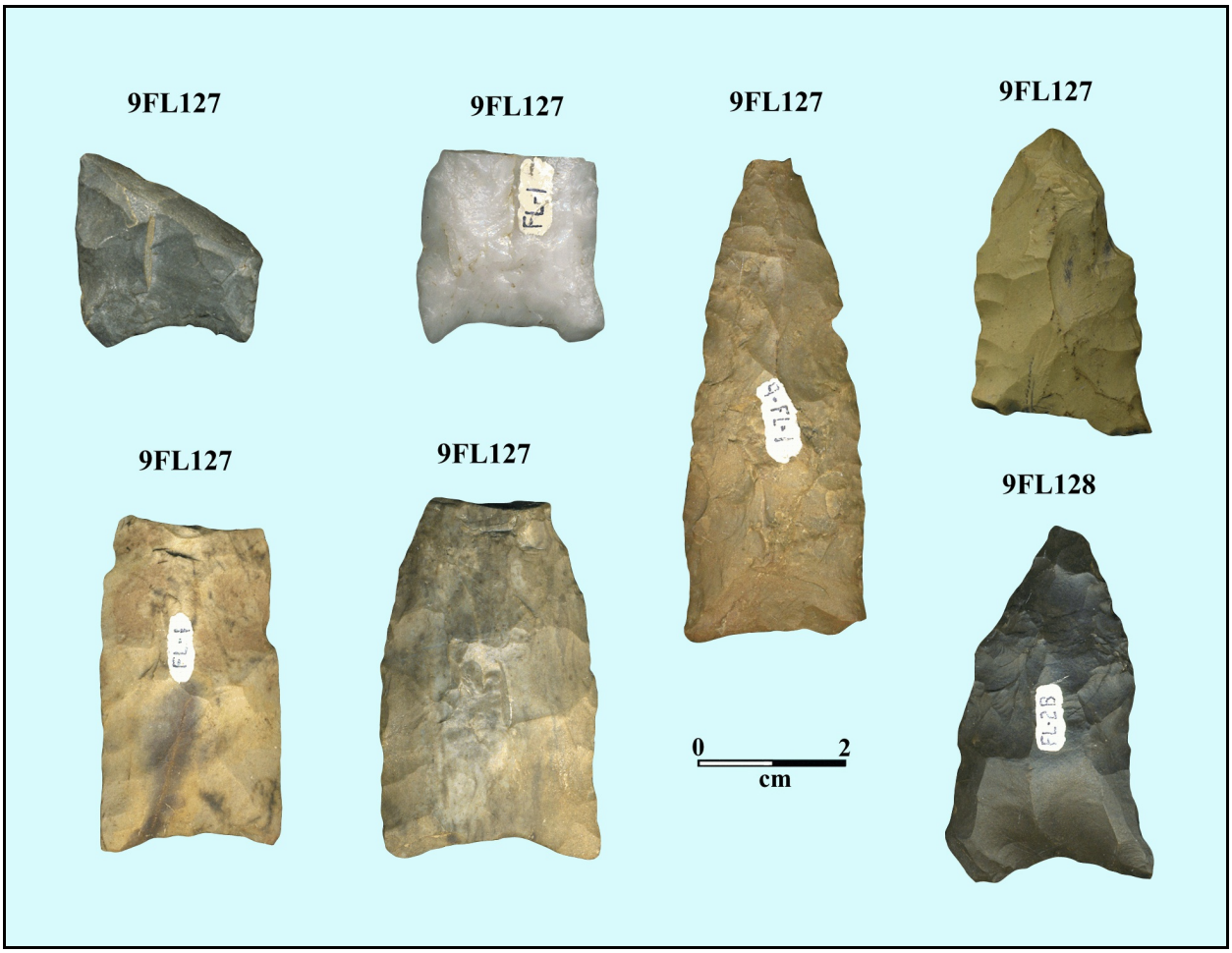


Figure 9. Photographs of bifaces from sites 9FL127 and 9FL128 that are similar to examples found in the Thomas Collection from the Graham Creek East site (9GO32).

Implications of the Thomas Collections for Paleoindian Settlement Studies

As will be discussed in Chapter 2, Lee Thomas' survey was intended to find evidence of Paleoindian sites and he seems to have followed a model proposed by Jim Michie (1977"98) for finding early sites. Thomas used a boat and investigated stream confluences along the major rivers that make up the headwaters of the Coosa River. A few sites were found that contained lanceolate points but no pottery suggesting early occupations. Most of these sites were found very near the river and near the point where the tributary stream entered the larger streams. At least some site material was exposed as erosional washouts.

Based on the Thomas data, it is interesting that similar site collections have not been reported with some frequency in the region. Is it possible that most collectors really do concentrate their efforts on the large prehistoric pottery sites to the virtual exclusion of low-lying areas near the rivers? That was the suggestion of an earlier collector who found the two fluted points illustrated previously in Figure 2. Frank Manley's observations follow:

> ...there are so few genuine Paleo points reported from Georgia that this or any other would be of importance, if only by default. I found that Clovis point by sheer accident, and I suspect most of the early points in the East are found in the same way because we tend to look where they are not. We turn up strays lost in hunting as a by-product of our search for superficially more impressive, flashier material. I suspect that if we exercised more restraint, stayed away from the mounds and village sites that crowd the river banks, and searched more systematically the hills and bluffs overlooking the flood plains, we might very well come across some actual occupation sites of early man, despite the obvious handicaps of forest and pasture. At least I am convinced that somewhere overlooking a four or five mile stretch of the valley of the Coosawattee is buried even now under the accumulated debris of centuries the lost habitation of that man whose life touched mine that fine March day when I followed only my curiosity and my tired feet (Manley 1966b:139.

The type of survey conducted by Thomas would be hard to duplicate today without great difficulty, simply because archaeologists no longer have easy access to property in an area where land prices are climbing rapidly. Also, we would expect that at some of the sites found by Thomas have been developed by now.

If, as the Thomas findings suggest, early sites are strongly linked to these riverine settings, we should expect that deeply buried sites remain. While relatively little geomorphological work has been conducted in the upper Coosa drainage, we know from the initial studies that sites in sites in low-lying areas may be deeply buried beneath modern alluvium. Figure 10 shows one example from Gordon County showing the depth of modern alluvium that can be deposited in low-lying floodplain settings. In the image shown in Figure 10, the modern alluvium covers a relatively thin Late Archaic deposits (9GO286) on a major tributary stream known as Salacoa Creek (Gresham and Leigh 2006: Figure 28).

Of course, early sites would have also been buried to varying degrees throughout the Holocene, during periods of active overbank deposition (Leigh 2009:4). With respect to the larger rivers such as those in the present study, geomorphologist David Leigh has suggested that archaeological sites would be buried to varying depths according to topography (i.e lower of higher settings).

Figure 10. Image showing an extreme example of modern alluvium that extends the top of the archaeologists' head in one trench on Gordon County site 9GO286 on Salacoa Creek (from Gresham and Leigh 2006).

> The local fluvial geomorphic setting has an important influence on site burial processes and contexts. For example, along relatively large river valleys such as the Oostanaula and Coosawattee Rivers ridge and swale topography deposited by the lateral migration action of the river is readily apparent on early aerial photographs. In such ridge and swale settings one could expect deeper burial of artifacts in the low lying swales and shallower burial on the intervening sandy ridges. Furthermore, site locations would tend to favor the sandy ridges because of the higher ground and superior drainage conditions. Ridge and swale topography is not readily apparent along smaller tributary streams, and this may suggest that historical sediment strata are more prevalent (obscuring primary sedimentary structures) along tributaries than along main river valleys. However, at present there are insufficient data to fully resolve this issue (Leigh 2009:4-5).

Leigh's observation that site burial would be less on sites of higher elevation (such as higher terraces) is appropriate for habitation sites but if we are dealing with Paleoindian kill sites, these may be more deeply buried. According to a model proposed by archaeologist Jim Langford, kill sites in northwest Georgia might likely occur near the mouths of deeply entrenched tributary streams which tend to be configured in such a manner as to form natural "traps." (Jim Langford, personal communication 2014). The stream configuration of 9GO32 (see site map in Appendix A) would seem appropriate for such as site .

A Comment on the Data Presentation and the Limitations of the Data

Measurements for the tools from the Thomas Collection are included in the Appendices (B and D) but these will be difficult to deal with as a means of better defining point types. With the exception of one or two of the larger bifaces (e.g. Specimen 1) and some of the more complete, small, dart-like, points, most of the collection consists of heavily reworked biface fragments, many of which have been re-tipped or re-based. This collection is unlikely to clarify the long standing problems of distinguishing lanceolate Paleoindian points from Woodland period triangular points. This may be traced back to Wauchope's (1966) publication which for many years was something of the Bible of artifact identification in north Georgia. Wauchope clearly recognized the presence of early lanceolate points, particularly fluted examples, but he was not able to separate the general "shape" type from later Woodland points (Wauchope 1966:101). Over time, Georgia archaeologists have recognized that most of Wauchope's "Paleo" points could not possibly be that old and, by default, must date to the Woodland period. Unfortunately, northwest Georgia has produced a number of examples of reworked points that are can no longer identifiable as a recognized point type. The use of the descriptive category Paleoindian lanceolate or fluted lanceolate for such examples in the Georgia Paleoindian Point Survey have rightly been criticized as being indistinguishable from Woodland types based solely on line drawings or photographic imagery (Anderson et al. 1990:8,115). However, the technology used to produce Paleoindian points differs from that used to make Woodland points, but this is difficult to show in photographs. Chapter 3 provides a number of observations related to Paleoindian biface production that will hopefully allow us to better identify the many "problematical" bifaces found throughout northwestern Georgia. We have also attempted to note and illustrate some of these technological characteristics on the individual specimens in Appendix B. While it is not the intent of this paper to provide diagnostic criteria for distinguishing Paleoindian and Woodland points of similar shapes, the following, observations, taken from a longer discussion by Scott Jones (in Ledbetter et al. 2009:321) may be informative.

> With the transition to Early Woodland times, the gradual replacement of stemmed points by triangular forms is represented by other changes in production technique in Northwest Georgia. Although somewhat subjective, the degree of basal thinning and method of manufacture appear to be significant in distinguishing Early Woodland points from those of the latter portion of the Late Archaic and Terminal Archaic periods. Points become generally thinner and lighter, with a tendency to be made on flakes. Woodland knapping

> appears somewhat "sloppy and irregular," by way of comparison to that of the Archaic. The technique for bifacial thinning becomes aggressive, often resulting in numerous step fractures. Production of triangular point forms appears to focus first on the bifacial shaping of the flat ventral face of the flake blank, followed by aggressive thinning of the dorsal surface. Thinning of the dorsal surface is often characterized by an aggressive attempt to thin the base. This strategy frequently results in a step-fractured stack or "lump" on one side of the point, usually just above the haft area. This procedure apparently suited the user's needs, and seems to have persisted into Mississippian times (Jones 2006:59).

This is not meant to imply that all triangular Woodland points are poorly made. The characterization as of Woodland period triangular points as being "sloppy and irregular" applies particularly well to some of the Piedmont types such as Yadkin which are frequently made from quartz (of varying qualities). Other Woodland types, such as Copena, may be well flaked, particularly when good quality chert is used.

There have always been identification problems in northwestern Georgia because some Middle Woodland types are quite reminiscent of Paleoindian types. Outlines may be quite similar and basal thinning may be readily observed on points of both time periods. Perhaps the best example is a presumed Middle Woodland type named "Pseudoclovis" (Baker 1995:399; 2009:220), found on a few pottery-producing sites in Alabama. In his type description, Baker notes that "Its outline is similar to that of the Unfluted Clovis; however, the flaking traits and artifact associations are different" (Baker 2009:220). Baker describes the more simplified Middle Woodland flaking techniques as the initial removal of large percussion flakes followed by the removal of a combination of small percussion and irregular pressure flakes, or applying biface bevel flaking to finish them (Baker 2009:199). Using outlines alone, a number of the bifaces found on the Graham Creek East site are similar to those illustrated by Winston Baker for this much later point type. However, the manufacturing strategy differs and as Mr. Thomas has noted that pottery was not found on the site. This seems to be a good example of the fact that the range of biface "shapes" is finite, and shapes may reappear over time. However, they will be manufactured in a different manner and the technology for which they are intended also differs.

Appendix E provides scans of the later points found beyond the limits of the "Paleo" area on 9GO32. These include one Dalton or Quad-like point, a couple of probable Early Archaic and Middle Archaic points, a moderate number of Late Archaic points, and a small number of Early Woodland stemmed points. The probable Dalton appears to displays worn serrations (none of the bifaces in the "Paleo" area were serrated). The Early Woodland points are typical types found in the upper Coosa drainage area which tends to produce primarily stemmed points and few triangular points. Woodland triangular points do not seem to appear in the region until about 600 B.C. (Ledbetter et al. 2009:6; Lafferty 1981:246-259). Other than photographic documentation, no additional analysis was conducted on the later point types from the site..

General Observations

If the collection of early material from 9GO32 is eventually proven through ground-truthing, to be single component occupation area, the variety of biface forms found in the collection should provide a means of more fully understanding early point types in the region. Even if future fieldwork cannot be accomplished, our initial study of the collection has provided important new insight (for the authors at least) into the study of the early points in the region. Paleoindian points are frequently reworked and are found as isolates in northwestern Georgia. A typical occurrence at any artifact identification day event, is the presentation of box of points from an old collection, frequently found by a long deceased relative

on the family farm. These are poured out in front of the archaeologist and one "mangled" Paleoindian point fragment will appear on the pile. An obvious conclusion is that while "classic" points such as Clovis, Redstone, and Cumberland will continue to be recorded in very small numbers, the primary means of understanding the time period and determining site distributions will rest on the identification of these fragmented and often heavily reworked points. The Thomas Collection represents one of the first known instances in northwestern Georgia in which a substantial number of these fragmented points have been found in a manner that may be attributed to a specific site context.

The technological data presented in Chapter 3 is strongly suggestive of Paleoindian biface production with many Clovis-like characteristics. However, the material does not appear to be "classic" Clovis. This is strongly suggested by the tough, "poor grade" raw material used to produce most of the bifaces. Classic Clovis points are typically known for the use of high grade lithic materials. With that in mind, the senior author's discussion in Chapter 3 addresses, among other topics, the data supporting both post-Clovis and pre-Clovis lithic technology. As previously noted, two particularly knowledgeable archaeologists, Al Goodyear and Mike Gramly, had previously suggested that part of the collection might be pre-Clovis or early Clovis in age. In many ways, some characteristics of these bifaces, such as the raw material and the manner of fluting or basal thinning preparation (setup), may be more appropriate for pre-Clovis than post-Clovis. However, it is important to keep in mind that this is only a preliminary study and that further site investigation may allow for very different interpretation of the material.

Chapter 2. Site Report and Background

by Lee Thomas

During the fall and winter of 1978-79, while residing in the metro Atlanta area, I made several brief surveys (by boat) along the headwaters of the Alabama River at its source in northwestern Georgia. These solo forays were for the purpose of locating and collecting surface materials from early man sites along the Coosa, Etowah, Oostanaula and Coosawattee rivers.

Several new sites were located and reported to UGA (site forms were completed for 9BR.231, 9BR232, 9BR233, 9BR234, 9BR235, 9BR236; 9FL127, 9FL128, 9FL129, 9FL130; 9GO32, 9GO33, 9GO34, 9GO35, 9GO36, 9GO37, 9GO38). Authorized access to all localities was obtained through the kindly assistance of former Prof. D. W. Brooks of the UGA Agronomy Department, then head of the Atlanta-based Gold Kist Corporation.

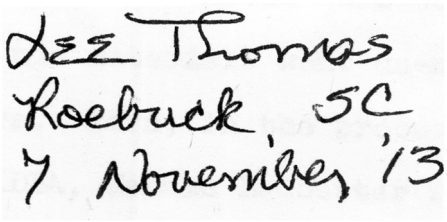
A few of the recorded sites yielded evidence of probable early occupation. Consequently, lithics with diagnostic attributes were submitted to James L. Michie, an archaeologist friend at the University of South Carolina, for his study and comments. Jim recognized and confirmed several examples of early artifacts. He also referred me to Paul Fish at UGA for local follow-up. Unfortunately, Prof. Fish was at this time (1979) relocating to Arizona, and soon thereafter I moved back to South Carolina. As a consequence, the materials went un-noticed by Georgia scientists f or many years. Then, in the process of recording site files data to the PIDBA., Jerald Ledbetter fortuitously recognized and added points Numbers 1273, 1274., 1275, and 1276 (from sites 9GO34 and 9GO36.

One of the new sites reported in 1979 (9-GO-32) was unique in both size and content. Graham Creek, a tributary of the Oostanaula, enters the river just below the town of Calhoun. There, scattered multi-component occupations were seen on each side of the confluence, and upstream along the creek. The area immediately above the mouth of the creek, however, contained a more dense concentration of artifacts and debitage, without ceramics or later points. This compact site area lay between the creek and a river levee, and revealed only lanceolate point types, some bearing attributes such as fluting, basal and lateral grinding, overshot flaking, and conversion to tools (reworking of broken points). Some 25 specimens of much later Archaic and Woodland age were recovered, but each was taken from the crest or slope of the levee.

Also, it should be noted that all the lanceolate specimens were tightly concentrated in or around the edges of an elliptical depression below the levee. In fact, because standing water was present within the low area, a second visit had to be made following a dry period of weather. The later visit resulted in more finds of early specimens. The initial finds bear the catalog identifier “GO-5"on yellow paint, while the remainder of the assemblage were marked (on white paint) with the UGA site number “GO-32.”

My initial and off hand explanation for the low area concentration of early materials was that a modern flooding of Graham Creek scoured away the alluvial silts; the depression was not the remains of a modern burn pit of stumps, because none of the recovered lithics exhibit pot lidding.

Because Jerald Ledbetter was so thorough in his PIDBA work, I accidentally saw and recognized the points he recorded from a site just upstream from Graham Creek. Dr. David Anderson put me in touch with Mr. Ledbetter, and on November 5, 2013, we met in Athens at Southeastern Archaeological Services. There, he graciously spent several hours recording additional points from my 1978-79 collection for inclusion into PIDBA. Additionally, Mr. Ledbetter agreed to accept on temporary loan the entire collection from 9GO32 in order that qualifying specimens can be identified and added to PIDBA. During this evaluation period, other scientists known to Mr. Ledbetter will also be invited to study and evaluate the assemblage. At the end of this loan period, should the collection merit more attention, it is the writer's intent to donate it to be curated by a deserving institution. The recipient will be determined by the writer in consultation with Mr Jerald Ledbetter and Dr. R. M. Gramly, who in the recent past has proved himself a true gentleman, scholar, and advisor.



Chapter 3. Comments and Observations on the Paleoindian Lithic Assemblage from the Thomas Collection on 9GO32

by Scott Jones

Raw Material

The majority of the early points in the Thomas collection are made of a distinctive raw materials of presently unknown provenience. Because the source is unknown, the following is largely speculative, since no artifacts were available for thin sections or other destructive forms of examination (artifacts were not damaged for closer examination of raw material). Initially, the majority of points were thought to be made of a single, characteristically blackish-brown raw material of unknown provenience, with differences arising from natural variation in texture and quality (referenced in Appendices B and D as a grainy, brownish, cherty material). Subsequently, closer examination showed that, under magnification, the coarser material consists of a finely granular groundmass containing occasional red streaks or zones (Keith Grenoble, personal communication, 2015). These red areas (referred to elsewhere in this paper as *red encrustations*) range from opaque to translucent. As in the original description, this material is grainy and generally blackish-brown in color, sometimes grading into a dark brown. Non-mineralized fissures are present, and (along with other flaws) are the cause of some of the breaks noted on the points. In some specimens, these fissures are nearly parallel. Cortical surfaces are hard and somewhat irregular.

South Carolina archaeologists Jim Michie (see Appendix A) had earlier suggested that the material may have been of metasedimentary or perhaps metamorphic origin, although it seems that he, like the present authors, was unaware that there were two main raw materials. Thus it seems likely that he picked up on the granular structure of the coarser material. The suggestion that it is a metasedimentary/metamorphic rock would imply the source to the east, perhaps in the vicinity of the Great Smokey fault or adjacent portions of the Blue Ridge geophysical province.

Even in consideration of a possible metamorphic origin, early in the assessment of the Thomas collection the authors noted that a comparative macroscopic examination of this material showed that it most closely resembles Pennsylvanian-age Kanawha "black flint" from the West Virginia/Ohio area. Notably, the Kanawha material is generally regarded as a coal-associated silicified siltstone rather than a true chert. The available samples of Kanawha chert range from a dark, matte black to dark gray with brown tones. Although the color range for these resource samples is not as broad as that seen in the 9GO32 collection, the variability is similar. Taken altogether, the impression is that, like Kanawha, this raw material is a bedded, shale-derived chert or silicified siltstone.

Having recognized a wide range of raw material texture, a limited experiment in thermal alteration was conducted using samples of the Kanawha chert, from the Virginia area, to see if this could account for the finer material in the collection. Thermal alteration is not known to have any significant effect on Kanawha chert, and the initial experiment failed to reproduce the range of material quality seen in the 9GO32 artifacts. Perhaps because of the scale of the experiment (in that only a few small flakes were heated), no macroscopically significant color changes were noted, and the results deemed unworthy of comment. Grenoble's examination of the 9GO32 material in early 2015 sparked a subsequent interest in the red streaks and swirls, and the heated flakes of Kanawha chert were examined under magnification, and indeed the red streaks were present.

Nonetheless, the brown hues and red highlights seen on many of the points remained somewhat enigmatic. Thermal alteration of lithic materials is not generally associated with Paleoindian assemblages, and the authors do not suggest that the 9GO32 artifacts were intentionally heat-treated. It was noted during the analysis that many of the artifacts display varying degrees of thermal damage, probably arising from post-depositional burning. Thus a subsequent thermal experiment was conducted by burning small samples of Kanawha chert. Some specimens subjected to moderately intense heat showed a degree of browning, and the red zones and streaks were readily evident under magnification. The reddening is now thought to be normal thermal discoloration as seen on many lithic materials, but is largely masked by the dark color of the stone. This is a common drawback for detecting thermal alteration and/or damage on many artifacts made of dark Ridge and Valley chert.

The finer dark brownish material appears to be an unidentified chert of probable Ridge and Valley origin, although it is coarser than other such materials from the local area. Some artifacts are characterized by thoroughly mineralized opalescent fissures and spots. In addition to earlier comparisons with Kanawha black flint, this finer grade of material resulted in an initial comparison to samples of Breathitt chert from the Pennsylvanian-age formation of the same name. This opinion was corroborated by Keith Grenoble (personal communication, 2015). Although the Breathitt formation is best known from Kentucky, it extends well into Tennessee. The occurrence of chert in this formation in Tennessee is not well documented. Of further interest, Breathitt chert is also a shale-derived chert associated with coal deposits.

Once it was identified as a separate material, the finer-grained chert became somewhat problematical. In our earlier analysis, this material was believed to be a better grade of the coarser material. Consequently, the identification of a single source of an unfamiliar material would have resolved many unanswered questions. Thus, the confusion in the current state of knowledge is compounded insofar as it is now necessary to locate sources for two distinct and regionally unknown raw materials.

In the later stages of the analysis and reporting, the discovery that the "single dominant" material of unknown origin actually consists of two distinct materials was initially a source of relief, in that we felt the collection could quite reasonably consist of proximate materials from both the Blue Ridge and the Ridge and Valley provinces. This initial confusion derives from an overall similarity in quality and workability of both materials. Despite extensive work by the authors in northwestern Georgia, few artifacts and no sources of similar material have been identified to date.

Though speculative, both raw materials are, at present, thought to originate to west or southwest of the site, perhaps even from within the Cumberland Plateau. However, this calls into question some aspects of logistics and lithic technology. The Ridge and Valley in Georgia has undergone greater tectonic activity than have more northerly and westerly portions. The result of this is that much of the chert in Georgia is highly fractured. This is perhaps most evident in chert of the Knox formation in the easternmost area of the Ridge and Valley in Georgia.

Traveling westwards, chert of all varieties become significantly less fractured, and in the Cumberland Plateau it is frequently encountered as intact nodules. Therefore it is reasonable to think that groups acquiring lithic materials from further west would necessarily select those of high quality. Yet the use of, or preference for, a coarse material with a substantial number of internal flaws would seem more consistent with local lithic procurement. Despite the impression that this dominant raw material was imported in the form of a few large core-type bifaces, 9GO32 lithic technology otherwise has the "feel" of local or proximate procurement. While the large points and bifaces are somewhat refined in plan view,

the coarseness of the raw material and the relative crudeness of workmanship hints at a strategy geared towards the production of supplemental bifaces, sometimes bordering on expediency. Obviously, the identification of the source of this raw material should be an important goal in future research.

Lithic Technology, Typology and Chronological Considerations

Because the collection from 9GO32 is composed of bifaces that are not entirely comparable to recognized Georgia Paleoindian point types, our early typological impressions of the 9GO32 collection was cast in terms of recognized types which are generally associated with the western U.S. Plano complex. Some similarities were noted in types such as Plainview, Agate Basin, Angostura, and Golondrina. This resulted in a few raised eyebrows, some even offering emphatically that such point types do not occur in the southeast. However, Justice (1987:40-35) does shows the southeastern boundary of these types extending nearly to the northwestern corner of Georgia, and our previous research has noted some resemblances to a very few Georgia points (Anderson et al. 1990:8). Although classic Agate Basin and Angostura points are well-made and often exhibit parallel or collateral flaking, the dominant lithic materials that make up this collection appear to be quite tough, thus making such detailed flaking quite difficult to accomplish.

It is worth noting, however, that projectile point nomenclature is largely a matter of semantics: few would disagree that Clovis occurs across much of North America, yet to suggest that "Plainview" is a (potentially) valid type in the southeast is subject to skepticism. Yet within the southeast, the wide variability in points recognized as belonging to the Paleoindian period far exceeds the scant number of established names, even taking into account the widely used catchall category of "Clovis variant." While one may object to the use of Western point types here, a review of the PIDBA database shows that the physical form of many points closely resemble their western counterparts. Although regional diversification begins to occur after Clovis times, for a considerable time thereafter, there seems to be more similarity than difference.

Some of the previous interpretations of this collection have leaned towards a late Paleoindian or post-Clovis affiliation or part of the collection, especially with respect to comparisons with Dalton lithic technology. While grinding is more pronounced on some points, and in some cases may be described as "heavy," none display the sort of extreme grinding seen on Dalton or other late Paleoindian/Early Archaic points. Further, detectable grinding often extends a considerable distance up the lateral edges, a decidedly Clovis-like trait.

Also, all the points and bifaces (even the small, thin ones) in this collection show extensive bifacial work. While an argument could be made that some of these smaller points were possibly made on flakes, most retain no visible surface(s) of the original flake. Even so, a number of points and fragments thereof are plano-convex in cross section. In some cases, the plano-convex form has been enhanced to create planing or scraping tools, functionally creating a uniface.

Although some of the points superficially resemble the Dalton type in outline, they have little else in common. Dalton projectile points in the southeast are often clearly made on flakes, frequently with somewhat sloppy workmanship. Daltons typically exhibit full blade-length resharpening, which results in a clear delineation of the haft area. They are further characterized by serrations, heavy basal grinding (often verging on polishing), and occasional beveling. Also, Dalton basal fragments commonly show considerable damage from battering or wedge-like use.

With the exception of one late Paleoindian point found on another part of the site, the points from 9GO32 show few of these characteristics. Relatively light grinding extends a considerable distance up the lateral edges, and resharpening generally takes the form of re-tipping, both of which are well-recognized Clovis traits. Very few biface fragments show evidence of wedge-like use of the type seen on Daltons.

While Dalton technology seems to be largely flake-based, the larger bifacial points and fragments thereof strongly suggest that the dominant lithic strategy at 9GO32 is based on bifacial core technology. Among the bifaces made of each of the two main raw materials (even taking into account considerable thermal damage), it is quite plausible that most arise from a small number of bifacial cores. Large bifacial cores are sometimes referred to as "platter cores" or "platter bifaces." Such artifacts are known from cache sites such as Anzick, in Montana (Perino 1985:18), and in caches and as isolated artifacts, mostly in the American west (e.g. Zorich 2009). This view is further supported by a number of points that show thinning flake scars arising far outside the existing footprint, suggesting that original preforms may have been considerably larger than the points. It is also possible that these points were made from the fragmented remnants of the original bifacial core(s).

Despite the wide range of form, quality, and workmanship of bifaces in this collection, the impression is that none were regarded as failures or rejects. There seems to be an array of re-utilization, re-purposing, and recycling for virtually any part (including re-basing). It is worth reiterating that some seem to have been made or retained for the explicit purpose being broken for later use. Again, although raw material and workmanship diverge dramatically from the fully-fluted Paleoindian traditions, the overall approach resembles that of the Debert (MacDonald 1985) and Vail (Gramly 1982, 2009) sites and Folsom technology as described by Amick (1996:411-426; Root et al. 1999:).

One non-projectile point artifact deserves specific mention. This small, stemmed perforator-like tool (Specimen 71), made of unusually high-quality bluish gray chert, appears to be made from a trimming flake from a formal blade core, or perhaps a bit rejuvenation flake from an adze-like tool. It shows considerable polish and/or patina. Under magnification, it is evident that it has been burned, with extensive crazing and arc-like lines suggestive of potlidding.

As for other post-Clovis similarities, it is evident that the 9GO32 collection shows no typological similarity to the long fluting traditions commonly associated with Gainey, Folsom, Cumberland, or Redstone projectile points. Of interest, however, is that they show some similarity to the Vail site assemblage, in that there are several identifiable tool forms, drills, range of biface sizes and morphology, and recycling of tools. (Gramly 1982: Plates 6-15).

Lithic technology for this time period (and indeed, all of prehistory) should be viewed as implicitly fluid. This should be especially true for Paleoindian assemblages, in consideration of the logistical planning they display. Well-thinned and/or fluted preforms serve as knives and other multipurpose tools; finished points, when broken, are recycled/reused/re-based/re-tipped according to need. Biface fragments are used for scrapers, burins, bipolar cores, and wedges. Even crude or unfinished bifaces appear to have considerable tool value within this system, being used for a variety of abusive tasks than a finer quality point.

It should also be emphasized that this is highly flexible lithic system that is contingent upon the raw material(s) available. For instance, finely crafted or extravagantly large bifaces may be produced at a lithic quarry. Yet with distance from the quarry, these bifaces undergo a (somewhat) proportionate increase in economic and cultural value. It seems unlikely that, once removed some distance from the

lithic source, unfluted preforms would be subjected to the unnecessary risk of breakage that comes with aggressive fluting. Further, supplemental tools produced in the absence of large-format and/or high-quality cryptocrystalline stone may not be regarded as requiring full aesthetic treatment, especially if the material consists of tough or small-package sized raw material.

Despite the foregoing statement about aesthetic treatment of supplemental bifaces, however, it is posited that these tools *do* appear to require full technical treatment. It has been observed that lithic technology by time period often follows one or more narrowly prescribed protocols, regardless of raw material. This sometimes elicits derisive remarks about a crudely made point by those who do not understand these protocols. Yet the trained lithic specialist can see that a crude biface made of tough material has undergone the same sequence of production steps as a more finely crafted one made of better material. Errors in execution, however, do not appear to be cause for discard or rejection of bifaces made from (a perceived) inferior material. Inferiority is often regarded as being synonymous with toughness, and in many instances tenacity is a desirable lithic characteristic. Thus, the toughness and durability of a given biface seems to more than justify small size, technical imperfection and/or perceived crudeness.

Furthermore, there is the likelihood that multiple biface forms coexisted for different purposes. Hutchins (1997), and others, have observed that the larger fluted points may have been apertures for thrusting spears while smaller points may have been used for javelins (atlatl darts). A similar pattern emerges for the 9GO32 collection. A small number of large points showing a classic Clovis outline (though not well fluted) may represent a class of thrusting/dispatching weapons, while the larger group of smaller, well-made points (some clearly with impact fractures) functioned as dart/javelin tips. These smaller points from 9GO32 also differ from the large ones in form, with a slightly flared base and a shallow basal concavity.

Haft breaks: Many of the point bases are snapped off, but the breaks are located at the thickened areas. It is not inconceivable that these are use-breaks of hafted points or bifaces, but the thickness would suggest something other than this. Puzzling still are the well-shaped, thinned, and ground haft areas compared to otherwise thick, torpedo-like bodies of the bifaces. Are these breaks, albeit at an area considered "thick" not really the thickest part of the biface? Are these hafted as projectiles (for instance), with use-breaks occurring at a thick, yet weaker, spot just ahead of the ground edges (the grinding being what reinforces and strengthens the basal portion)?

Distal breaks: During the analysis it was noted that, in addition to the breaks occurring at improbably thick areas, broken bifaces (notably distal fragments) showed two other potentially related characteristics. First, by way of comparison to mid- to late-stage preform bifaces exhibiting relatively uniform thickness for their entire length, the distal-most portion of the tips are disproportionately thin. Despite the thickness at the breaks, it seems as if these tips were further thinned, perhaps after the bifaces were broken, often with little or no modification of the break area.

Second, on some specimens the flaking on the tips appears slightly fresher than at the thick area of the break. In some circumstances, this difference could be interpreted as re-working by later peoples. However, that the breaks remain largely unmodified suggests that this is part of a strategic practice. Modern lithic experimentation demonstrates that utilized bifaces routinely develop a non-age related patina from handling, transportation, and use. Subsequent alteration (by the original tool-maker) reveals a fresher, though not significantly younger, surface. The significance of this is not known, other than to suggest that large, utilized bifaces were broken (perhaps intentionally), and the distal portions were further flaked for some specific purpose.

Bend-break analogs: Many of the broken bifaces and points show evidence of use on the broken edges. This type of utilization is not uncommon on Paleoindian and Archaic artifacts, and falls broadly into the Crabtree's (1974) category of *obtuse edge* tools. Tools with edges approaching or exceeding 90 degrees are highly utilitarian for working bone, antler and other hard organic materials. They are a functional equivalent of bend-break tools (Jones 2002), and are also analogous to radial break tools described by Root et al (1999) for Folsom technology.

Discussion of Fluting: Although many of the points are described as "fluted", there are some general observations as to what constitutes fluting in the 9GO32 assemblage:

1. Fluting occurs on only one face of most points.

2. Relatively long flutes (predominantly seen on the larger bifaces) are not uniform and well-executed. They are somewhat irregular, of the type that are informally termed as "wandering flutes." They seem to be part of an aggressive early- and mid-stage end-thinning reduction strategy.

3. The smaller, well-made projectile points show evidence of a formal (albeit often one-sided) fluting setup, which appear to be done by indirect percussion. However, despite the "technical" nature of the preparation, these flutes are not generally long, most being barely longer than they are wide. This suggests an approach aimed at minimizing risk (of breakage). This approach of limiting risk and preserving length is seen on various points dating to the early and middle Paleoindian time period.

For archaeologists, collectors, flintknappers, and virtually everyone else, "Paleoindian" has long been more or less synonymous with "fluting". All fluting all the time...it would appear to be the overarching and defining factor. Yet numerous points are found that are in various stages of manufacture (such as with fluting nipples intact), a significant number of which appear to be well into their functional use-life. Furthermore, many such points show evidence of breakage, re-manufacture, and post-break utilization. Figure 11 shows an example of one such a point previously recorded in Gordon County. The point, identified as Clovis, appears to be re-based much like several examples found on 9GO32. It is fluted on one side only, and the base is steeply retouched on the other side. Perhaps *Paleoindian biface technology* should be redefined as more a process than as some sort of idealized final product, and, importantly, a process which may or may not include fluting.

Figure 11. Example of a Clovis-like point displaying basal thinning similar to examples found on 9GO32 (used courtesy of the PIDBA database files).

Fluting is sometimes viewed as a valid sorting criterion for determining contemporaneity of Paleoindian biface forms. Yet even within single-component assemblages, there seems to be a noticeable variety in the kind and quality of fluting. It is reasonable to suggest that there may be multiple (at least two) fluting techniques that may be practiced contemporaneously, perhaps a formalized method for quarry and/-or initial production, and a "field method" for re-manufacture, salvage, opportunistic or supplemental application. It would seem likely that the field method would be a scaled-down version of the more formal one, most likely a variation of indirect percussion. A

formal indirect percussion set-up produces long, uniform flutes (as opposed to sloppier "wandering" flutes frequently resulting from direct percussion) while minimizing basal/ear damage. Salvaged and expedient points can be sufficiently fluted/thinned with indirect percussion on the leg without any sort of anvil or holding device.

Much discussion of Paleoindian lithic technology focuses on fluting at the expense of other, perhaps more relevant, aspects. While fluting is indeed a defining feature, it seems to be in greater evidence at certain times during the Paleoindian period. It is generally agreed that it diminishes in importance in the later portion of this period, while the outline form of points remains fairly steady. Irrespective of changes over time and/or contemporaneity, basal thinning by way of perfunctory fluting seems to remain a feature of this lithic technology. As noted above, this may involve a degree of risk management. In this context, fluting may become a "stylistic formality", that is, executed in such a way as to minimize outright risk of biface breakage while fulfilling cultural protocols for manufacture. In terms of material conservation, this would relegate fluting to a detectable token practice, even if this means fluting only one side of a biface.

While I (Jones) often downplay the significance of fluting (since it constitutes something of a distraction among archaeologist and collectors), it seems to remain an important cultural trait, though perhaps not in the conventionally accepted and popular "bigger is better" perception. The current state of knowledge suggests the degree of fluting waxes and wanes throughout Paleoindian times, yet even many later points seem to retain elements of a formal fluting set-up aimed at basal thinning that can scarcely be called "fluting."

As noted above, the set-up itself appears to be significant on its own, in that many utilized, broken, and exhausted points retain readily identifiable fluting nipple remnants. This suggests that fluting and basal thinning are not necessarily goals in themselves, but part of a poorly understood trajectory for biface and projectile point manufacture, utilization and rejuvenation.

Pre-Clovis Considerations

At the time this site was initially recorded (late 1970s), the mere suggestion that it could pre-date Clovis would have been unheard of, even laughable. Even now, there remains an ingrained tendency to continue thinking in terms of Clovis as the oldest identifiable biface tradition. It is this tendency that has led us to gravitate towards a relationship between the artifacts from 9GO32 and similar, named western forms such as Plainview and some of the other Western types. However, there is an emerging interest in the possibility that Clovis lithic technology emerged from an identifiable predecessor, and that artifact assemblages exhibiting a suite of peculiar yet Clovis-like traits may represent an incipient or evolving pre- or proto-Clovis technology.

While 9GO32 may be ultimately shown to fall between classic Clovis and the later Paleoindian period, it is worth considering the possibility that it is a pre-Clovis site. Notably, the triangular and sub-triangular points are similar to other probable pre-Clovis points such as those from the Cactus Hill locality (McAvoy and McAvoy 1997) and Meadowcroft rock shelter (Carlisle and Adovasio 1984, Adovasio et al. 1999). Ongoing research at the Topper site in South Carolina have stimulated great interest in the possibility of pre-Clovis settlement and include examples of small points similar to the Cactus Hill and Haw River types that may be pre-Clovis in age (Johnson 2013:149 Goodyear 2014:6, Figure 7).

Perhaps significantly, the Yarbrough Cave point from Bartow County, Georgia (Figure 12) is a small quartz sub-triangular/lanceolate point, similar in form to some of those from 9GO32 (cf. specimens 13, 36, 37, 40, and 45). It was found several years ago by a collector in a context containing late Pleistocene faunal remains (Elliott and Martin 1991: Addendum). One typologist has recently dubbed similar sub-triangular points as the Plains type with the suggestion that they are a "Paleo or earlier spear or dart point...with similarities to points found in European Jermanovucian and Solutrean assemblages" (Baker 2009:90). The second biface shown in Figure 12 was found on the floor of the cave near Dr. Martin's excavations. It may be a later period bifacial knife that lacks context or possibly a pre-Clovis period bi-pointed biface.

The topic of relevance to both the geographical and temporal focus of 9GO32 is the increased recognition of sites and potentially diagnostic artifacts belonging to the pre-Clovis period. Although it has been suggested here that there may be a connection to the north or northwest, it should be noted that the PIDBA database for Georgia contains numerous, small, nondescript sub-triangular points of highly probable Paleoindian affinity. These points are typologically distinct from Woodland period triangular points, frequently occurring in areas with little or no Early/Middle Woodland presence. Similar to the Yarbrough Cave point, these points do not readily conform to established types. Many of these points are from the Piedmont (and thus made of quartz), yet identical forms occur in the other provinces as well.

If future research demonstrates that pre-Clovis sites are clustered to the south and/or east of 9GO32, issues of raw material selection tool supplementation would become somewhat less problematic. As an informal observation, it seems that a considerable number of artifacts attributed to pre-Clovis in the Eastern U.S. are indeed made of relatively coarse, tough materials. Only with classic Clovis does raw material selection begin to focus almost exclusively on high-quality lithic materials.

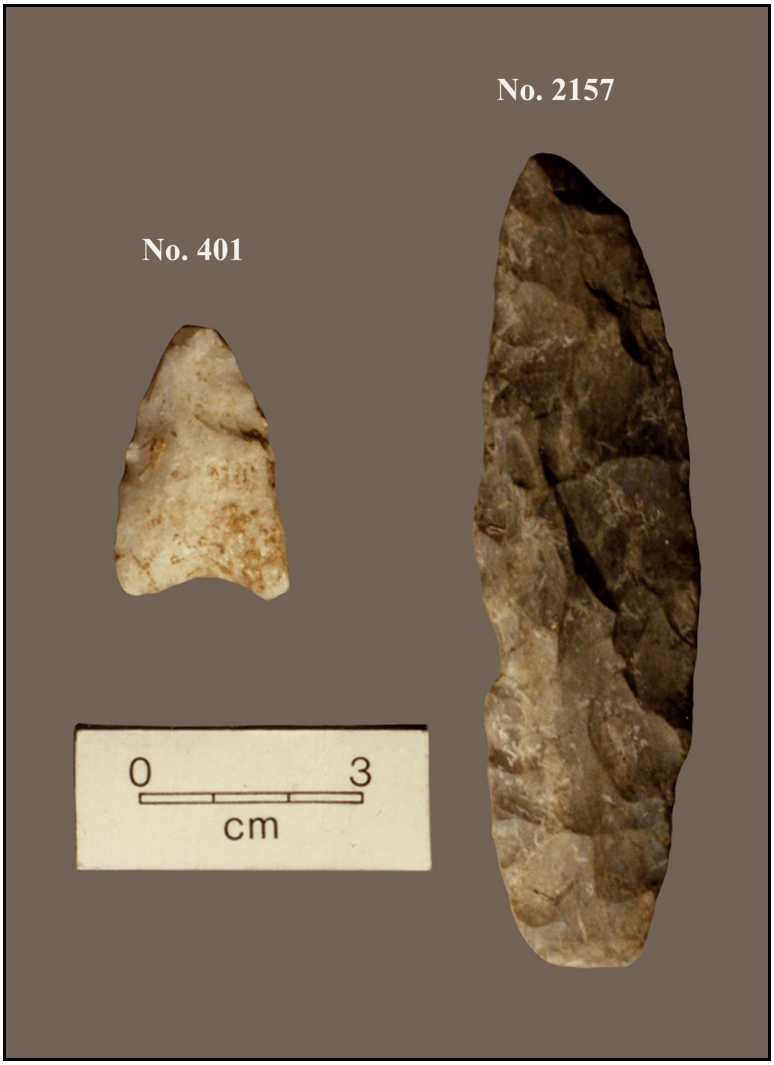


Figure 12. Photograph of the Yarbrough Cave Point on left and a bi-pointed biface reportedly found in the same location (PIDBA database and Georgia PaleoIndian Survey files)

Conclusions

Our current state of knowledge regarding the 9GO32 collection is somewhat contradictory. It resonates with Clovis technology in that large, curated, bifaces and projectile points of two dominant raw materials were brought to the site, and broken points and bifaces were reworked and recy-

cled. End-thinning of large bifaces and highly technical yet token fluting of smaller points indicates a low-risk strategy, but this is not unlike Clovis technology in lithic-poor areas. The extent and degree of basal grinding as well as a wide variation in biface size and style are likewise Clovis traits.

Yet the area is decidedly *not* poor in lithic material resources. Furthermore, the choice of a grainy, often flawed raw material for these curated bifaces is uncharacteristic for Clovis. High-quality lithic materials are a hallmark of Clovis, and if this site represents an easterly incursion of a Paleoindian group from the Cumberland Plateau, one would expect the assemblage to consist of one of several types of known, high-quality lithic materials from that area. Additionally, a minority presence of artifacts made from locally available lithic materials bolsters the possibility of a strategy of tool supplementation and expediency.

The distribution of coal- or shale-derived cherty lithic materials in Georgia is very poorly understood. Despite both the senior and junior author's extensive archaeological and lithic sourcing experience in northwest Georgia spanning well over three decades, no similar raw materials have been collected. That it originates in the Cumberland Plateau is, for now, speculative, especially given the other available lithic sources there. On the other hand, no such sources are confirmed from the eastern portion of the Ridge and Valley, or from the adjacent Blue Ridge or Piedmont. A known source of these raw materials would greatly inform our understanding of the site. The presence of two quartz biface fragments--if not the result of supplemental material from local gravels, would suggest a connection with the Blue Ridge or Piedmont.

Comparisons to Kanawha and Breathitt chert cannot be downplayed until definitive regional sources have been explored. It is perhaps telling that both of these materials originate shale beds in coal-bearing rocks of Pennsylvanian-age in the mid-Appalachian region of Kentucky, West Virginia, and Ohio. Pending detailed mineralogical studies of artifacts from 9GO32, comparative and predictive studies remain the best option. Though highly speculative, a likely area for similar raw materials within a contiguous geophysical environment (i.e., the Coosa River drainage) is the eastern edge of the Appalachian coal fields of Alabama. The Coosa River drainage (of which the Oostanaula River is a major tributary) and the Great Valley constitute an environmental province that lies across a considerable swath of the Ridge and Valley region of northwestern Georgia and into east-central Alabama. The closest area of the Coosa drainage where similar coal-associated, shale-derived chert and siltstone of Pennsylvanian age would be expected to occur is in north-central Etowah County, Alabama; though evidently not mined. Coal also is reportedly present to the south in Talladega County, Alabama, as well. These sources would be roughly 60 to 80 miles away from the site (straight line distances). Chert petrography sourcing similar to that used in the Northeastern U. S. (Prothero and Levin 1990:561-585) would be particularly valuable.

Regarding Paleoindian point chronology and typology, stratigraphic data show that several Paleoindian biface forms predate Dalton and Early Archaic forms, yet much of the accepted chronology and typology are largely a matter of conjecture. Overlap in dating margins-of-error often do not help to clarify the temporal placement of various Paleoindian point types (see further discussion in Smallwood et al. 2014). To further complicate matters, the dynamic processes applied to contemporaneous (and often separately named) point types is poorly recognized. For instance, areas with abundant lithic resources (such as the Coastal Plain and the Cumberland Plateau) can (and do) yield more and generally larger bifaces than areas of scarce/small package raw material (such as the Piedmont). It seems therefore reasonable to suggest that a Quad or Beaver Lake point found in a lithic-rich area is but a less intensively curated version of what would be a resharpened "textbook" Dalton in the Piedmont. It is important to acknowledge these caveats and recognize the fluid nature of stone tool manufacture.

A wide range of biface forms are recognized in the southeast as belonging to the Paleoindian time period. Many of these points do not conform neatly to known forms that have unambiguous temporal relationships, as do, for instance, classic Clovis and Dalton forms. Nonetheless, typologists give names to these forms, and often ascribe to them hypothetical temporal placement in relationship to known forms.

In the southeast, sites that yield multiple diagnostic Paleoindian materials are rare, and rarer still are those that yield multiple diagnostic bifaces in clear stratigraphic context. In those cases where multiple diagnostics are found, stratigraphy is often so poor that temporal segregation is impossible. It is often assumed that, because bifaces and points differ in form, they must belong to different times within the Paleoindian time period.

Yet there are a few Paleoindian sites and collections (such as the Fenn Cache) containing what have been interpreted as contemporaneous assemblages that show great variety in biface size and form. Until such time as clearly stratified sites show clear relationships between recognized biface forms, it is perhaps wise to err on the side of contemporaneity rather than an assumed or arbitrary temporal separation. This would provide plausible and readily amendable interpretations of Paleoindian point forms. Such an approach would be analogous to the relative ease with which Caldwell's (1951, 1954) all-inclusive *Old Quartz Industry* was refined into more accurate temporal periods in light of later archaeological data. In other words, it is much easier to assign temporal positions to artifacts from a collective pool than to try and revise faulty and inaccurate temporal designations.

Furthermore, if 9GO32 represents a single Paleoindian component, does this mean that other sites with mixed forms are potentially single-component? Is it possible to distinguish actual dart/projectile tips from the generalized bifacial tool kit, based on size, workmanship, likely impact fractures, and other features? Experimental work reviewed by Hutchings (1997) suggests this is feasible.

The current (and probably necessary) model for recording and organizing Paleoindian projectile points is that of using the state(s) in which they are found. This is problematical since such political boundaries are somewhat arbitrary, in that they crosscut major geophysical areas. This creates problems for researchers in that definable geophysical areas would present a more realistic (or "natural") snapshot of human movements. As it is, a search of points in a given state reflects an aggregate of points found there, irrespective of any geographical affinity for different traditions. While these traditions are not at present fully understood or defined, the problem is compounded by the aggregate view of all state-wide Paleoindian points.

A far more useful paradigm is to record Paleoindian artifacts by geophysical regions within a given state, and in such a way as to be able to link data across state lines to adjoining geophysical areas (e.g. Smallwood et al. 2014). For instance, superior interpretations would be possible if, in Georgia, points could be assessed as being from the Coastal Plain, Piedmont, Blue Ridge, and Ridge/Valley provinces. Furthermore, in relation to the present study, we would benefit from dividing the Ridge and Valley province into natural and evident zones that would include the Great Valley and the eastern edge of the Cumberland Plateau (Pigeon and Lookout Mountains). In so doing, comparisons could be made across state lines. In the present study, this would allow for comparisons of point styles from 9GO32 and other Great Valley sites in Georgia, and, by extension, northeastern Alabama. In so doing, point types would cease to be "Georgia" or "Alabama" Paleoindian forms, being defined instead by the area of geophysical occurrence. This would, in theory at least, result in natural or intuitive cultural provinces. Many archaeologists and collectors already informally recognize a few such provinces. Examples include the Cumberland/Quad/Beaver Lake distribution in Tennessee and Kentucky; Redstone in lower South; Plano/Plainview in Texas and adjacent areas; and

Gainey/Barnes/Crowfield/Folsom along the moraines of the former retreating ice sheet in the northeast. Scholarly efforts to do this should include a comprehensive consultation of state-level databases as well as regional mapping. It is perhaps worth suggesting that any such assessment prioritize point morphology and manufacturing technology over sentimental local projectile point names.

Our knowledge of 9GO32 derives from fewer than 100 artifacts (limited primarily to bifaces), and the physical location of the site on the Oostanaula River. Nonetheless, the authors felt that a collection from northern Georgia consisting of a significant number of Paleoindian artifacts was worthy of detailed analysis and reporting. Testing of the site would doubtless render invalid some of the hypotheses offered here, while (it is hoped) some would be corroborated. Yet a better understanding of site structure and an expanded artifact inventory would present an opportunity to refine and re-focus our knowledge of the site as well as Paleoindian period archaeology in Georgia.

References Cited

Adovasio, James M., D. Pedler, J. Donahue, and R. Stuckenrath

1999 No Vestige of a Beginning nor Prospect for an End: Two Decades of Debate on Meadowcroft Rockshelter. In *Ice Age Peoples of North America*, edited by Robson Bonnichsen and Karen L. Turnmire, pp. 416-431. Oregon State University Press, Corvallis.

Amick, Daniel S.

1996 Regional Patterns of Folsom Mobility and Land Use in the American Southwest. In *World Archaeology*, 27(3): 411-426.

Anderson, David G., R. Jerald Ledbetter and Lisa D. O'Steen

1990 *The PaleoIndian Period Archaeology of Georgia*. Georgia Archaeological Research Design Paper No. 6. Laboratory of Archaeology Series Report No. 28. University of Georgia, Athens.

Baker, Winston H.

1995 *A Hypothetical Classification of the Flaked Stone Projectiles, Tools, and Ceremonials from the Southeastern United States.* Williams Print, Inc., Quincy Massachusetts.

2009 *Tools and Projectiles of Southeastern North America.* Self Published.

Caldwell, Joseph R.

1951 *The Discovery of the Old Quartz Culture.* Paper presented at the November 20, 1951 meeting of the University of Georgia Anthropology Club. On file, University of Georgia Laboratory of Archaeology.

1954 The Old Quartz Industry of Piedmont Georgia and South Carolina. *Southern Indian Studies* 5: 37-39.

Carlisle, R.C., and J.M. Adovasio

1984 *Meadowcroft: Collected Papers on the Archaeology of Meadowcroft Rockshelter and the Cross Creek Drainage.* 47th Annual Meeting of the Society for American Archaeology, Minneapolis, Minnesota.

Crabtree, Don E.

1974 The Obtuse Edge as a Functional Edge, *Tebiwa* 16 (1): 46-53.

Elliott, Daniel T. And Robert A. Martin

1991 Yarbrough Cave (revised addition). Lamar Institute Report Number 13.

Goodyear, Albert C.

2014 Volunteer Opportunities Now Available for Working in the Topper Lab. Legacy 18 (1): 4-6).

Gramly, Richard Michael

1982 *The Vail Site: A Paleo-Indian Encampment in Maine.* Bulletin of the Buffalo Society of Natural Resources, Volume 30, Buffalo, New York.

2009 *Paleo-Americans and Paleo-Environment at the Vail Site, Maine.* Persimmon Press, North Andover, Massachusetts.

Gresham, Thomas G., and David S. Leigh

2006 *Archeological Survey and Site Testing of the Proposed Replacement of the S.R. 53 Bridge over Salacoa Creek, Gordon County, Georgia.* Southeastern Archeological Services, Inc Prepared for Georgia DOT. n.

Hutchings, Wallace Karl

1997 *The Paleoindian Fluted Point: Dart or Spear Armature? The Identification of Paleoindian Delivery Technology Through the Analysis of Lithic Fracture Velocity.* Ph.D. dissertation, Simon Fraser University, Department of Archaeology.

Ingram, Frank T.
1953 Oolites from the St. Genevieve and Gasper Limestones in Northwest Georgia. In *Short Contributions to the Geology, Geography and Archaeology of Georgia* (Number II), pp. 264-270, Georgia State Division of Conservation and Department of Mines, Mining, and Geology, Atlanta.

Jones, Scott
2002 Smashing Success: Pleistocene Lithic Replication in South Carolina. Report prepared in conjunction with the Topper Site Conference/Allendale Paleoindian Expedition, South Carolina Institute of Archaeology and Anthropology, Columbia. *Bulletin of Primitive Technology* 23:44-51.

2006 Quartz Tool Technology in the Northeast Georgia Piedmont. *Early Georgia* 34(1):27-88.

Justice, Noel D.
1987 *Stone Age Spear and Arrow Points of the Midcontinental and Eastern United States, A Mdern Survey and Reference.* Indiana University Press, Bloomington and Indianapolis.

Lafferty, Robert H. III
1978 The Early Woodland Chronological and Cultural Affinities at Phipps Bend on the Holston River, Northeast Tennessee. In *Journal of Alabama Archaeology* XXIV(2):132-150.

1981 *The Phipps Bend Archaeological Project.* University of Alabama Office of Archaeological Research Series No. 4, TVA Publications in Anthropology No. 26.

Ledbetter, Jerald, Lisa D. O'Steen and Scott Jones.
2009 *The Late Archaic to Early Woodland Transition in Northwest Georgia: Evidence for Terminal Archaic (ca. 1100 - 600 B.C.) Period Occupation in the Region.* Georgia Department of Transportation Occasional Papers in Cultural Resource Management No. 14.

Leigh, David S.
Leigh, David S.
2009 *Alluvial Burial of Late Archaic and Early Woodland Sites in Northwest Georgia*. Report submitted to Southeastern Archaeological Services, Athens, Georgia, March 9, 2009. On file, University of Georgia Laboratory of Archaeology Manuscript Files, Athens.

MacDonald, George F.
1985 *Debert, A Paleo-Indian Site in Central Nova Scotia.* Persimmon Press in collaboration with the National Museum of Man, National Museums of Canada.

McAvoy, Joseph M. and L.D. McAvoy
1997 *Archaeological Investigations of Site 44SX202, Cactus Hill, Sussex County, Virginia*. Virginia Department of Historic Resources, Research Report Series No. 8, Richmond.

Manley, Frank
1968a Horseleg Mountain: A Transitional Paleo-Indian Site. *Archaeology* 21 (1): 54-60.

1968b Hills, Bluffs, and a Georgia Clovis Point. *Archaelogy* 21 (2): 138-139.

Michie, James L.
1977 The Late Pleistocene Human Occupation of South Carolina. Manuscript on file with the South Carolina Institute of Achaeology and Anthropology, University of South Carolina.

Perino, Gregory
1985 *Selected Preforms, Point, and Knives of the North American Indians, Volume 1.* Points and Barbs Press.

Prothero, Donald R. And Lucianne Lavin
1990 Chert Petrography and its Potential as an Analytical Tools in Archaeology. Chapter 32 in the *Geological Society of America Centennial Special Volume* 4:.561-585.

Rogers, Michael F.
2013 *Modeling Cactus Hill (44SX202)*. Paper presented at the Pre-Clovis in the Americas, International Science Conference Proceedings, pp 77-152. Smithsonian Institution, Washington, D.C.

Root, M. J., J. D William, M. Kay, and L. K. Shifrin
1999 Folsom Ultra-thin Biface and Radial Break tools in the Knife River Flint Quarry Area. *In Folsom Lithic Technology: explorations in structure and variation*. Edited by Daniel S. Amick. Archaeological Series 12. International Monographs in Prehistory, Ann Arbor, Michigan.

Smallwood, Ashley M., Thomas A. Jennings, David G. Anderson, and Jerald Ledbetter
2014 *Testing the Evidence of Paleoindian Responses to the Younger Dryas in Georgia.* Paper presented at the 71st Annual Meeting of the Southeastern Archaeological Conference, Greenville, South Carolina.

Wauchope, Robert
1966 *Archaeological Survey of Northern Georgia.* Society of American Archaeology Memoir 21. Salt Lake City.

Zorich, Zach
2009 Caching In: A Homeowner Discovers Clovis Tools. *Archaeology Magazine* 62 (3).

Appendix A

Documentation Related to the Discovery

and Recording of the Graham Creek East Site, 9GO32

~~Original Site Form 9GO32~~

Georgia Paleoindian Recordation Forms (Numbers 1274-1275) 9GO34

Copy of a 1979 letter from Jim Michie to Lee Thomas

Copy of a 2013 letter from Mike Gramly to Lee Thomas

Several Letters from UGA / Georgia Site Files Related to Site Numbers

for Mr. Thomas' Northwest Georgia Survey

Specimen # 1274

GEORGIA PALEOINDIAN RECORDATION PROJECTS
FLUTED AND LANCEOLATE POINT DATA SHEET

Owner Name G.L. Thomas Type Name reworked Clovis ? Institutional Number

County Gordon Negative Number

Location of Site or Find Find Site 9GO34. Elongated point of high ground on north side of the Conasuaga River opposite the confluence of the Coosawattee River. Recovered from slope of a large washout about 25 to 20 m long.

METRIC ATTRIBUTES (mm)

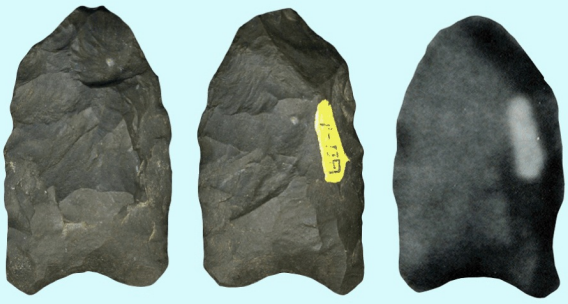
Maximum Length	38 mm
Estimated Complete Length	
Maximum Width	23 mm
Basal Width	22 mm
Maximum Thickness	10.5 mm
Depth of Basal Concavity	3 mm
Length of Fluting: Obverse	7 mm
or Basal Thinning Reverse	12 mm
Length of Edge Grinding: (L)	14 mm
(by side) (R)	14 mm
Other	

NON-METRIC ATTRIBUTES

Raw Material	Ridge & Valley chert
Color	Dark gray
Patination	Yes
Edge Shape	Straight
Edge Retouch	Pressure
Facial Retouch	percussion/pressure
Basal Grinding	Moderate
Fluting Technique	multiple short
Manufacturing Technique	
Reworking	Appears salvaged and reused

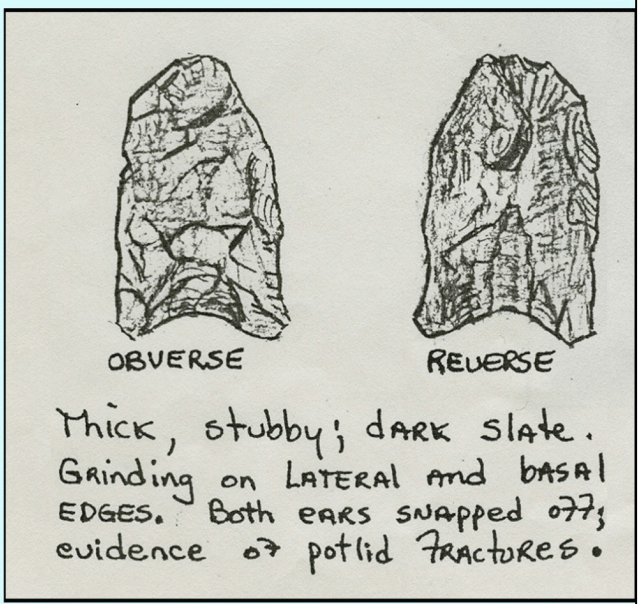
Remarks: One of three Paleoindian points recorded on the Georgia Site form by Mr. Thomas on August 3, 1979. Measurements originally taken from Mr. Thomas' drawings which are labeled as full size (re-measured by JL in November 2013). The site form includes a small photograph of a portion of the surface collection from the site. The image in the center is greatly enlarged and retains little detail. The notes accompanying the drawings refer to a Piedmont slate which is a highly patinated grainy, brown, cherty material (Scott Jones). See No. 1273 and 1275 for the two other points from the same site. Examination in 2013 indicates the point is more lanceolate in shape than determined by the older photograph. The point appears to be an early point (possibly Clovis) that has been crudely reworked. The raw material is rather unusual and appears similar to that used for early points (apparently Clovis period) on another Gordon County site (9GO32). The collection from that site was recorded by JL and Scott Jones in 2013-2014 (see later numbers). Point 1275 appears to be the same raw material. Other triangular points from the Thomas collection should be examined.

No. 1274 Gordon County, Georgia



0 2 cm

top images are scans made on Nov. 6, 2013



photograph on the right, drawings and notes, were made by Mr. Thomas in 1979 for the Ga. State Arch. Site Form

Recorder J.Ledbetter Date Jan. 25, 2007 (revised Nov. 6, 2013 JL)

Copy of revised Georgia Paleoindian Point Survey form for one of two early points from site 9GO34.

Specimen # 1275

GEORGIA PALEOINDIAN RECORDATION PROJECTS
FLUTED AND LANCEOLATE POINT DATA SHEET

Owner Name G.L. Thomas Type Name reworked fluted point Institutional Number _____
County Gordon Negative Number _____
Location of Site or Find Site 9GO34. Elongated point of high ground on north side of the Conasuaga River opposite the confluence of the Coosawattee River. Recovered from slope of a large washout about 25 to 20 m long.

METRIC ATTRIBUTES (mm)

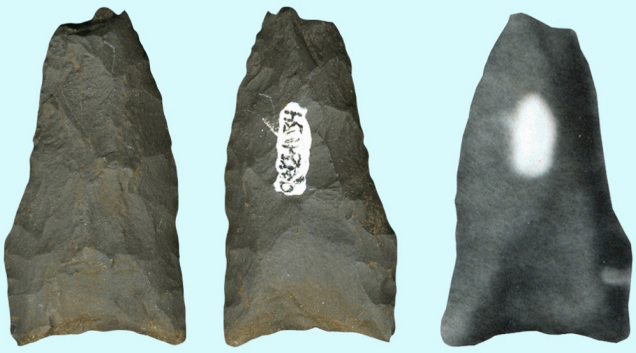
Maximum Length	45 mm
Estimated Complete Length	48 mm
Maximum Width	24 mm
Basal Width	24 mm
Maximum Thickness	8 mm
Depth of Basal Concavity	2 mm
Length of Fluting: Obverse	11 mm
or Basal Thinning Reverse	18 mm
Length of Edge Grinding: (L)	13 mm
(by side) (R)	13 mm

NON-METRIC ATTRIBUTES

Raw Material	Ridge & Valley chert
Color	Dark grey
Patination	Yes
Edge Shape	Straight
Edge Retouch	Pressure
Facial Retouch	percussion/pressure
Basal Grinding	Heavy
Fluting Technique	multiple
Manufacturing Technique	
Reworking:	Blade edge reworked/possible impact fracture

Remarks: One of three Paleo points recorded on the Georgia Site form by Mr. Thomas on August 3, 1979. Measurements are originally taken from Mr. Thomas' drawings which are labeled as full size (Measured in 2013 by JL). The site form included a small photograph of a portion of the surface collection from the site. The image in the center is greatly enlarged and retains little detail. The notes accompanying the drawings refer to a Piedmont slate which is highly patinated grainy brown cherty material of currently unknown source (Scott Jones). See No. 1273 and 1274 for two other points from the same site. Examination in 2013 indicates the point is more lanceolate in shape than determined by the older photograph (one blade area has been broken and reworked, there is no indication of double patination). The point may be a fluted point. The raw material is rather unusual and appears similar to that used for early points (possibly Clovis period) on another Gordon County site (9GO32). The collection from that site was recorded by JL and Scott Jones in 2013-2014. Point 1274 appears to be the same raw material.

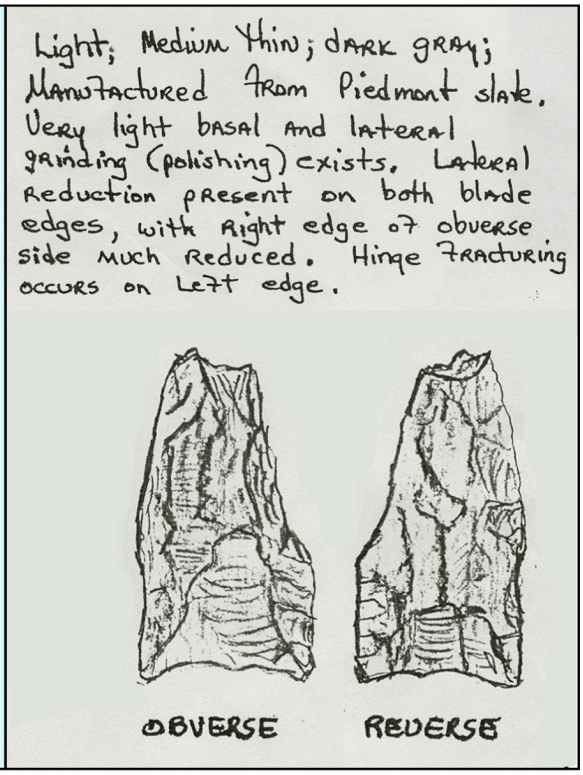
No. 1275 Gordon County, Georgia



0 2 cm

top images are scans made on Nov. 6, 2013

photograph on the right, drawings and notes, were made by Mr. Thomas in 1979 for the Ga. State Arch. Site Form



Recorder J.Ledbetter Date Jan. 25, 2007 (revised Nov. 6, 2013 JL)

Copy of revised Georgia Paleoindian Point Survey form for one of two early points from site 9GO34.

Columbia, S.C.
April 2, 1979

Dear Gerral,

I received your points today and decided to write back before I forget it. Here are my opinions:

9-GO-34

Point Ga-GO-1, 2-1-79; Manufactured from a Piedmont stone, probably a highly silicious slate. I don't believe it is a chert. The point is probably an early stage Dalton. Lateral and basal grind exist, and at least one edge portion has been resharpened. However, the other edges do not exhibit any evidence of alteration or modification.

9-GO-34

Point Ga-Go-1; Manufactured from a Piedmont slate (type unknown). The point is no doubt a Dalton. Lateral reduction occurs on both edges, but one edge has been resharpened more than the other. During resharpening, the manufacturer apparently had trouble with hinge fracturing, evidenced along the edge left of your catalog number. Such a mistake is virtually irrepairable; therefore, the point may have been thrown away. Extensive lateral and basal grinding is not present, but smoothing does exist.

9-BR-63

Point Ga-Ba-4: Manufactured from black chert, obtainable from the ridge and valley outcroppings in northern Georgia. This point is also a Dalton (I think). Lateral grinding is present on the edge to the right of your catalog number, and light smoothing is present on the base. Of particular interest is the absence of any lateral resharpening, and the snapped portion of the left basal ear. Snapping usually occurs when the tool is hafted and applied to a hard surface during the processing of bone or antler. Note considerable edge damage along both edges resulting from cutting.

All of these points are peculiar. I have never seen anything like them in South Carolina, but they are suggestive of things I have seen in Alabama. They are no doubt associated with the Dalton time period. Did you find any thing else associated with them? You should report this to Paul Fish at the University of Georgia in Athens. He is interested in Paleo-Indian materials.

I have not been able to get the other points photograped yet, but I will not forget you.

Feel free to use my name in reference if you wish, for your job. This is a quicky letter, but I think if offers you the information you requested. See ya later, and keep in touch.

Jim

Copy of 1979 letter from Jim Michie to Lee Thomas discussing the unusual early points found on 9GO36.

455 Stevens Street
North Andover, MA 01845
gramlyasaa@verizon.net

August 20, 2013

Dear Lee Thomas:

Thank you for your order, which is being mailed today – USPS book rate, well-packaged, in two separate mailers.

Your Graham Creek East site assemblage that you xeroxed for me appears to be Clovis; however, there may be a Dalton or two among them, as well. It can be difficult to judge from simple 2-dimensional photos with no details. Of course, the rest of the assemblage should confirm or deny the age and culture of the biface fragments.

Given the raw materials that were used in some parts of Georgia, judging age and culture can be a challenge. I would not rule out that you may have encountered some pre-Clovis materials; after all, pre-Clovis is really everywhere to be met across the South – provided you have an open mind.

In northern Alabama we most certainly know that Middle and Early Cumberland pre-dates Clovis; by definition it is pre-Clovis. Further, El Joboid points of the Las Lagunas phase (Venezuela) ARE present in the same region. Those pieces, I feel, are likely the oldest that we can hope for west of the Appalachians. I have "histories" on nine such points; when and if I get twenty, it will be time to define a type. I get tired of saying "El Jobo" and "El Joboid"!!!!!!

Send me a few of your photos of your pre-Clovis items, and I'll let you know my thoughts.

Unlike most of the academics with whom you have dealt in the past, my time is not THAT valuable and spending a few minutes with the interested public is no burden!!

Sincerely,

Mike Gramly

Copy of a letter written in 2013 referring to the collection from 9GO32.

THE UNIVERSITY OF GEORGIA
DEPARTMENT OF ANTHROPOLOGY
BALDWIN HALL
ATHENS, GEORGIA 30602

TELEPHONE -404- 542-

May 15, 1979

Mr. G. L. Thomas
9F Plumtree Pkwy.
Smyrna, Georgia 30080

Dear Mr. Thomas:

Many apologies for taking so long to answer your letter but I have only just returned from a stay in the hospital. Since I will be leaving to accept a position at the University of Arizona, I have turned your letter over to Ms. Candy Quillian who is in charge of our site inventory files. I think she can give you all the information you requested.

The activity of the archaeology program at Georgia has been increasing over the past few years. If you might be interested in any studies for particular areas that we are doing, I suggest you contact James Rudolph of our staff. I have taken the liberty of sending you a list of our publications and an application form for the Society for Georgia Archaeology.

Sincerely,

Paul R. Fish

Paul R. Fish
Assistant Professor

PRF:as
Enc.

STATE ARCHAEOLOGICAL SITE FILES
THE UNIVERSITY OF GEORGIA
DEPARTMENT OF ANTHROPOLOGY
BALDWIN HALL
ATHENS, GEORGIA 30602

TELEPHONE -404- 542-3922

May 17, 1979

9F Plum Tree Parkway
Smyrna, Georgia
30080

Dear Mr. Thomas,

Thank you so much for inquiring about the procedure involved in reporting archeological siteshere in Georgia. We are very interested in aquiring your information as well as that of other amatures here in the state, often; however, we don't know who they are and they don't know about us, which does present problems. Let me at this point introduce myself: my name is Candy Quillian and for the past two years I have worked as the Coordinator of the State Site Files in conjunction with Georgia Department of Natural Resources and the University of Georgia. At any rate, I feel that contact with persons such as yourself is very important for continuation of archeology here in the state and in general. So, with all of the above in mind I'm sending you several copies of our site form. Since the Georgia site form is not very explicit, I am also enclosing a checklist which will help you to provide the kinds of information that we are interested in having for each site. I am also enclosing a flyer with information about the Society for Georgia Archeology which is an organization for amature and professional archeologists. This society meets twice a year and provides an opportunity to learn about archeological activities all over the state. Thank you very much for inquiring and I hope to hear from you again in the near future.

Sincerely,
Candy Quillian
Candy Quillian
Site Files Coordinator, UGA

Site Files
THE UNIVERSITY OF GEORGIA
DEPARTMENT OF ANTHROPOLOGY
BALDWIN HALL
ATHENS, GEORGIA 30602

TELEPHONE -404- 542-3922

July 13, 1979

Gerral Thomas
9F Plumtree Parkway
Smyrna, Georgia 30080

Dear Mr. Thomas,

I would like to thank you for the site forms you sent us. My name is Teri Smith and I am in charge of the site files this summer while Candy (Miss Quillian) is in Arizona attending field school.

I would like to say that your site forms are filled out in an excellent manner. They are precise and clear and your maps are very good. It looks like you collected some very nice artifacts at these sites and we do appreciate the photos you included for each one. It would be nice if some professionals were as careful and clear when filling out site forms, as you obviously are.

This is just a short letter to thank you for the site forms and to encourage you to continue sending us sites, whether or not they have been previously recorded. As I said, your forms drew some very high praise. Also, I will give you site numbers as soon as possible. Floyd and Gordon counties are not fully organised as yet and contain many sites so it will take awhile to see if your sites have been reported previously. I will assign them numbers when I find them and send the information along to you. Once again, thank you for the sites.

Yours,
Teri Smith
Teri Smith
State Site Files Coord.

If you need more site forms just drop a line and I will be happy to send you more.

Site Files

THE UNIVERSITY OF GEORGIA

DEPARTMENT OF ANTHROPOLOGY

BALDWIN HALL

ATHENS, GEORGIA 30602

TELEPHONE -404- 542-3922

July 26, 1979

Gerald Thomas
9F Plumtree Parkway
Smyrna, Georgia 30080

Dear Mr Thomas,

I have looked up all your sites and as far as I am able to tell none of the seven sites you sent us site forms for has been officially reported. I am assigning them University of Georgia numbers in this order:

GO-5	Graham Creek East.	UGA 9Go 132
GO-3	Graham Creek West.	UGA 9Go 133
GO-1	Moores Coosa Farm.	UGA 9Go 134
GO-4	Dodd Cemetary.	UGA 9Go 135
GO-2	Crane Eater Creek.	UGA 9Go 136
FL-2	Bluff Road	UGA 9F1 127
FL-1	Horton Bend	UGA 9F1 128

As you send in other sites I will be happy to perform the same search for the sites. Thanks again.

Sincerely,

Teri L. Smith
Site Files Coordinator, UGA

Site Files
THE UNIVERSITY OF GEORGIA
DEPARTMENT OF ANTHROPOLOGY
BALDWIN HALL
ATHENS, GEORGIA 30602

TELEPHONE -404- 542-3922
August 7, 1979

Mr. Gerral Thomas
9F Plumtree Parkway
Smyrna, Georgia 30080

Dear Mr. Thomas,

Thank you for your most recent set of site forms. They too were very nice and well done. Some of the sites you sent us were new sites and some were already reported sites. I have included, along with some more blank site forms, maps from the appropriate quadrangles (USGS 7.5 min) with your sites marked on them in red. What follows is a list of the sites you sent in and the information that I have found on them.

Site Name	Site #
Unnamed Site #1 Below hwy 441, W of Etowah R.	9Br63 (next to weir 128)
Unnamed Site #2 Above hwy 441, W of Etowah R. opposite Two Run Creek Site	9Br231 (new site)
Lower Two Run Creek Contains 3 sites	9Br78 (Main Site Area)
	9Br71 (Areas C & B)
	9Br236 (Area D, new site)
Euharlee	9Br232 (new site)
Euharlee East	9Br233 (new site)
Biddy Road Site	9Br81
Shoal's Site Contains 2 sites	9Br69 (upper portion)
	9Br70 (lower portion)
Tom's Creek Site	9Br234 (new site)
Boston Site	9Br235 (new site)

If you have any questions about these designations please let me know. Otherwise, I will look forward to your next set of site forms.

I remain,

Teri L. Smith
Site Files Coordinator UGA

Site Files
THE UNIVERSITY OF GEORGIA
DEPARTMENT OF ANTHROPOLOGY
BALDWIN HALL
ATHENS, GEORGIA 30602

TELEPHONE -404- 542-3922

Gerral Thomas
9F Plumtree Parkway
Smyrna, Georgia 30080

October 24,1979

Dear Gerral,

I would first like to apologize for not writing to you sooner but about the time you sent your last batch of sites we ran out of money to run the site files. All we have been able to do is the minimum up-keep duties involved in our work and I'm afraid that your sites had to wait. I originally wrote this letter on Oct. 1 expecting the money to come in that day but Congress will take its own sweet time and I finally decided that you deserve this information too much to make you wait any longer to receive it. So, here is everything, I hope, even if it is awfully late.

The two sites you sent me that are in Pulaski County had to be forwrded to one Chris Trowell at South Ga. College as he is in charge of numbering sites in that county. As soon as I receive information regarding those two sites I will send it to you. As for the rest (7) of the sites, I believe that they are all new sites and I have assigned them the following numbers:

Sandy Run ---------- Institution # Ht 10

Bonaire ---------- Institution # Ht 11

Drummond Swamp ---------- State Site # 9Br 237

Spring Creek ---------- State Site # 9F1 129 FL-4

Armuchee ---------- State Site # 9F1 130 FL-3

Oothkalooga ---------- Institution # Go 37 GO-6

John's Creek ---------- Institution # Go 38 GO-7

Thank you for the sketches of 9Go34. We generally like to keep all information we receive for sites as you can never tell what future investigators will be looking for. So, the sketches will not go to waste.

Also, about the tooth that you inquired about. I have talked to Babara Ruff who is pretty much in charge of the faunal lab here. She said that she would be happy to look at the tooth and that if it did not take an inordinate amount of time there would be no charge. If you would like to send her the tooth in some cotton and include some detatils about the comditions you found it in (ie. disturbance of site, context with other material etc...) She'll get on it as quickly

as possible. You can send it to me or to:

Babara Ruff
Faunal Lab, Baldwin Hall
Dept. of Anthropology
University of Georgia
Athens, Georgia 30602

Until your next 'report'.

Teri

Teri Smith
Co-coordinator, State Site Files, UGA

Oh yes, I am also including the Xerox copies of 9F1 127 and 9F1 128 that you request

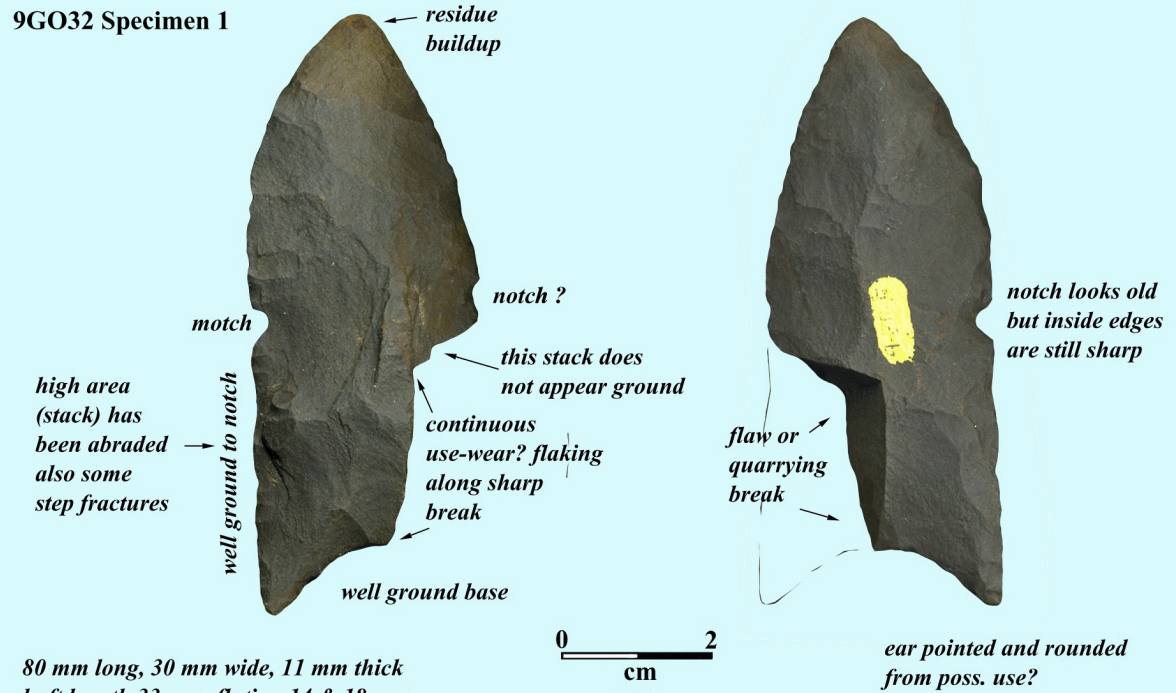
Te

Appendix B

Annotated Specimen Number Scans

Material Collection from the Scoured Site Area on 9GO32

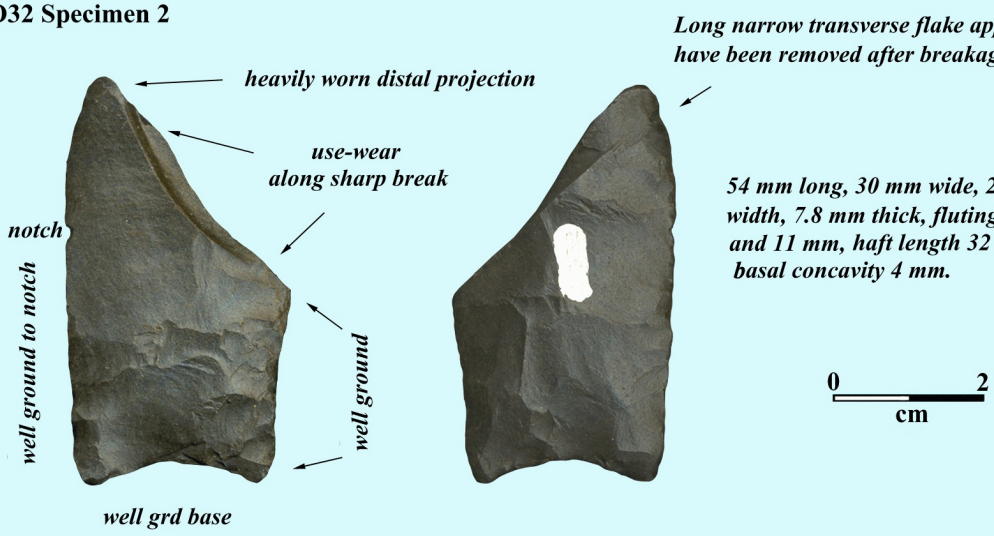
9GO32 Specimen 1



80 mm long, 30 mm wide, 11 mm thick haft length 33 mm, fluting 14 & 18 mm, basal concavity 7 mm.

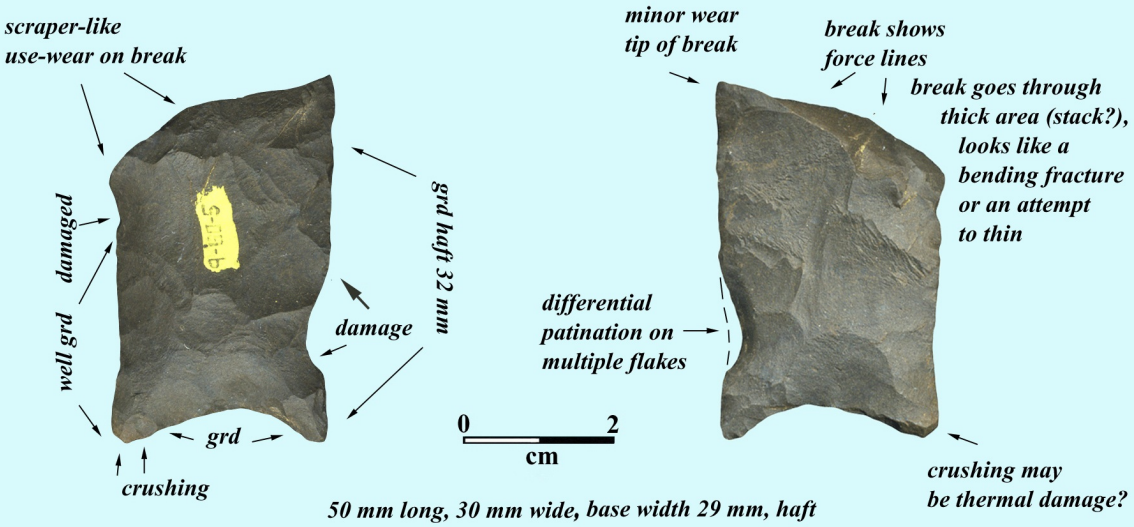
Large and relatively well flaked biface made from a grainy brown cherty material. The point has some resemblance to Redstone but this may relate to breakage. The point is very well thinned with flute-like flakes on both sides. Appears to be a manufacturing break (flaw in stone?) that may have occurred during thinning or possibly while hafted. Utilization is seen along the broken edge and notches may represent efforts to secure the broken point as hafting.

9GO32 Specimen 2



Well flaked lanceolate point made from grainy brownish cherty material (may be more glossy that most). Except for the base, this point is largely unifacial (it appears to made on a large flake that is not totally retouched. The base is well thinned (fluted). Retouching and wear are evident along a twisted distal break that appears to have been used as a drill/gouge (burin-like). Displays a heavy patina/polish.

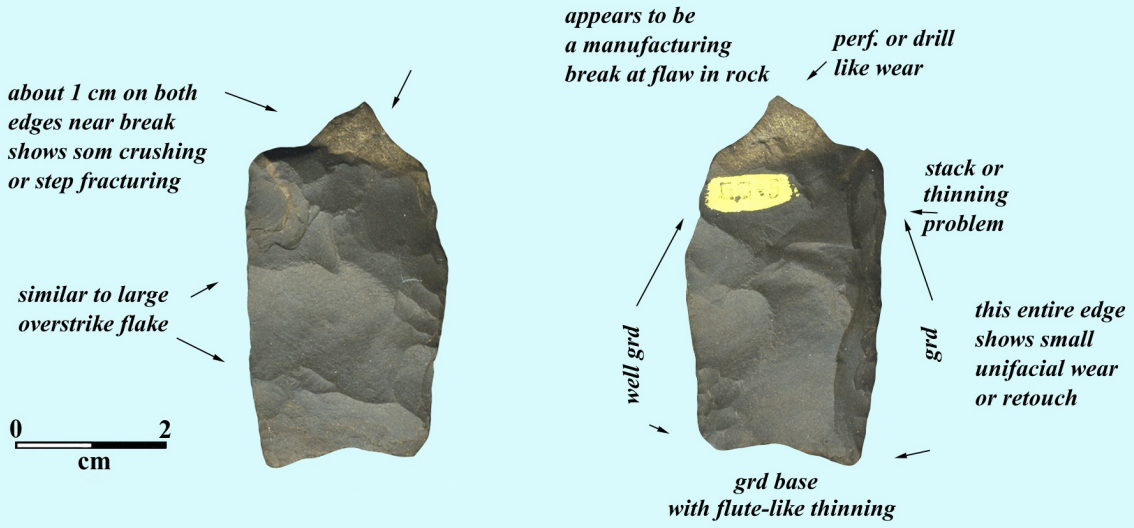
9GO32 Specimen 3



50 mm long, 30 mm wide, base width 29 mm, haft width 29 mm, 9 mm thick, haft length 32 mm, flute/thinning 10-15 mm (multiple)

Well made lanceolate biface with slight haft constriction made from grainy brownish cherty material that is typical of the collection. The broad notch-like area on one side appears to be plow damage (differential patination). Secondary use of broken distal portion is evident. Base is well thinned.

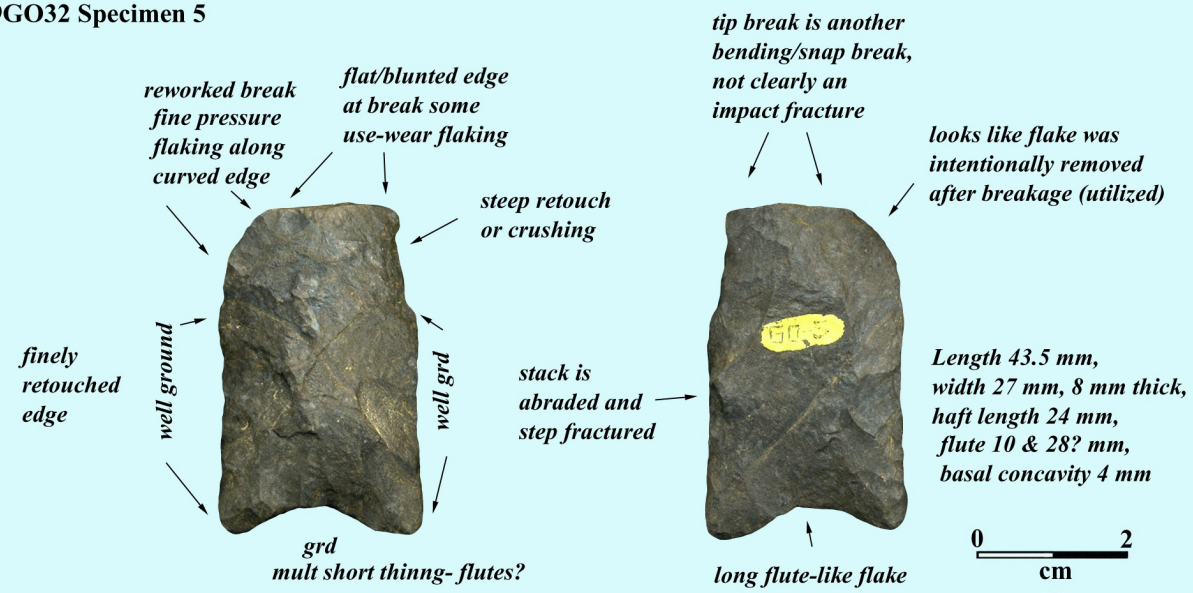
9GO32 Specimen 4



47.5 mm long, 27 mm wide, base width23 mm, 9 mm thick, haft length 28 & 29 mm, flute 26 mm

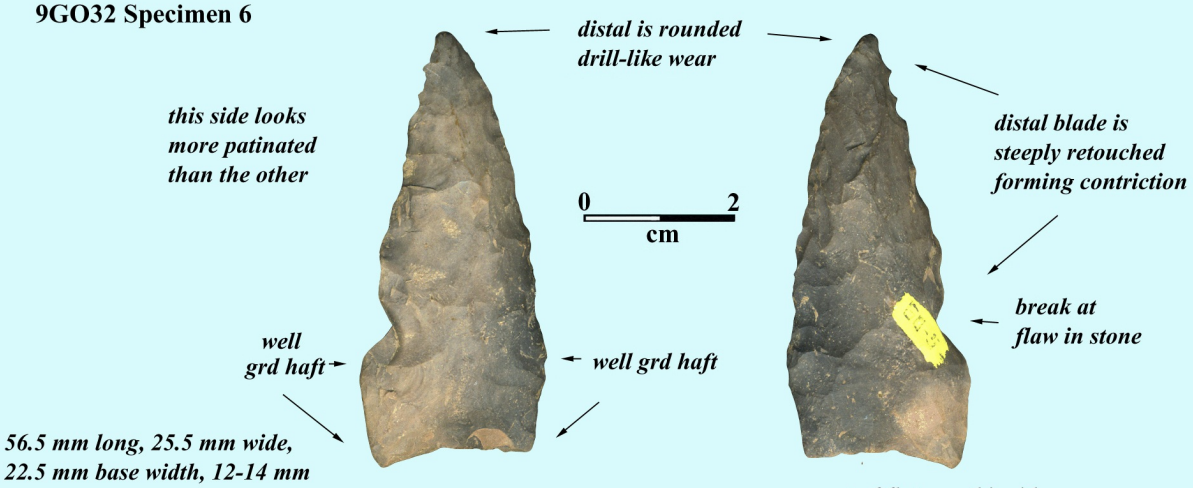
Lanceolate biface made from a glossy variety of grainy brownish chert material. Not sure if this is a reworked blade edge from a larger biface or a manufacturing failure. Utilization of the broken point is evident. One face is well fluted (single long flake, the other face shows short thinning flakes.

9GO32 Specimen 5



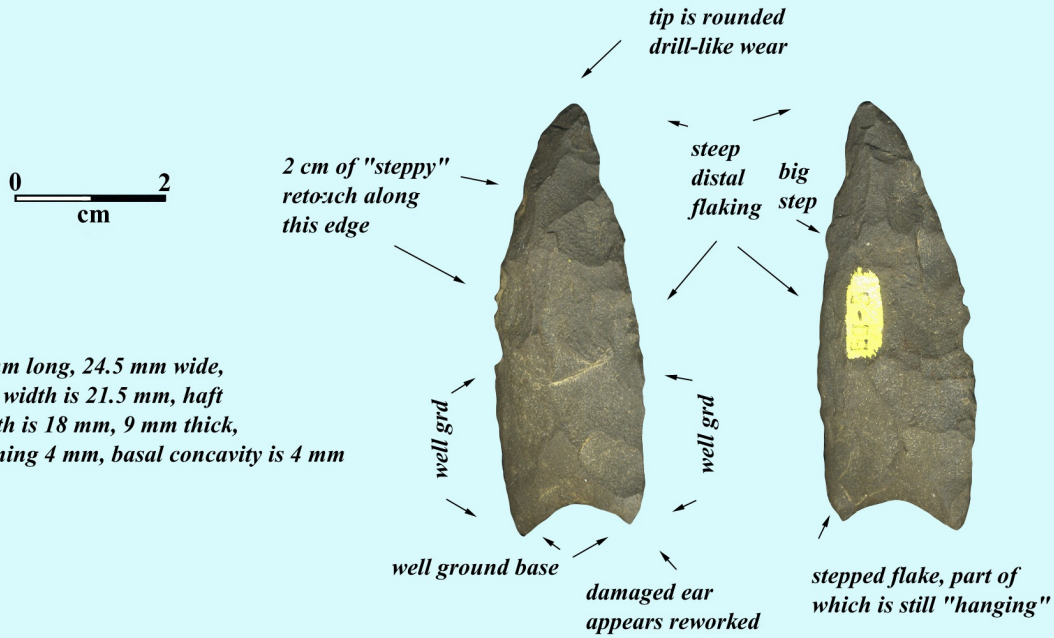
A pretty well made lanceolate biface with haft constriction made from a grainy grey-brown cherty material. The biface is well thinned at the base but it is difficult to say if the long "flute" on one face in real or part of the original spall surface (it accomplishes the same goal however). The distal portion displays evidence of reworking and utilization.

9GO32 Specimen 6



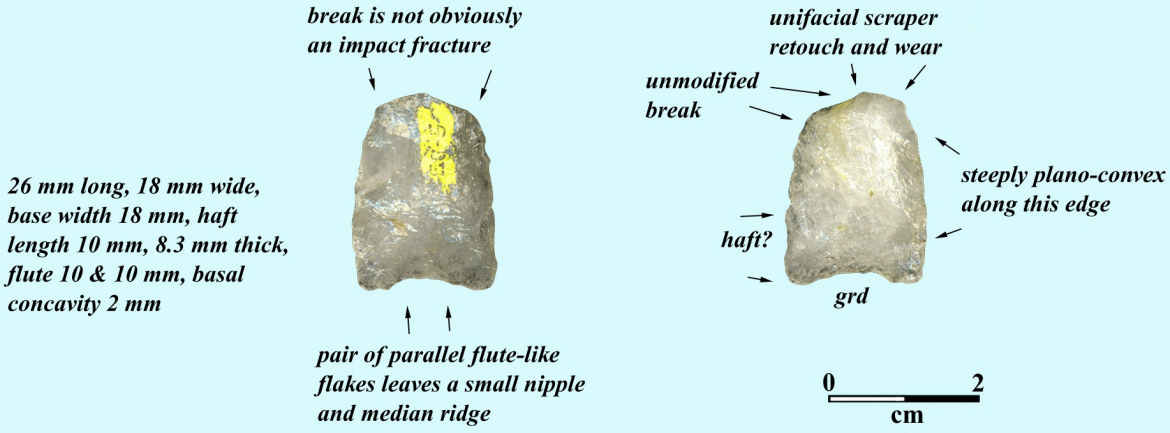
Well worked biface biface with contracting haft area (appears to be a shorter haft area in comparison to most of the other bifaces). Raw materials looks like a poor grade Ft. Payne or Bangor (not uncommon locally). Retouch is extensive and "fussy." Not sure if this is a rebased point or a different form of biface (perhaps a knife form or possibly made as a drill or dart).

9GO32 Specimen 7



Made from a grainy form of dark grey-brown cherty material. Haft is slightly contracted and well thinned. Possibly a rehafted blade (thickens about 20 mm above base). Distal is somewhat drill-like.

9GO32 Specimen 8



Well made good quality quartz fluted point that has been greatly modified. Haft grinding is present but light. Multiple short flutes on both sides. Blade edges are worn and steeply retouched along one side. The end has been broken and reworked, possibly as an endscraper.

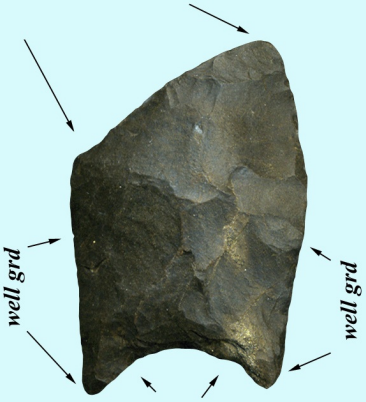
9GO32 Specimen 9

46.4 mm long, 34.5 mm wide, base width is 29 mm, haft length is 22 mm, 12.5 mm thick, thinning is 9 and 3 mm, basal concavity is 6 mm

0 2 cm

look like a natural break along a joint or bedding plane

recent break (mended) along an existing plane. On close examination it seems to be a bedding plane or jointing fracture that is parallel to the distal break.



break is flat and displays evidence of use, mostly this side

well grd

well grd

heavily grd steep basal retouch on this side

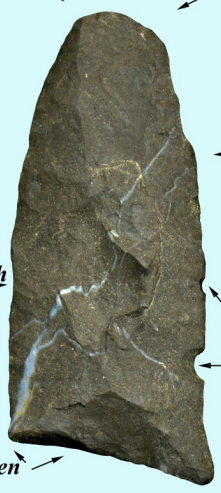
Thick biface fragment that appears to be a rebased blade fragment. The raw material is the typical grainy brownish cherty material used for most of the collection. The haft area displays steep short retouch flakes on one side and and longer thinning flakes on the opposite site (this pattern is found on several bifaces on the site that see rebased).

9GO32 Specimen 10

63.5 mm long, 27 mm wide, haft length estimated 27 mm, thickness 7.5 mm, thinning flakes 5 & 7 mm, basal concavity 2.5 mm

0 2 cm

reworked tip break unif. endscraper opp. face-looks polished



possible impact fracture

20 mm long hinges

lightly ground

notch

notch

lightly ground

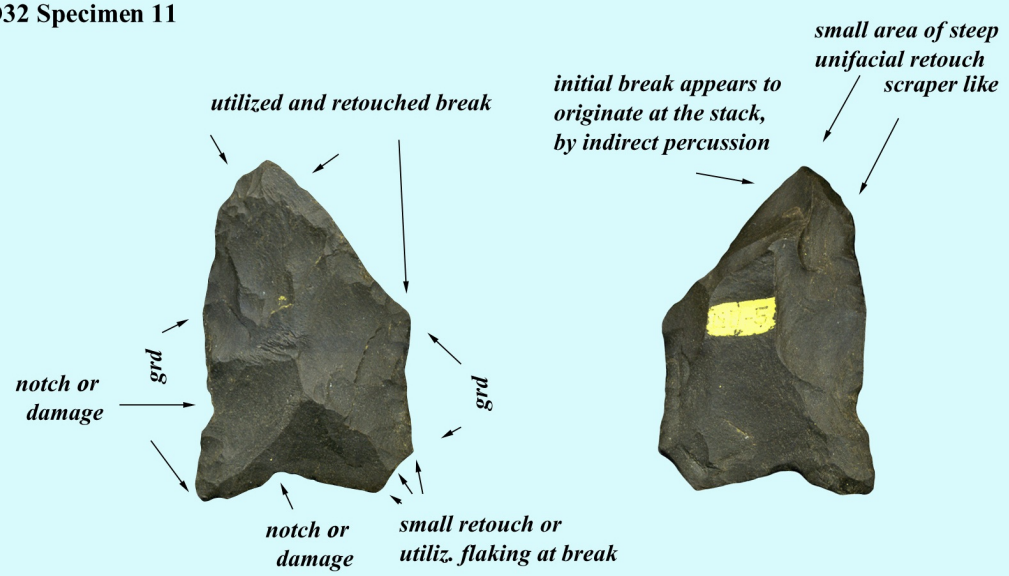
ear broken off

though not fluted as such, the basal edge of this point tapers to a symmetrical sharp edge

heavily ground base

Relatively thin biface made on a flake. The point is made from a typical variety of grainy brownish cherty material with opalized streaking. Appears to be a finished point with one broken ear. Notches present along one side may have been used for hafting. Distal end displays a possible impact fracture that has been reworked.

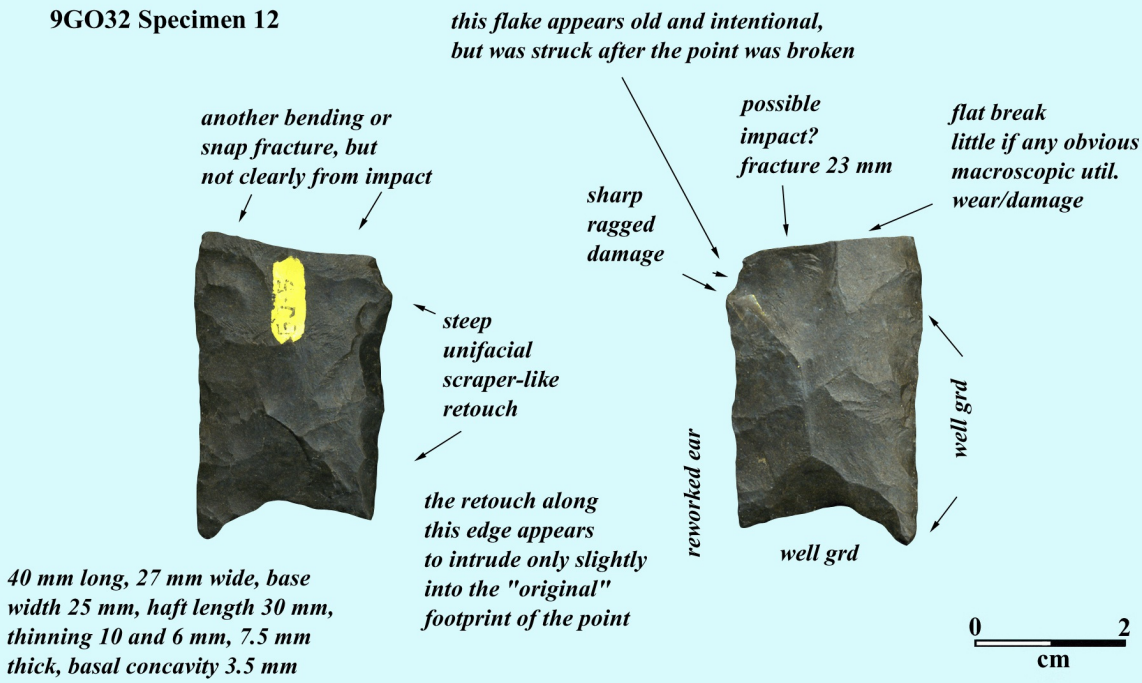
9GO32 Specimen 11



44.5 mm long, 28.5 mm wide, estimated base width 29 mm, haft length 22 mm, thickness 8.5 mm, flute/thinning 8 & 26 mm, basal concavity 3 mm

This seems to be almost a preform or just an expedient biface with limited retouch, it does have one large flute like flake originating from a notch-like concavity at the base. The blade shows good bifacial flake removal but limited edge retouch. Raw material is typical grainy brownish cherty material.

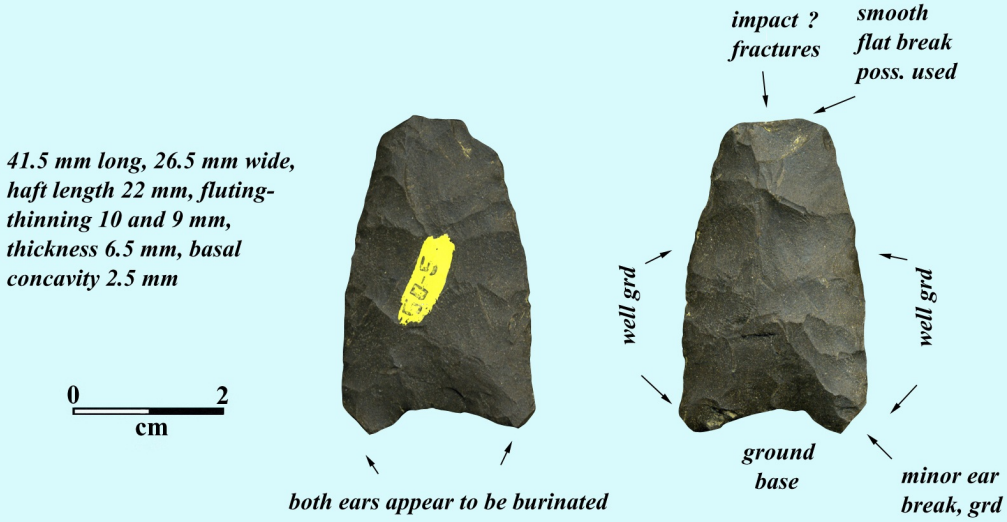
9GO32 Specimen 12



40 mm long, 27 mm wide, base width 25 mm, haft length 30 mm, thinning 10 and 6 mm, 7.5 mm thick, basal concavity 3.5 mm

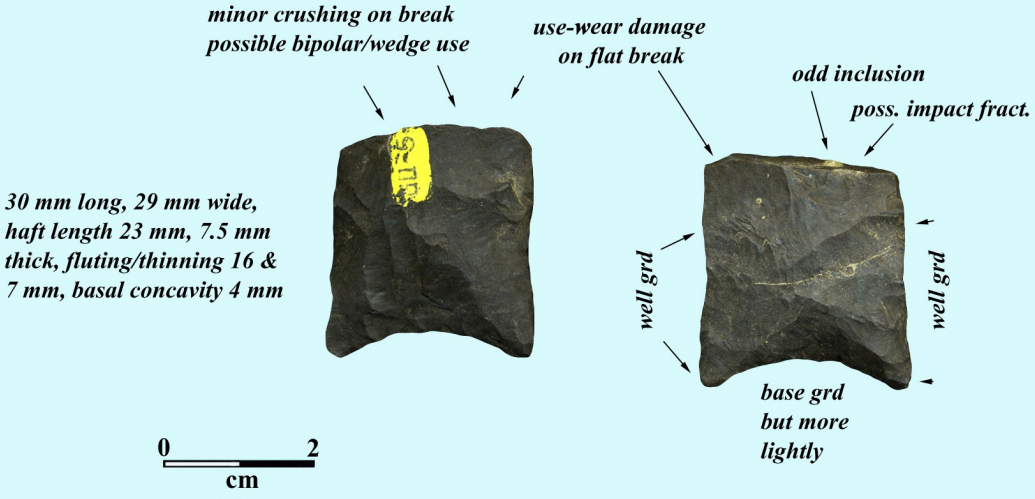
Well made biface made from brownish cherty material (less grainy variety). Good bifacial form with well shaped symmetrically thinned base. Distal break and unifacially retouched blade edge.

9GO32 Specimen 13



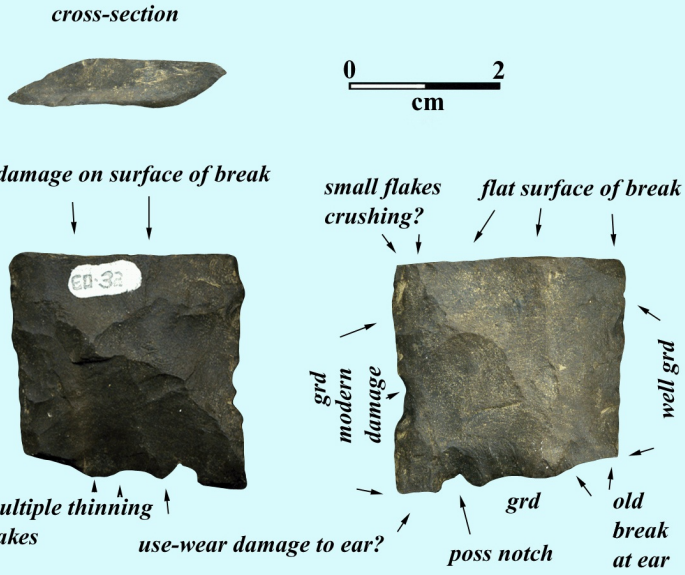
Well made fluted biface made from grainy brownish cherty material. Reworking is evident on the broken tip and the ears. Good bifacial workmanship, base is well-thinned and symmetrical.

9GO32 Specimen 14



Well made, finished biface (biconvex) made from typical grainy brownish cherty material. Haft is well thinned and symmetrical (appears to be the original base configuration). Some evidence of reuse after breaking appears along the distal break.

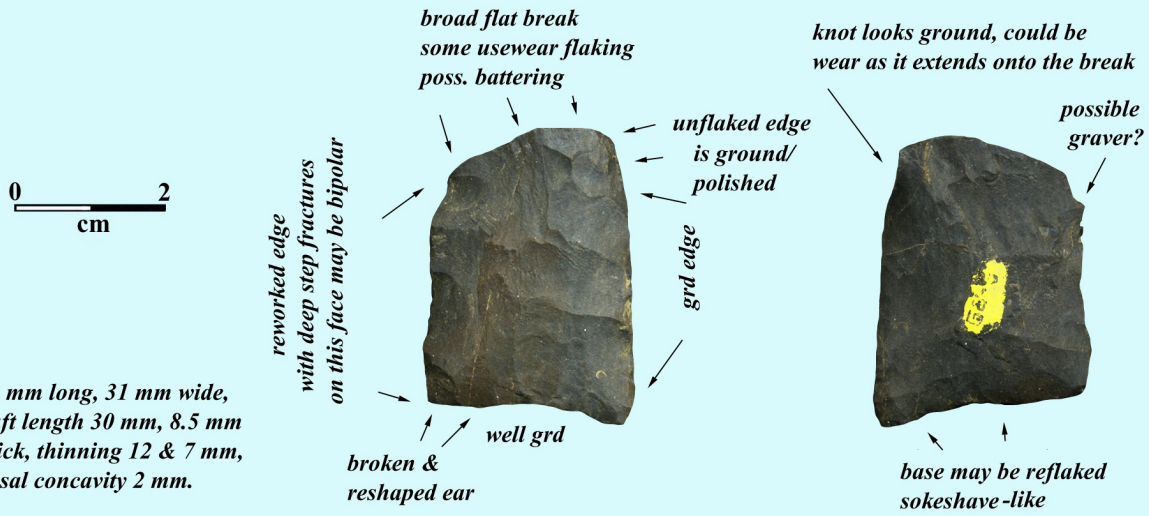
9GO32 Specimen 15



30 mm long, 31 mm wide, 20 mm haft length, 8.5 mm thick, thinning 15 & 8 mm, basal concavity undetermined

Well made biface (biconvex) made from grainy brownish cherty material. Haft is well-thinned but shows damage that could be consistent with use as a wedge. Broken at thick portion of blade with some evidence of utilization.

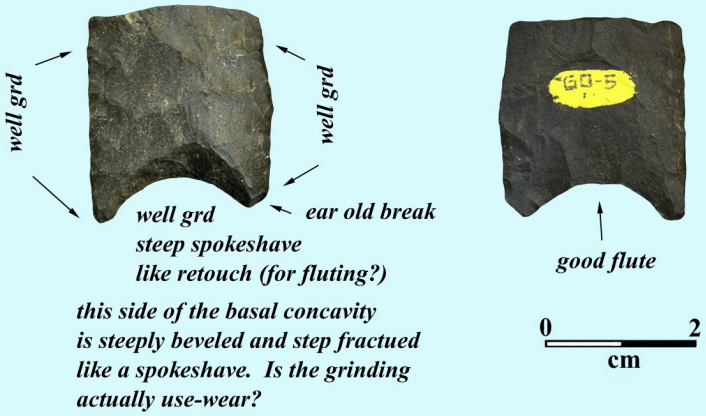
9GO32 Specimen 16



38 mm long, 31 mm wide, haft length 30 mm, 8.5 mm thick, thinning 12 & 7 mm, basal concavity 2 mm.

Well made biface (biconvex) made from grainy brownish cherty material. Blade edges well-flaked except for a thicker knot near the blade break. There is evidence of reworking on the distal break and along one blade edge. The base is well-thinned but not symmetrical. One side displays steep short flaking (almost beveled) and the other side is flatter and thinned by multiple blade-like flakes.

9GO32 Specimen 17

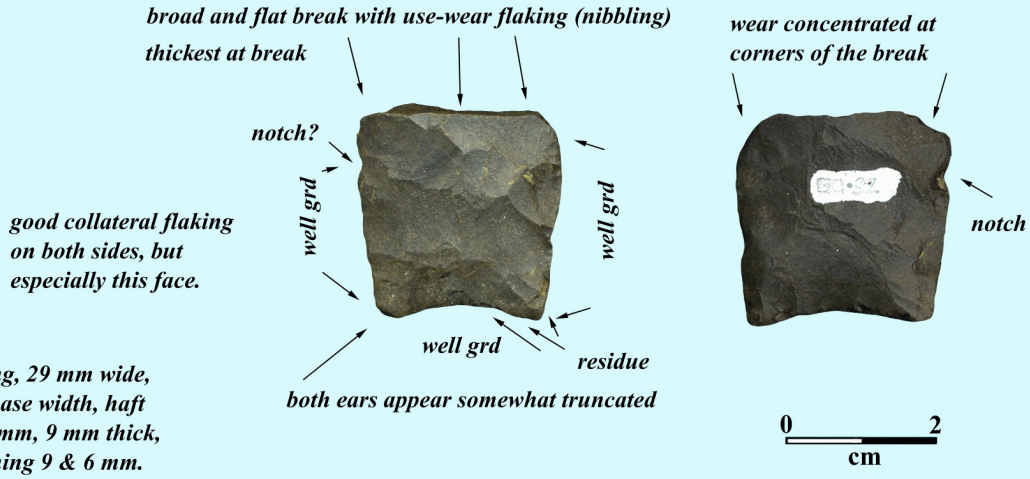


29 mm long, 24.5 mm wide, base width is 23.5 mm, haft length is 19 & 20 mm, thickness is 6.5 mm, flute is 19 mm, basal concavity is 5 mm

this side of the basal concavity is steeply beveled and step fractued like a spokeshave. Is the grinding actually use-wear?

Nicely finished, well flaked, thin biface with good flute on one side. Raw material is the typical grainy brownish cherty material. There is limited nibbling along the distal break which is relatively flat and th thickest part of the point. Possibly, one side is fluted to flatten the base of the biface and the beveled edge (opposite face) is intentional to create a concave scraping tool with a plano-convex shape (like a uniface). The biface is biconvex but appears to be made on a flake.

9GO32 Specimen 18



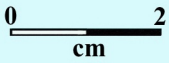
good collateral flaking on both sides, but especially this face.

28 mm long, 29 mm wide, 25.6 mm base width, haft length 25 mm, 9 mm thick, flute/thinning 9 & 6 mm. basal concavity 2 mm

both ears appear somewhat truncated

A well made biface made from typical grainy brownish cherty material. The cross-scction is biconvex but the point may have been made on a flake based on slight curvature. The haft is well thinning and symmetrical with flute-like flaking on one face and shorter thinning flakes on other. Utilized at the break which is the thickest part of the blade.

9GO32 Specimen 19



23.5 mm long, 26.5 mm wide, haft length > 19 mm, thickness 7.5 mm, flute 14 mm (one side only), basal concavity 3 mm

well grd and steep spokeshave-like retouch (for fluting?)

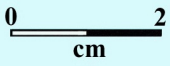
Bevel on this side is not worn or stepped. Looks like part of set-up for flute on other side.

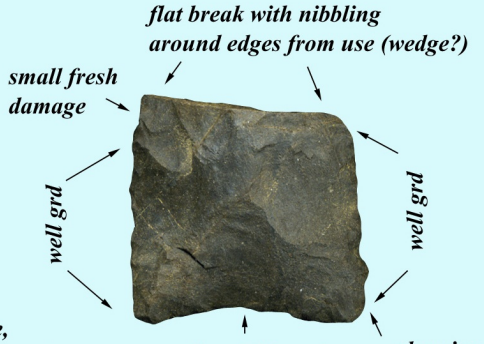
nice flute this face

another example of a one sided flute/thinning flake

Well made point snapped at haft and made from typical variety of grainy brownish cherty material. The point is biconvex but the haft area is not symmetrical. One side is flat and well-thinned and the other side is steeply flaked to a bevel-like appearance (this could be a rebased point). Some utilization damage is visible at break.

9GO32 Specimen 20





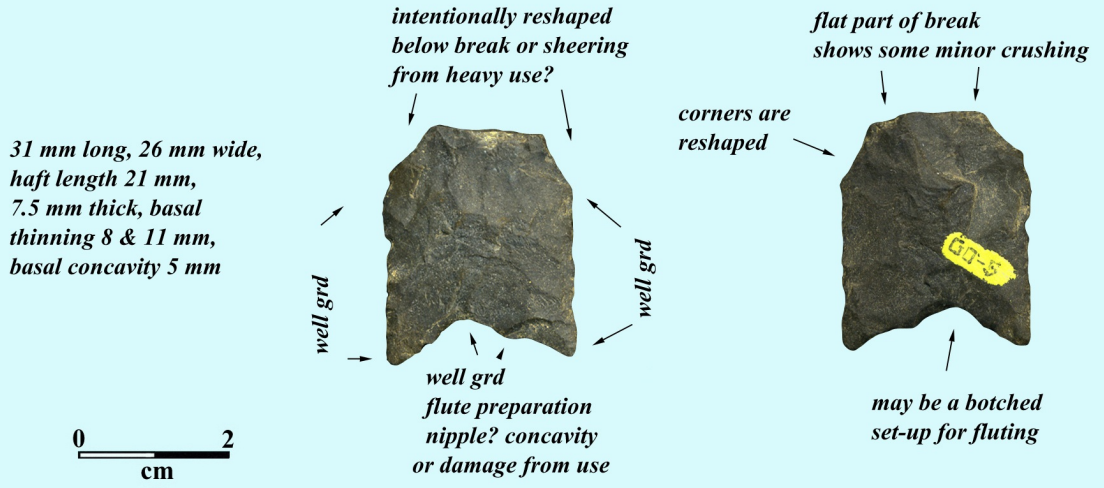
29.5 mm long, 32 mm wide, 26 mm haft length, 10 mm thick, flute/thinning 18 & 14 mm, basal concavity 2 mm

well grd thinned haft (fluted both sides)

multiple small blade-like thinnng flakes

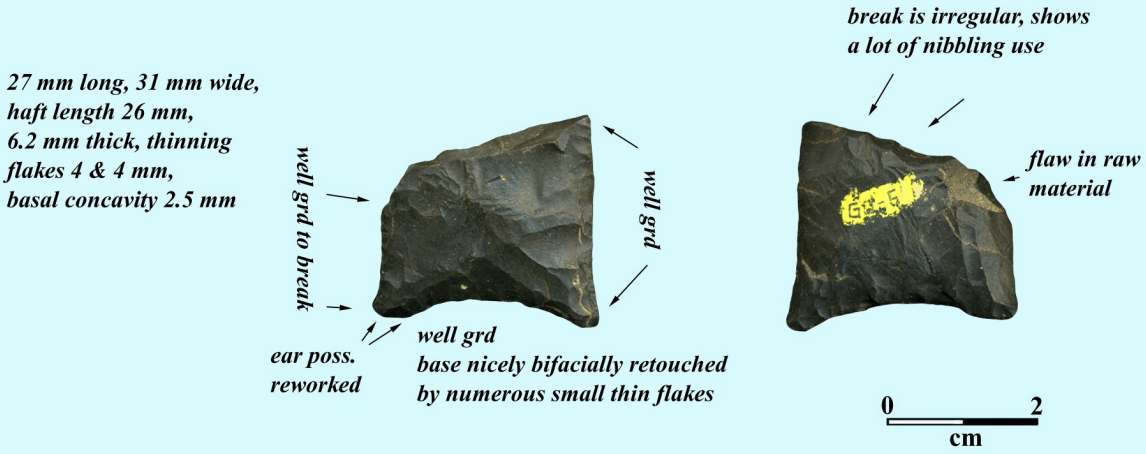
Relatively well flaked biface, biconvex shape (good median ridge on both sides) with well thinned haft (both sides). The raw material is typical grainy brownish cherty material. The break is the thickest part of the point and displays use-wear. White the base is well-thinned, like several others from the site it thickens quickly up to the break which could be an indication of rebasing.

9GO32 Specimen 21



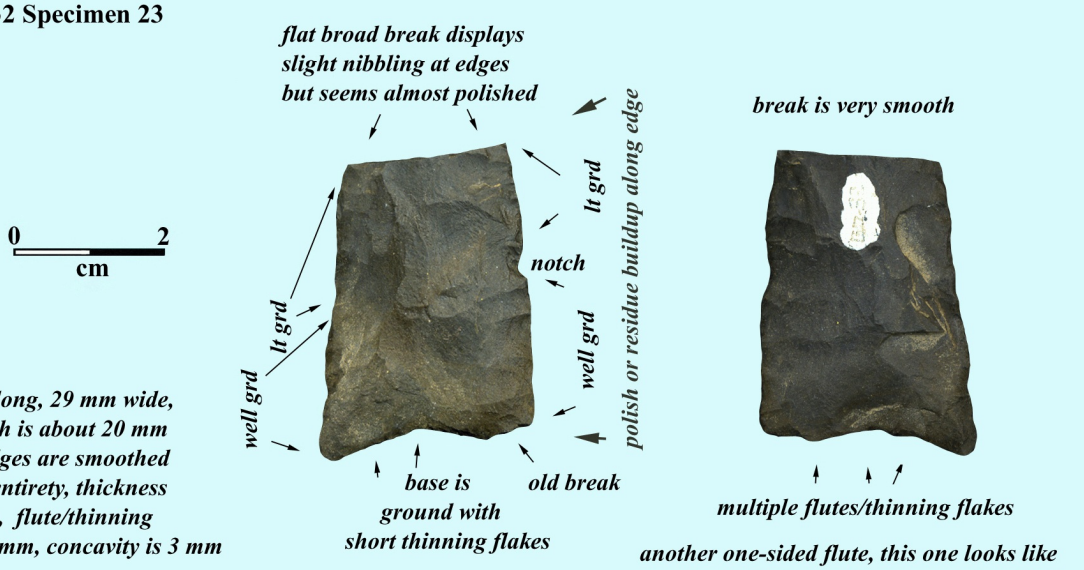
Relatively well made thin biface (biconvex) made from grainy brownish cherty material. Curvature suggests it is made on a flake. The biface appears modified after breaking, possibly as a wedge at some as one function.

9GO32 Specimen 22



Really nice thin Ridge & Valley chert point (dark grey with a well-developed glossy patina). The biface displays a slight haft constriction or outflaring ears. The shape and overall thickness (thinness) is similar to Sp. 10. The break displays conspicuous use. Are these small bifaces dart points? The good quality of flaking, as shown in the fine retouching, contrasts with the bifaces made from the grainy brownish cherty material which is much harder to work.

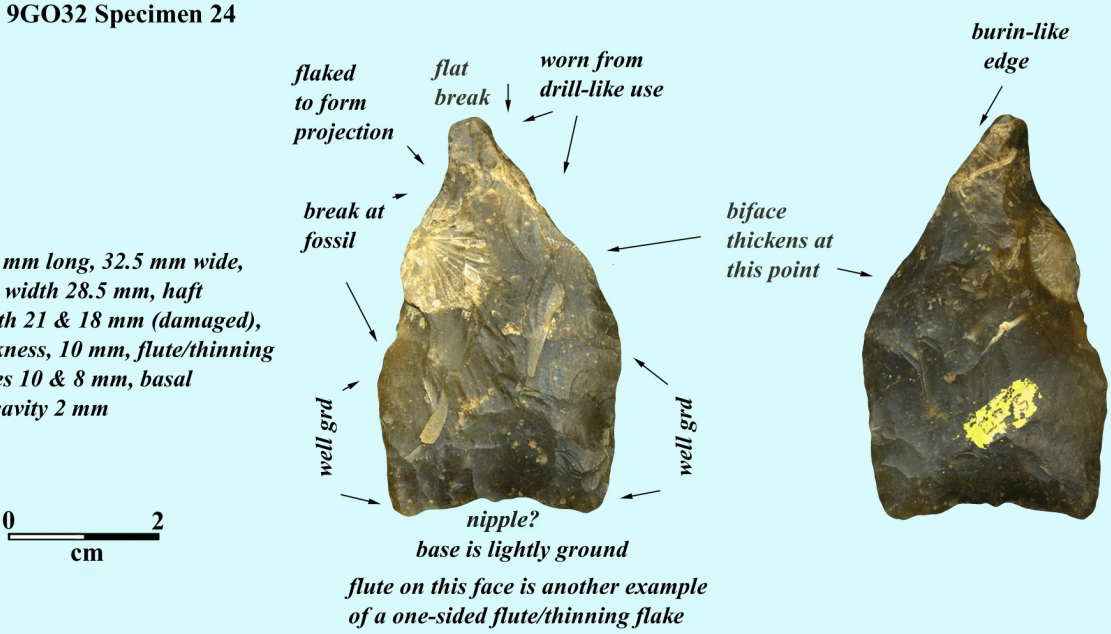
9GO32 Specimen 23



38.5 mm long, 29 mm wide, haft length is about 20 mm but the edges are smoothed for their entirety, thickness is 7.5 mm, flute/thinning is 5 & 11 mm, concavity is 3 mm

Point is pretty well flaked and slightly triangular in shape. It is made from a typical variety of grainy brownish chert material. The biface is essentially bi-convex but appears to be made on a flake. One blade edge appears better flakes (possibly an original edge) while the other displays more irregular and stepped flaking (possibly indicating reworking (and possibly rebasing) of a broken point. The distal break is flat and polished. Several cracks on the point are encrusted.

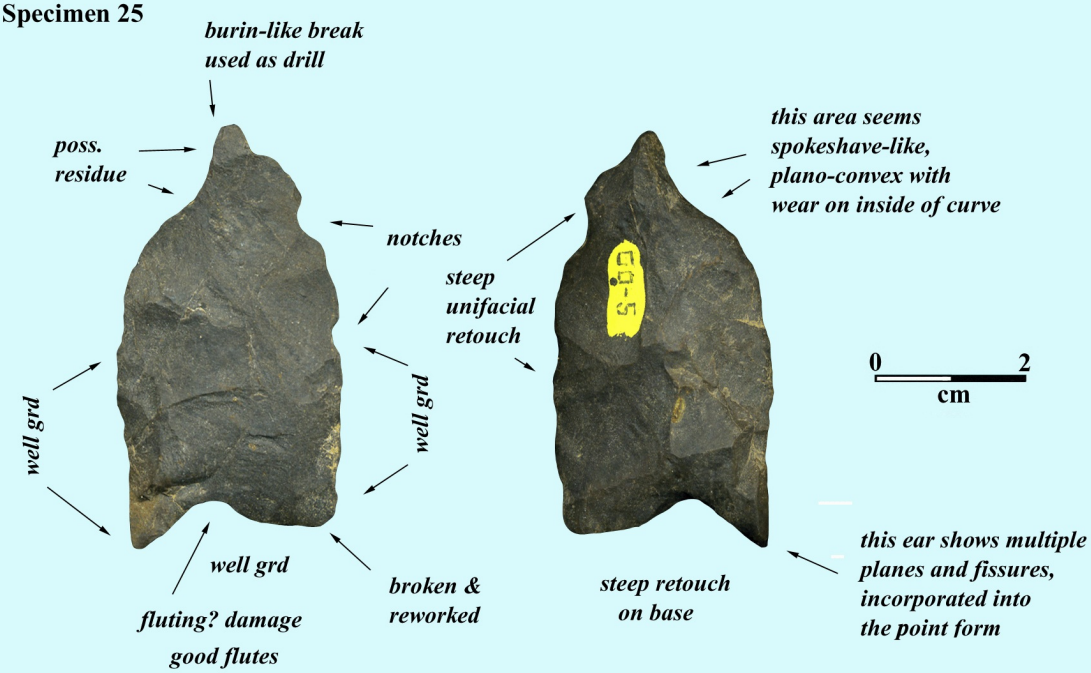
9GO32 Specimen 24



53.5 mm long, 32.5 mm wide, base width 28.5 mm, haft length 21 & 18 mm (damaged), thickness, 10 mm, flute/thinning flakes 10 & 8 mm, basal concavity 2 mm

Appears to be a large lanceolate biface that has been reworked after breakage as a drill-like tool used on hard material. The point is bi-convex and displays a slight "twist" and curvature of a large flake. The raw material is a nice transluscent fossiliferous chert (not large horn coral fossil along the broken edge).

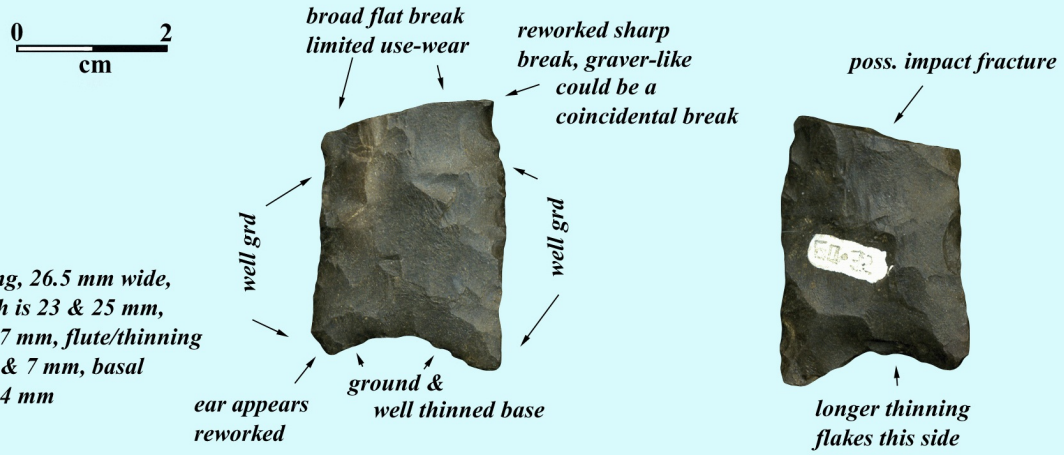
9GO32 Specimen 25



56 mm long, 30.5 mm wide, 27 mm base width, haft length 24 mm, thickness 9.5 mm, fluting 16 cm (one side), concavity 5 mm

Somewhate crudely fashioned thick biface that appears rebased. The distal portion has been modified as a drill or spokeshave and one edge has been unifacially retouched. The haft is not symmetrical, it is thick and fluted on one side-the opposite side is steeply flaked (beveled). The biface is bi-convex in cross-section. Raw material is the typical grainy brownish cherty material found in most of the collection.

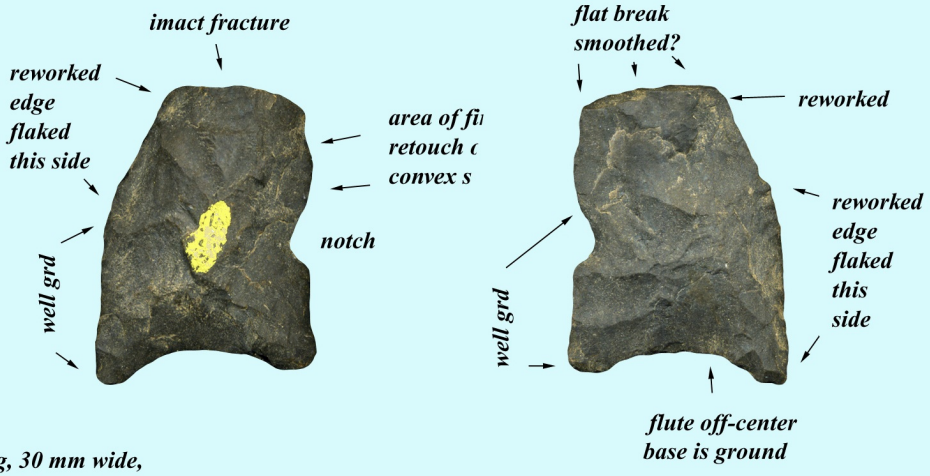
9GO32 Specimen 26



36 mm long, 26.5 mm wide, haft length is 23 & 25 mm, thickness 7 mm, flute/thinning flakes 5.5 & 7 mm, basal concavity 4 mm

Well made thin lanceolate point made from a more glossy variety of grainy brownish cherty material (nice patina). Bi-convex in cross-section and probably made on a small flake. Haft area is pretty symmetrical and well thinned. Good collateral flaking and not substantially thicker near the break. Form of workmanship resembles other suspected dart points in the collection such as Sp. 10 and 14. Possible rework as a graver near distal break.

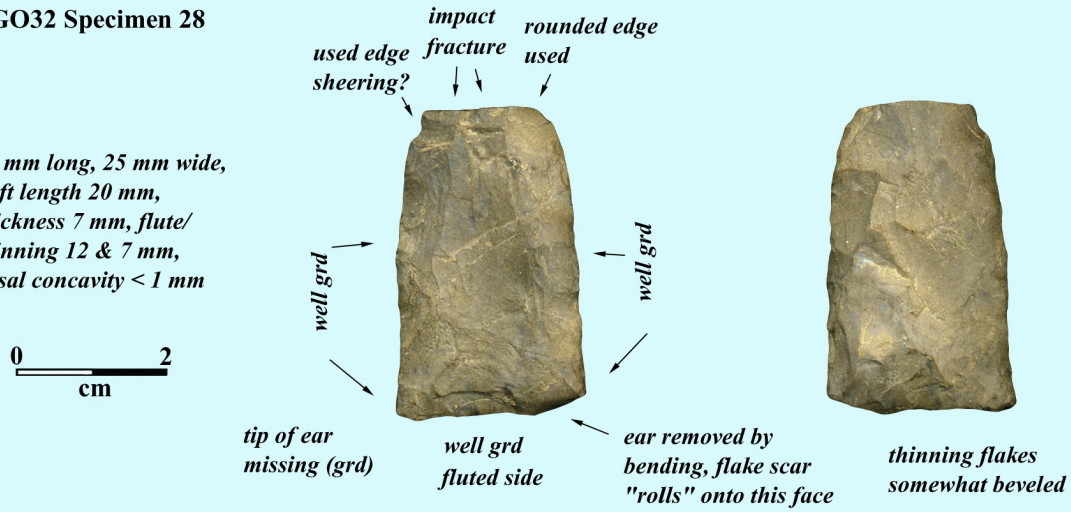
9GO32 Specimen 27



40.5 mm long, 30 mm wide, haft length 24 mm, 9.5 mm thick, flute/thinning 12 & 8 mm, basal concavity 4 mm

Lanceolate biface that appears reworked along one edge and rebased. Made from a grainy brownish cherty material. Somewhat plano-convex in cross-section with a broken distal portion that shows polish. A notch is present in the haft area. The base area is symmetrical with short flute-like flakes on both sides. The flute on one face is slightly off-set along the reworked edge suggesting that the width of the original biface was greater. This may be a rebased distal portion of a larger biface.

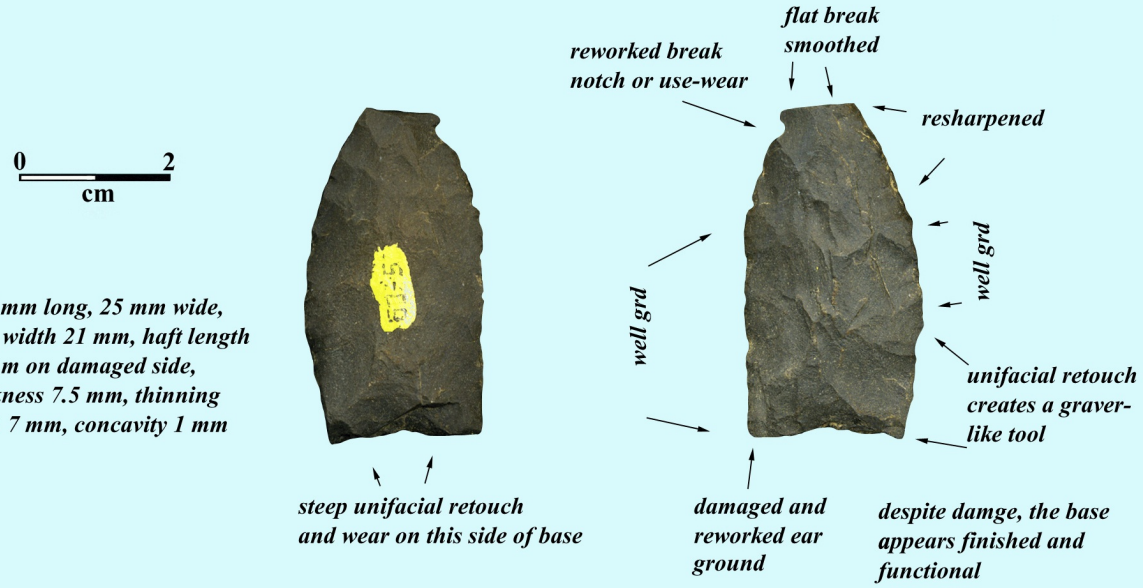
9GO32 Specimen 28



42 mm long, 25 mm wide, haft length 20 mm, thickness 7 mm, flute/ thinning 12 & 7 mm, basal concavity < 1 mm

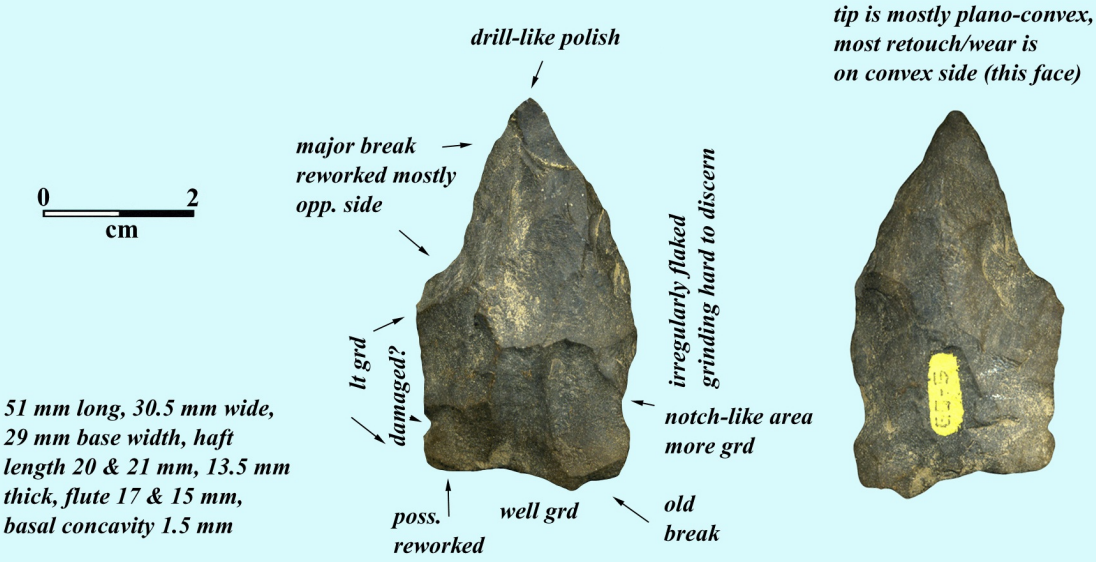
Rather well flaked lanceolate biface that appears to have been rebassed after breaking. One side displays a concave surface that gives the appearance of a long flute but most appears to the natural surface of the flake. The biface is bi-convex in cross-section and the base is not symmetrical (well-thinned on one face and rather thick on the other. Both ears are damaged which gives the appearance of a flat base. The distal end is broken and the break displays step fractures. The raw material is lighter grey-brown chert that differs from most of the collection (possibly a low-grade local Knox chert).

9GO32 Specimen 29



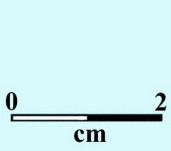
A well made point, damaged base shows differential patination (break is black). The distal end has been heavily resharpened and modified at the break, not sure relates to use as a drill, Unifacial retouch along haft creates a burin-like projection at one ear. May be a rebased fragment based on haft flaking. Raw material is the typical grainy brown cherty material.

9GO32 Specimen 30

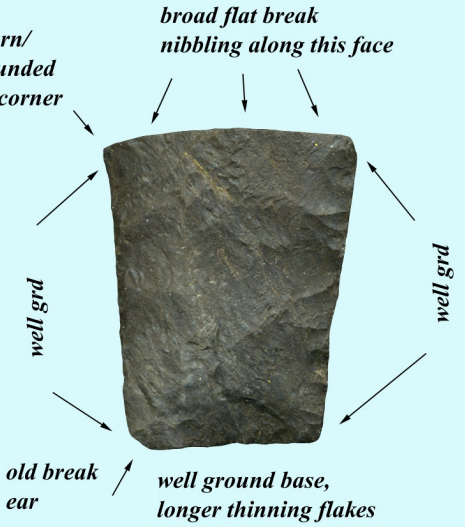


A thick biface with most retouch on the base (related to fluting) and tip which seems to be a drill, most of the blade and tip retouch is on one side, the opposite is mostly percussion. Could be a reworked fragment of a large, thick biface or preform. Raw material is typical grainy brownish chert material.

9GO32 Specimen 31



42 mm long, 36 mm wide, 26 mm base width, haft length 39 mm, 10 mm thick, flute/thinning 13 & 7 mm, concavity < 1 mm



cross-section

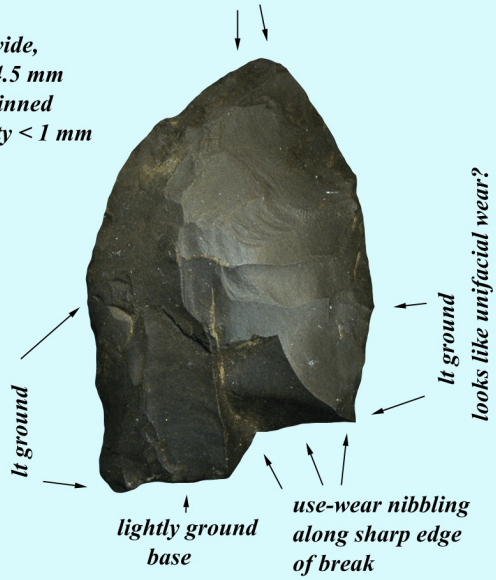
bi-convex side

Well made lanceolate biface with tapered haft area made from typical grainy brownish cherty material. The break is relatively flat but slightly raised along one side showing utilization. Otherwise little obvious indications of manufacturing or reworking. The general shape is similar to more westerly types such as Angostura or Agate Basin (see Sp. 66 for a similar biface). The biface is bifacially worked but is plano-convex in cross-section.

9GO32 Specimen 32

used distal end some evidence of crushing or use on hard material

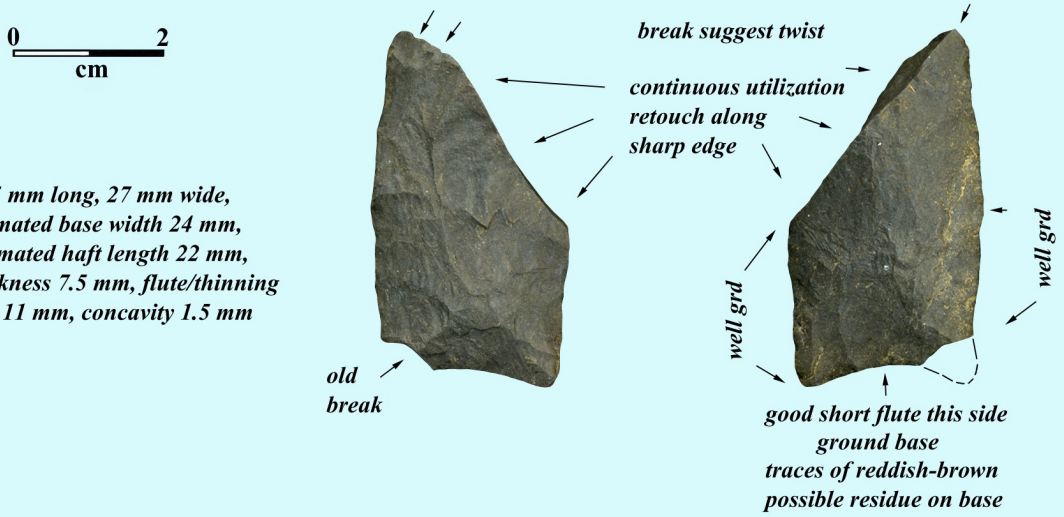
59 mm long, 39 mm wide, haft length 24 mm, 14.5 mm thick, flute 22 mm, thinned side is 9 mm, concavity < 1 mm



Break caused in part by plain in stone. Looks like it broke while executing another flute on this side.

Appears to be the distal portion of a large, thick, biface that has been rebased. Better variety (more glossy) of typical grainy browning cherty material found on the site (there is differential patination present). Thick and plano-convex, one face is dome-shaped and th opposite is flate to concave because of the removal of a large overshot flake. The haft is fluted on the convex side and displays steeper flaking (thinning) on the opposite side. Some utilization.

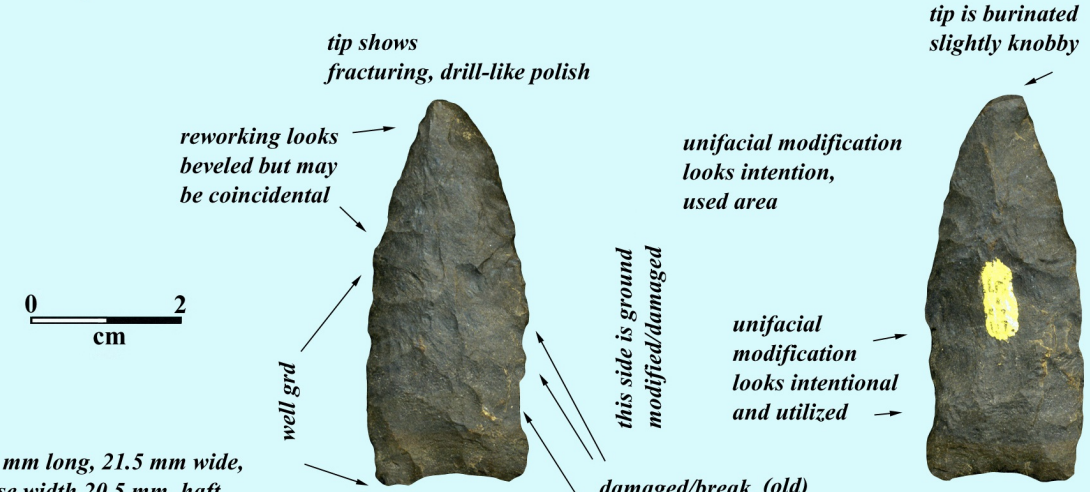
9GO32 Specimen 33



43.5 mm long, 27 mm wide, estimated base width 24 mm, extimated haft length 22 mm, thickness 7.5 mm, flute/thinning 5 & 11 mm, concavity 1.5 mm

Well made fluted point with utilization along broken edge, somewhat grainy but good quality chertt (typical grainy brownish cherty material. Lanceolate shape with slightly basal constriction. Uniform thickness may suggest other dart point.

9GO32 Specimen 34



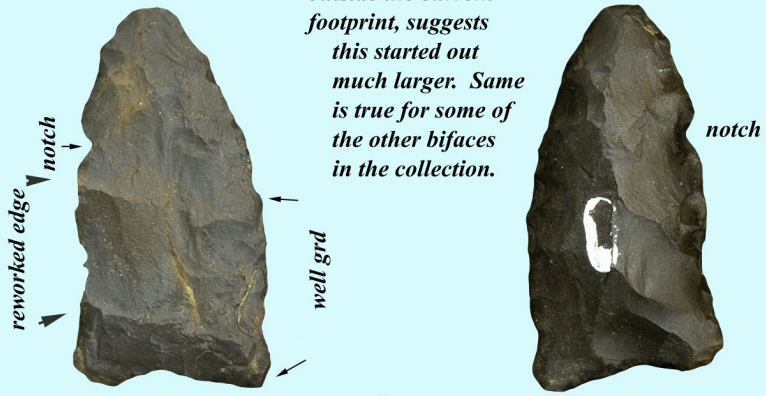
51 mm long, 21.5 mm wide, base width 20.5 mm, haft length 22 mm, thinning 9 & 7 mm, 6.5 mm thick, basal concavity 1.5 mm

A well flaked small lanceolate biface, typical base treatment, some haft edge reworking, bi-convex but relatively flat. Burinated/drill-like tip damage/wear. Base treatment is symmetrical. Raw material is typical grainy brownish cherty material . Perhaps another dart point.

9GO32 Specimen 35

50.5 mm long, 26.5 mm wide, haft length 21 mm, thickness 9 mm, thinning 5.5 & 11 mm, basal concavity 1.5 mm

0 2 cm

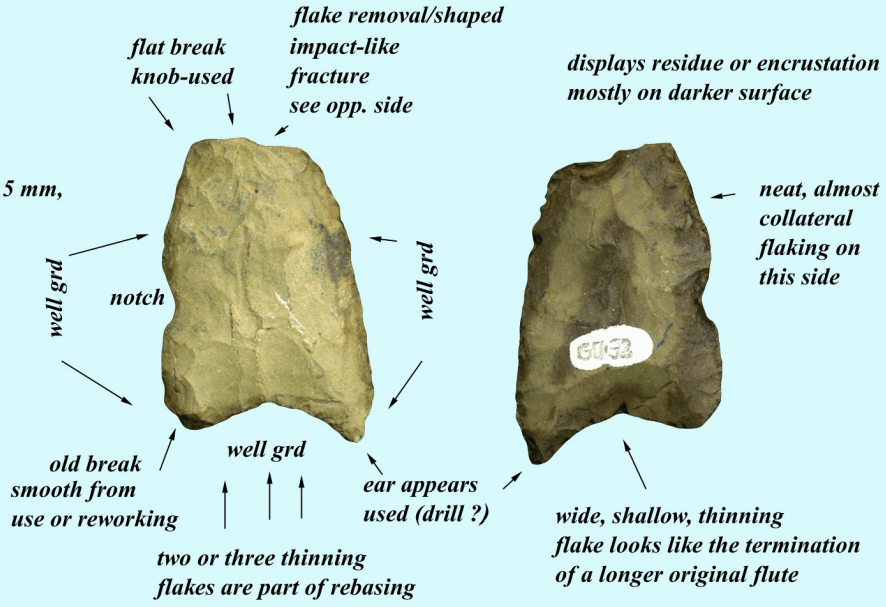


Rather crudely made biface (this may be an example of a biface that broke and was re-based, the angle of the thinned haft is very steep on one side. The biface is well patinated and almost glossy on the darker side (chert is not grainy but looks like the material used for the other points (brownish cherty material). Overshot flaking is evident on the flatter, more patinated side(differential patination is noted). Some of the differences in patination color may relate to heat.

9GO32 Specimen 36

40 mm long, 28.5 mm wide, haft length 24 mm, thickness 5.5 mm, flute/thinning 9 & 5.5 mm, basal concavity 4 mm

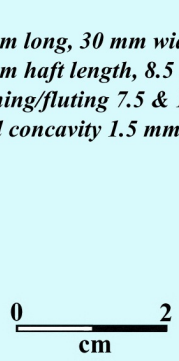
0 2 cm

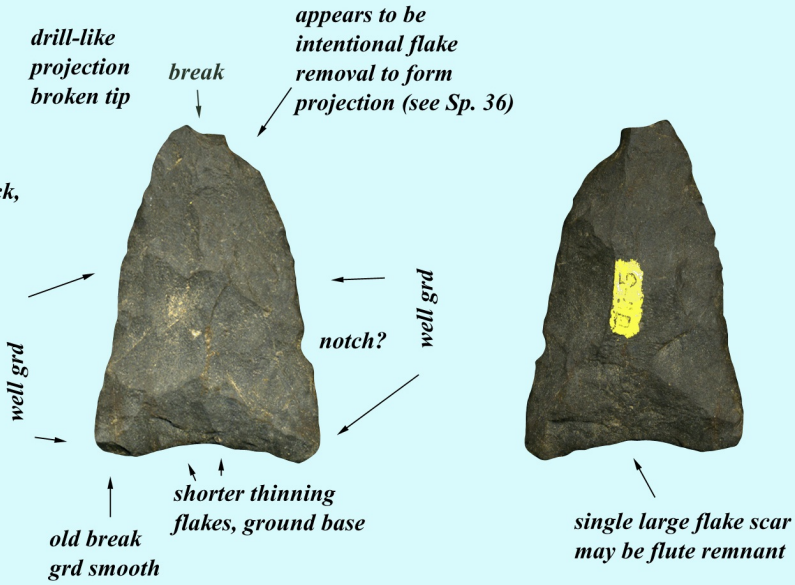


Point is relatively thin and well flaked, same fluting preparation of base as most of the other bifaces, shape is triangular but it has been heavily modified (note use of ear as drill and notch (hafting). Was this biface flipped for hafting as a later use of the broken point? A rebased point. The biface is made from a yellowish-brown chert with the edges and the center of one side stained with a darker residue/encrustation. The thin biface is relatively flat but appears bi-convex.

9GO32 Specimen 37

44 mm long, 30 mm wide,
24 mm haft length, 8.5 mm thick,
thinning/fluting 7.5 & 10 mm,
basal concavity 1.5 mm



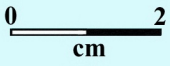


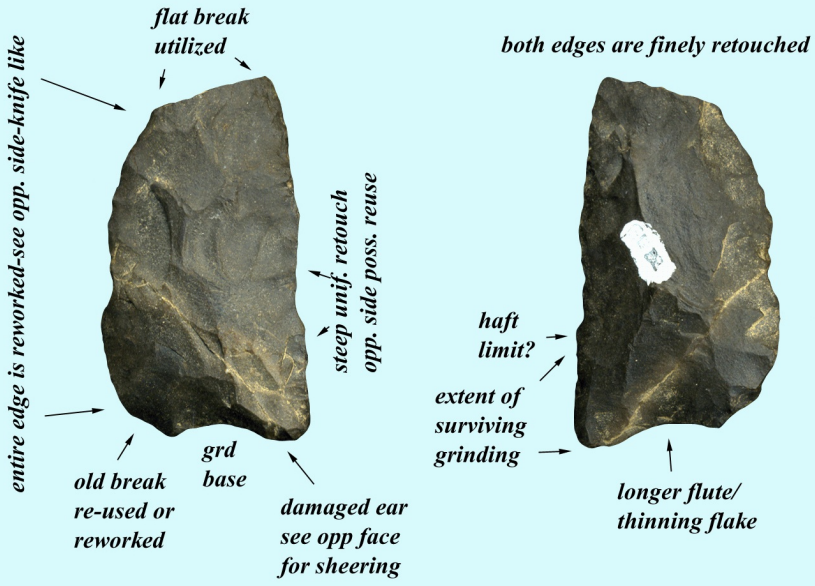
a slight stack of both faces suggests some sort of reworking/rebasin

Pretty well made, form appears basically triangular. Similar to Sp 36 with respect to tip damage and possible retooling (almost seems to be intentional shaping of a heavy duty projection or possibly damage resulting from tool use. The point is bi-convex in cross-section and shows evidence of reworking along one blade edge and possibly the base. Raw material is a grainy brownish cherty material.

9GO32 Specimen 38

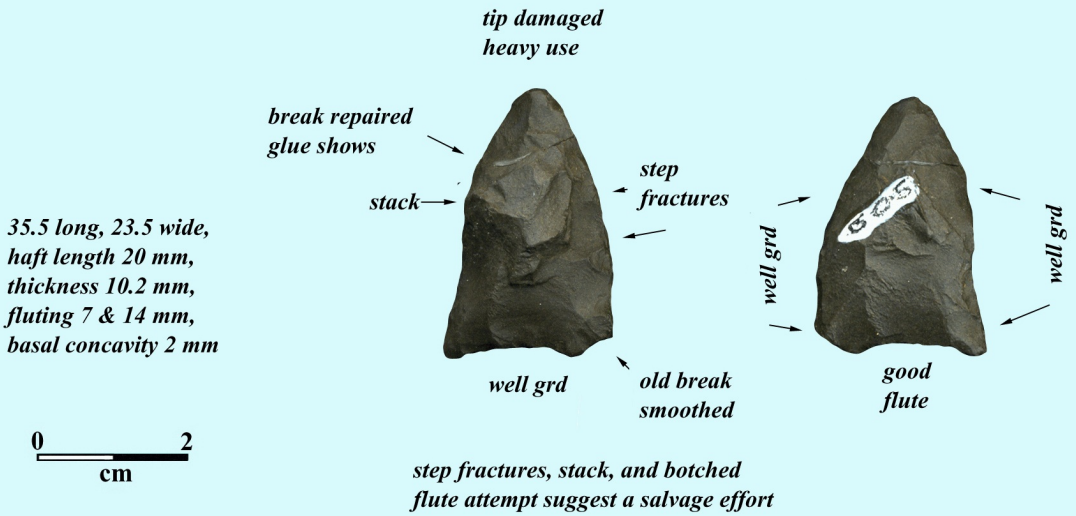
48.5 mm long, 28 mm wide,
haft length 15 mm?,
thickness 8.5 mm,
fluting/thinning 6.5 & 13.5 mm,
basal concavity 2 mm





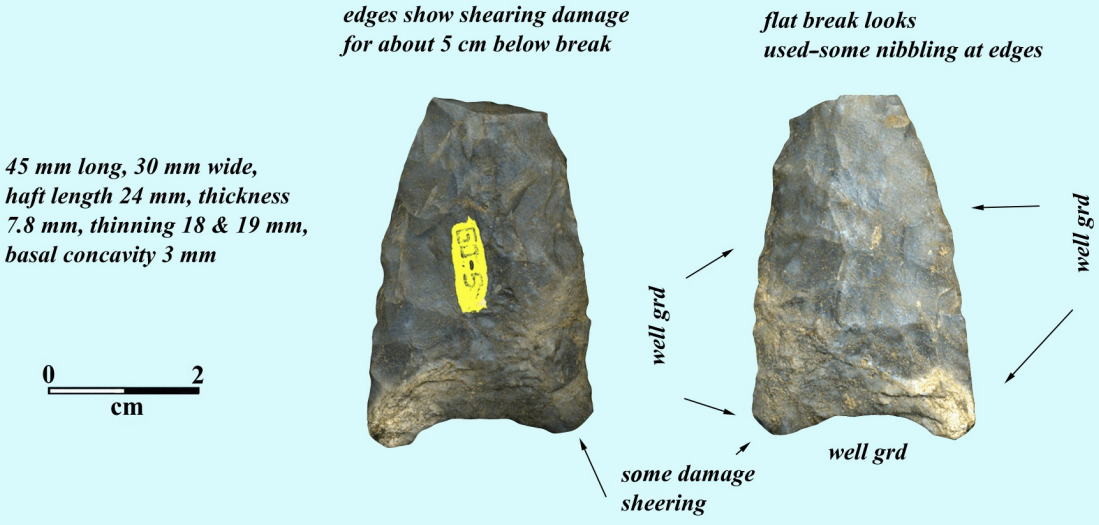
Relatively well flaked biface that has been greatly modified, one side shows knife like retouch that has removed the haft area. The opposite side shows steep retouch (possibly a broad notch). The tip is broken and reused and the ears are damaged (is this just damage from use ?). The point is relatively flat, bi-convex in cross-scction with a slight twist (possibly the result of reworking). Basal threatment shows one flattened side with a longer flake removal and an opposite side more steeply flaked. Grainy, brownish, cherty material. Appears to be a rebased fragment of a larger biface.

9GO32 Specimen 39



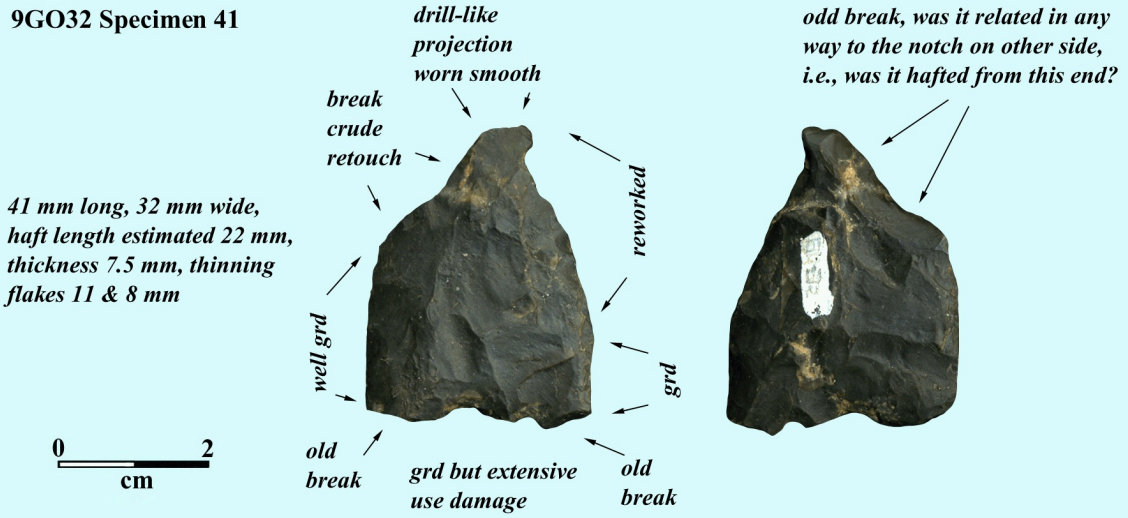
Appears to be a broken biface fragment that has been reworked with a new haft (very thick and out of proportion in haft area). The haft is well fluted on both sides and the tip shows damage. Thick and bi-convex but tip is quite thin in comparison to the middle part of the point. The base is well-thinned but expands rapidly to form a thick wedge-like haft consticton (it could have been readily utilized as that sort of tool). Typical grainy, brownish, cherty material.

9GO32 Specimen 40



Well made biface, somewhat triangular in haft area (but not much), retouch more extensive closer to tip. Usual tip break, flat surface and evidence of reuse. One side has more cortex-like material and is rougher, There is some residue buildup or encrustation, mostly on the darker side near the base. As with many of these points, basal symmetry does not seem to be a priority. May have to do with recycling/re-basing. Chert looks like relatively good Fort Payne.

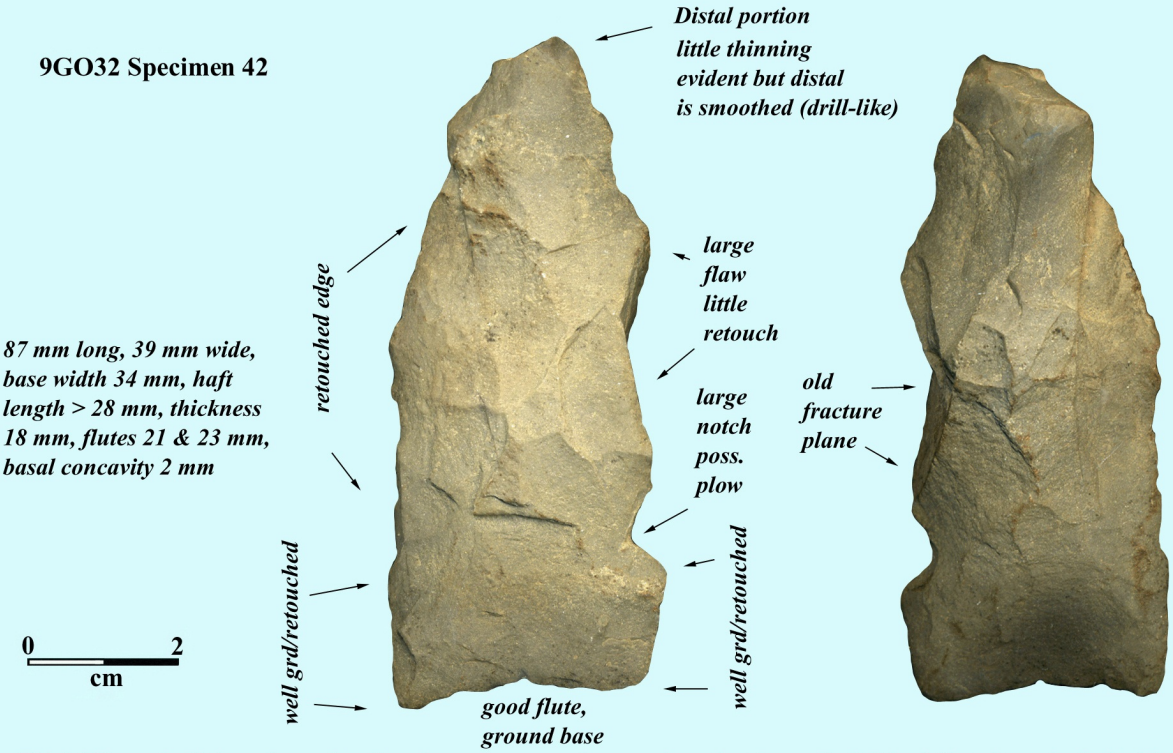
9GO32 Specimen 41



41 mm long, 32 mm wide, haft length estimated 22 mm, thickness 7.5 mm, thinning flakes 11 & 8 mm

A well made biface extensively utilized and modified. Possibly a rebased point fragment, plano-convex in cross-section. Base appears to be hammered (wedge?) and distal portion has been reshaped as a drill-like tool (tough use). Raw material is a grainy, brownish, cherty material.

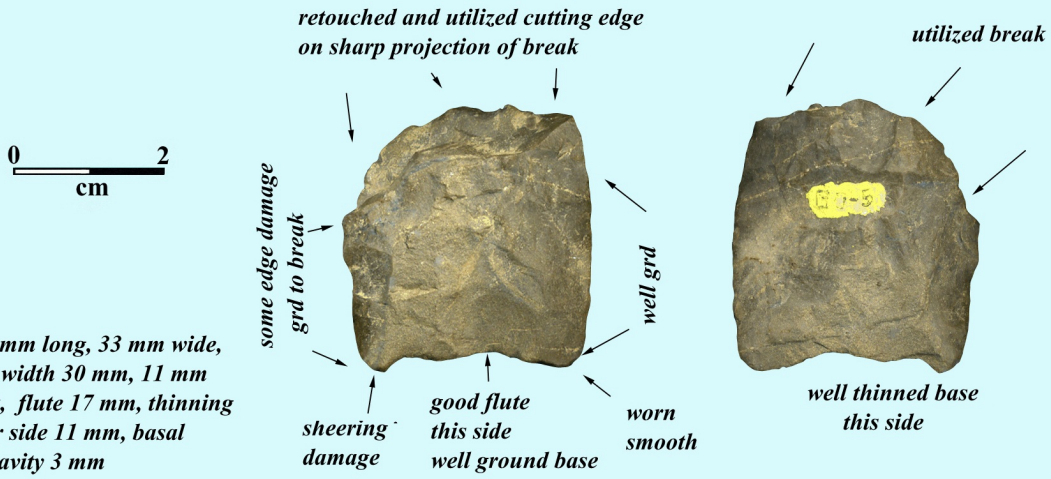
9GO32 Specimen 42



87 mm long, 39 mm wide, base width 34 mm, haft length > 28 mm, thickness 18 mm, flutes 21 & 23 mm, basal concavity 2 mm

Thick biface of a lighter form of grainy chert, appears to be a preform that is mostly finished (fluted) on the haft. The raw material is gainy and grey in color, either a different type of chert or a poorer quality example of the typical chert-like material from the site. The poor quality of the raw material may have saved this example from being modified further. The blade portion is plano-convest with most of the thinning on the flat surface, the other side shows a large central hump or stack that was not reduced. The distal end shows little thinning but there is a drill-like projection (off-center and worn). The biface displays good flutes and overall basal treatment. Though otherwise crude, it is possible that this is the basic model for the other points in the collection. The large biface, if broken, could have been re-tipped, re-based, and remanufactured in a small form.

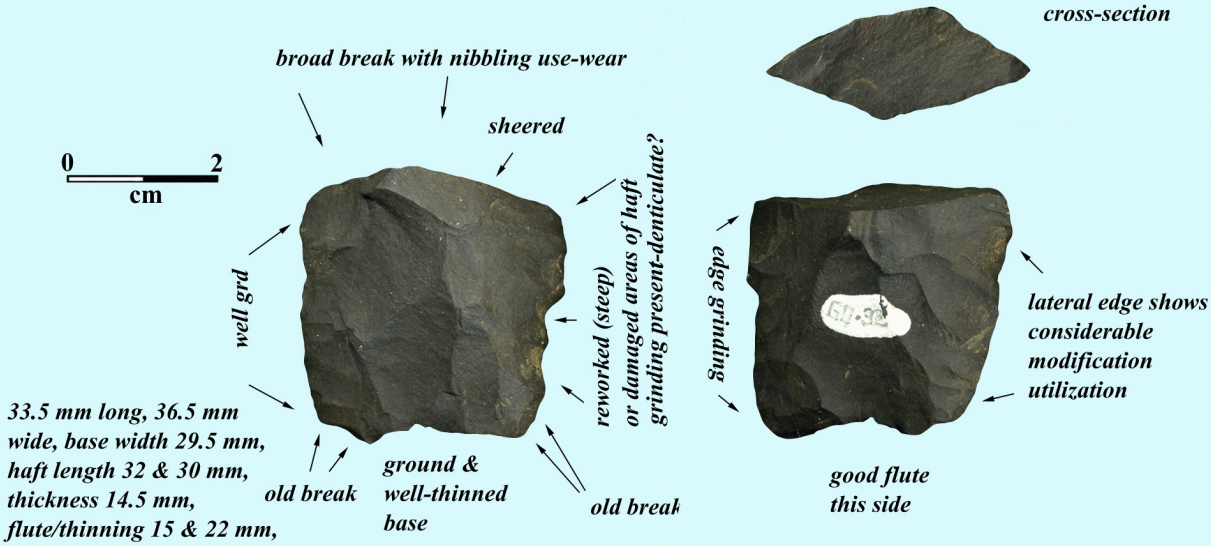
9GO32 Specimen 43



35.5 mm long, 33 mm wide, base width 30 mm, 11 mm thick, flute 17 mm, thinning other side 11 mm, basal concavity 3 mm

Appears to be the basal portion of a lanceolate biface (fluted) with reworked knife-like retouch along the rounded broken distal portion. A thick, bi-convex, point with overall good base treatment like Sp. 42. Also like Sp. 42, the base is thin but quickly increases in thickness (in this case, at th break. Similar to most of the grainy chert from the site but not as dark.

9GO32 Specimen 44



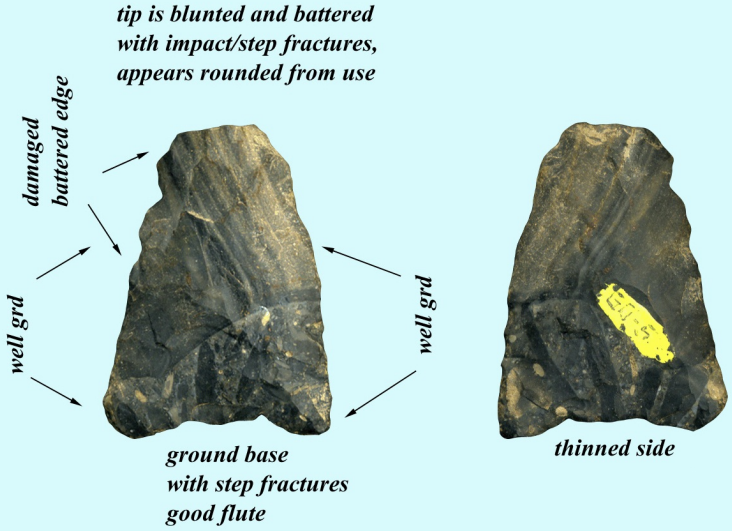
33.5 mm long, 36.5 mm wide, base width 29.5 mm, haft length 32 & 30 mm, thickness 14.5 mm, flute/thinning 15 & 22 mm, basal concavity 1.5 mm

Thick bifaced, looks like a fluted preform, bi-convex with a very well-thinned base. Quite similar in size and shape to Sp. 42. (it would have made a nice wedge). Again, overall good base treatment, rapidly increasing in thickness with thickest part at the break. This seems to be part of the reduction strategy. Modified or heavily utlized along Along edges (also used at break)- there is an area of reddish-brown staining or residue on the distal break (flat). Raw material is the typical grainy brownish chert material.

9GO32 Specimen 45

0 2
cm

41.5 long, 31 mm wide, haft length 20 & 22 mm, thickness 9 mm, flute/ thinning 12 & 16 mm, basal concavity 2 mm

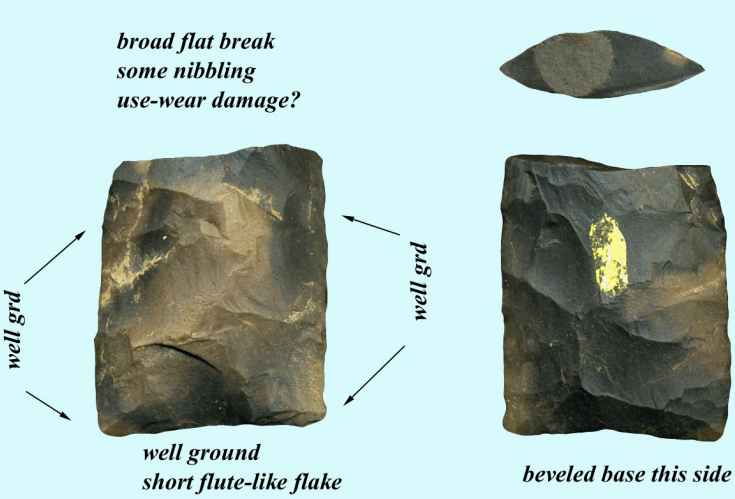


Relatively well made triangular biface made from a highly fossiliferous (oolitic) chert that differs from the other raw material found on the site. The point is patinated. The base is battered and the distal portion is definitely battered, possibly from a drill-like or twisting motion. One side shows irregular flaking from tool use. Portions of the point display a reddish-brown residue or encrustation similar to that found on other points from the site. Does appear to be part of an early assemblage. Nicely fluted and symmetrical base, bi-convex in cross-section. Considerable effort was made to thin/flute the base, may be a residual nipple in center of base. Similar oolitic chert are found in the St. Genevieve and Gasper limestones in the Lookout Mountain area of NW Georgia (Ingram 1953:267).

9GO32 Specimen 46

0 2
cm

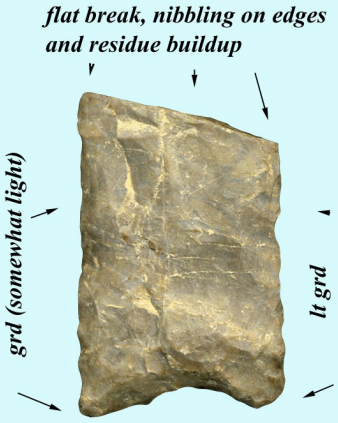
36.5 mm long, 31.5 mm wide, haft length 27 mm, 12 mm thick, flute/thinning 12 mm on one side and multiple 5 cm beveled flakes on other side, concavity is < 1 mm



Well made but thick biface (bi-convex), if it is meant to be a point fluting is incomplete (looks like a rebased mid-section). Made from a better grade of choc. brown/black chert that is more glossy (not as grainy) than most of the others. Raw material looks like Ft. Payne and me from NW Georgia but also Tennessee or Alabama. Nice patina. Base is asymmetrically beveled (short flute-like flke on other side. It could have been used as a wedge but there is little use wear.

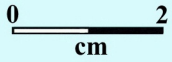
9GO32 Specimen 47

42 mm long, 28.5 mm wide, haft length 26 mm, 11 mm thick, flute/thinning 4 & 9 mm, basal concavity 2 mm

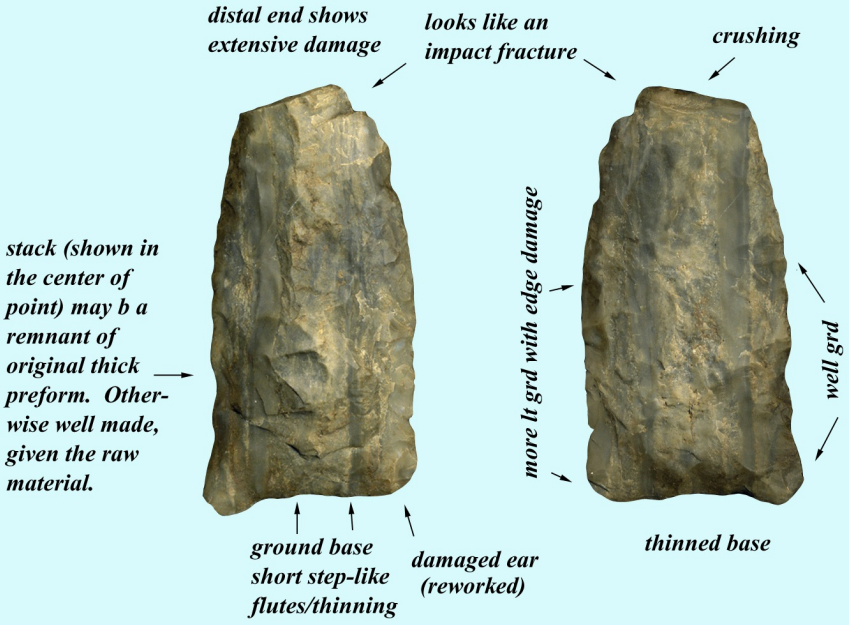


Thick lanceolate, plano-convex, well flaked, made from a reddish-tan chert, haft treatment seem typical of the points on the site. The distal break is flat and there is some use-wear nibbling and a reddish-brown residue/encrustation is visible on the break and the base. Given the thickness, may be another mid-blade salvage/remanufacture. Fissures in stone roughly parallel the break. Most resembles local chert and could be one of the less common types of chert such as Bangor, Newalla, etc.

9GO32 Specimen 48

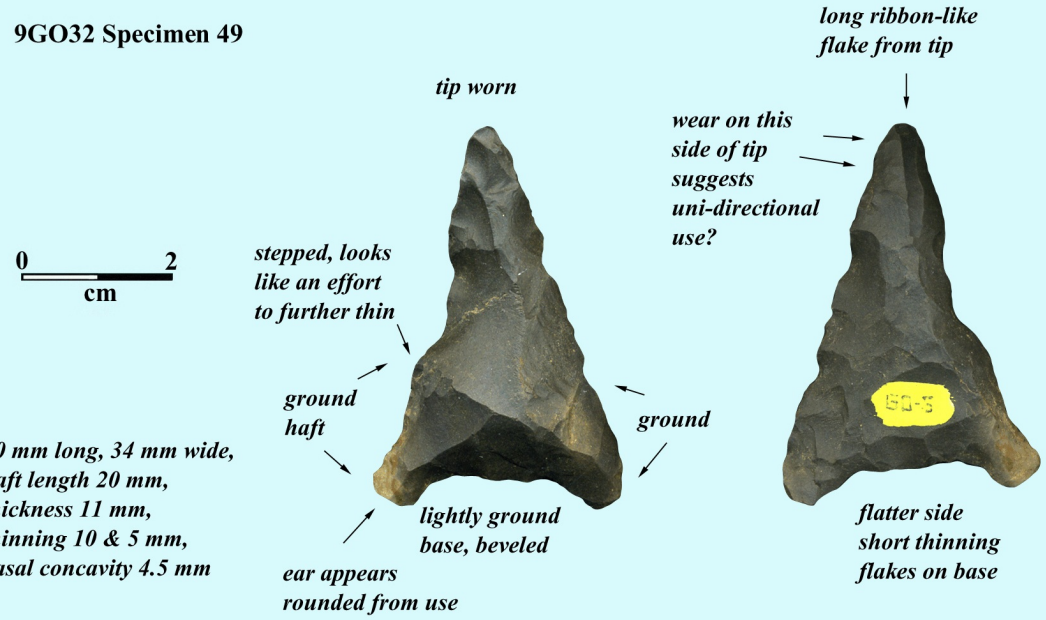


55.5 long, 29.5 wide, haft length 26 & 24 mm, thickness 13 mm, flute/ thinning 12 & 12 mm, basal concavity 1.5 mm



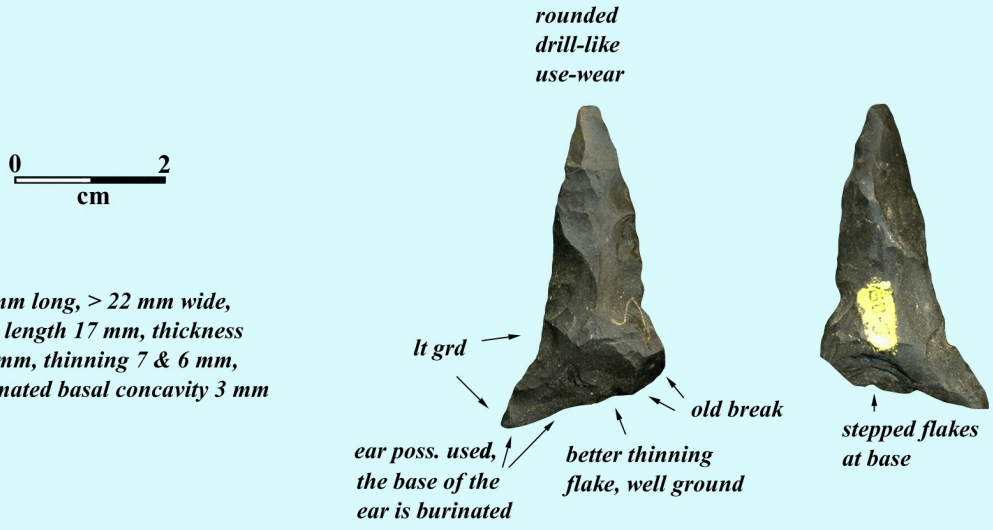
Relatively well flaked biface made from a banded blue-grey chert (looks like a lower quality grade but seems to hold together well). Extensively used along the edges and especially on the distal end which is broken and displays step fractures. A reddish-brown residue or encrustation in visible along the blade edges and on the distal end. Looks like a re-based fragment (hase is quite thin but blade thickens quickly to the bi-convex upper haft area). Similar chert occurs in NW Georgia.

9GO32 Specimen 49



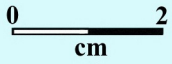
May be a broken biface fragment that was rehafted and retouched as a drill. Raw material is grainy brownish cherty material with some differential patination (slight).

9GO32 Specimen 50

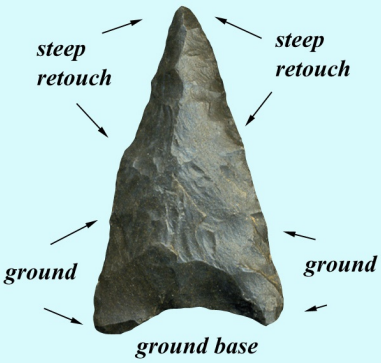


Appears to be a bifacially flaked drill, and given the thickness it is reasonable to think this is made on a broken biface. Like Sp. 49, wear on both sides of tip is mostly on direction. Grainy, brownish, cherty material.

9GO32 Specimen 51



43 mm long, 26.5 mm wide,
haft length 23 mm,
thickness 8.5 mm,
flute/thinning 9 & 11 mm,
basal concavity 4 mm



retouch is intrusive on distal half of blade

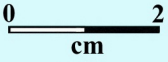
ground base removal of two flakes leave ridge and nipple, may be a set-up for fluting or thinning

single large thinning flake on this side

A very well made biface (biconvex), appears to be a rebased point tip. Steeper flaking noted beyond the haft area. Rounding of tip is further indication of use as a drill. Made from a dark matt finish grainy cherty material (poss. better quality than most of the other bifaces). Much better quality of workmanship compared to No. 49-50

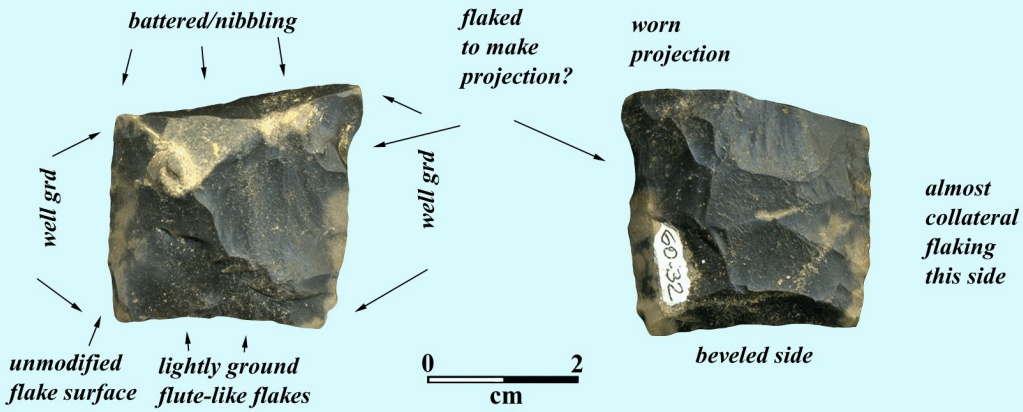
9GO32 Specimen 52

48.5 mm long, 28 mm wide,
haft length 29 & 30 mm,
7 mm thick, flute/thinning flakes 6 & 7 mm,
basal concavity < 1 mm



Re-based thin biface fragment (mid-section of a larger point). Haft is well thinned and basically but not symmetrical with short bevel-like flakes on one side and short flute-like flakes on the flatter side of the haft. Ears are poorly developed or broken from use. Tip damage may be impact. Good, almost collateral flakeing. Raw material is not unlike Ft. Payne chert from NW Georgia but the quality of banding is unusual.

9GO32 Specimen 53

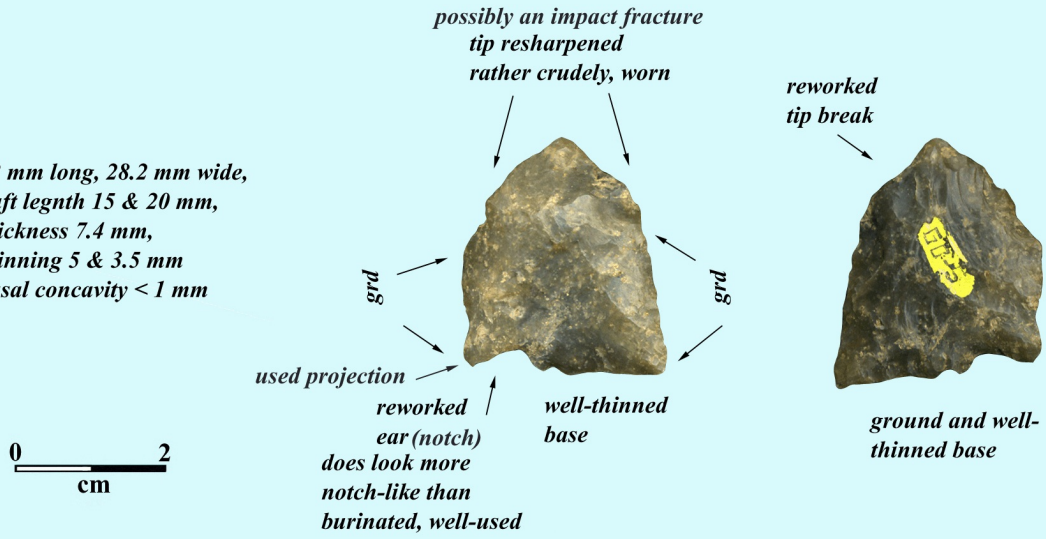


32 mm long, 33.5 mm wide, base width 31 mm, haft length 27 mm, thickness 11.5 mm, flute/thinning 11 & 5 mm, basal concavity < 1 mm

Thick biface (early stage?) seems to expand from the base. Base is pretty well thinned but not symmetrical. Possibly used as a wedge also projection seems intentionally flaked. Thin at base but quickly thickens suggesting a rebased point fragment. The break seems modified from use. The raw material looks like Ft. Payned chert.

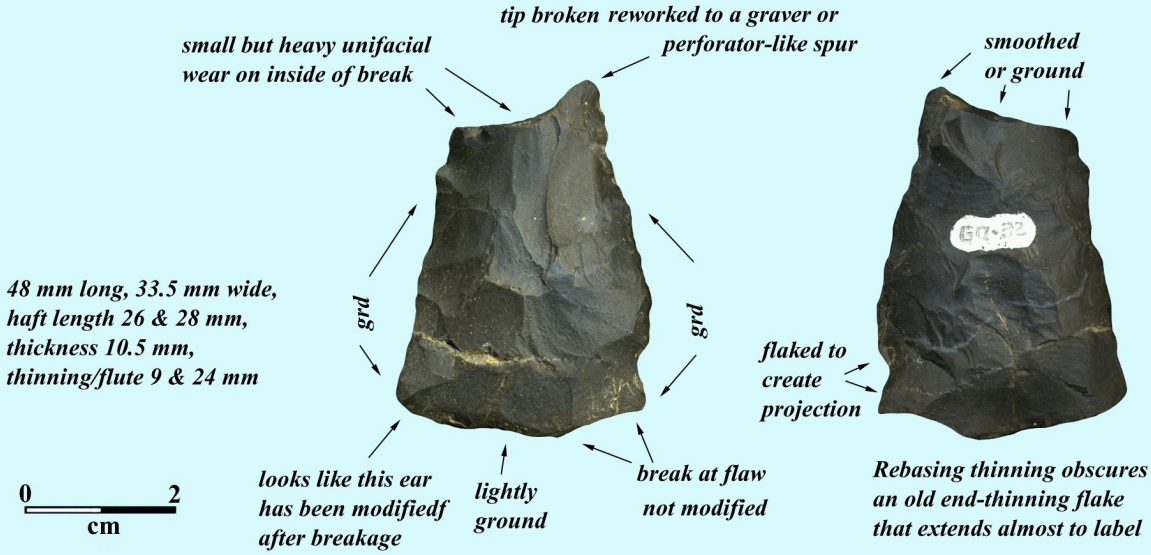
9GO32 Specimen 54

32 mm long, 28.2 mm wide, haft legnth 15 & 20 mm, thickness 7.4 mm, thinning 5 & 3.5 mm basal concavity < 1 mm



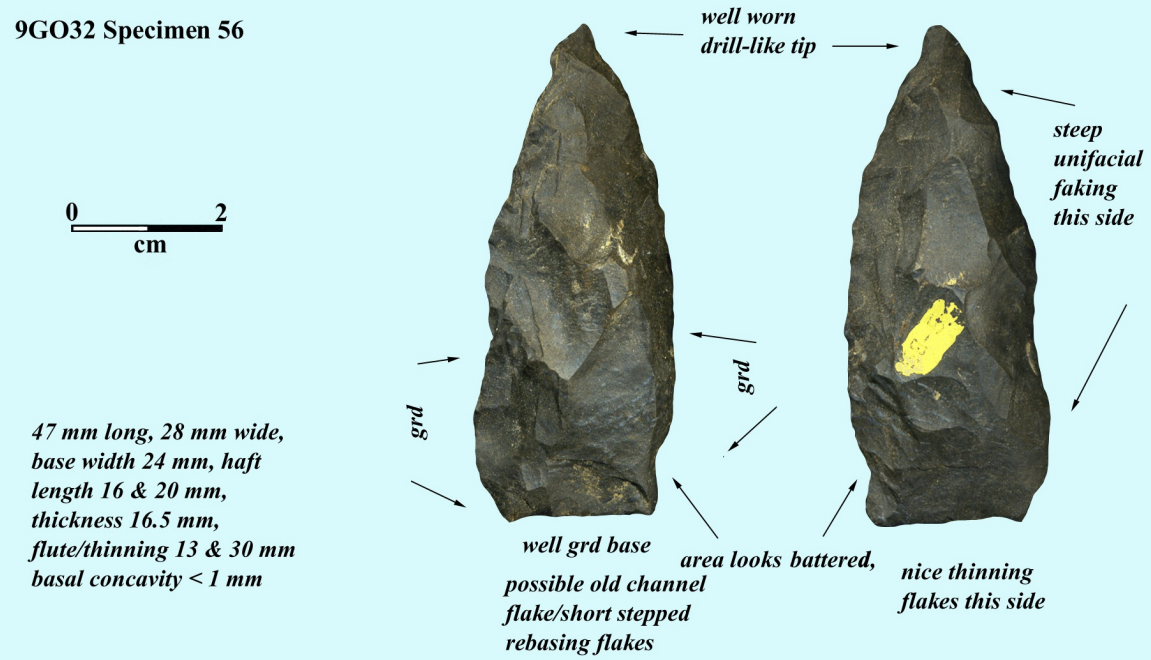
Nicely flatked Ridge & Valley chert (poss Ft. Payne) reworked (rebased?) point fragment, not sure if it is a reworked tip, or midsection (flake scars from base are not all perp.), Looks like one ear is reworked, tip is heavily used. Overall, base is nicely worked but tip is mangled. Raw material is not out of the range for NW Georgia.

9GO32 Specimen 55



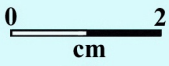
Thick biface midsection/distal that has been rebased. A triangular biface made from a glossy variety of the grainy, brownish-grey, cherty material used for most of the other bifaces. The base is thinned (not symmetrical) and appears to have removed part of an older channel flake. One side of the haft along a raw material flaw is flaked to a graver-like spur. Tip shows reworking of break to form drill-like projection which is well worn. Originally, a large biface.

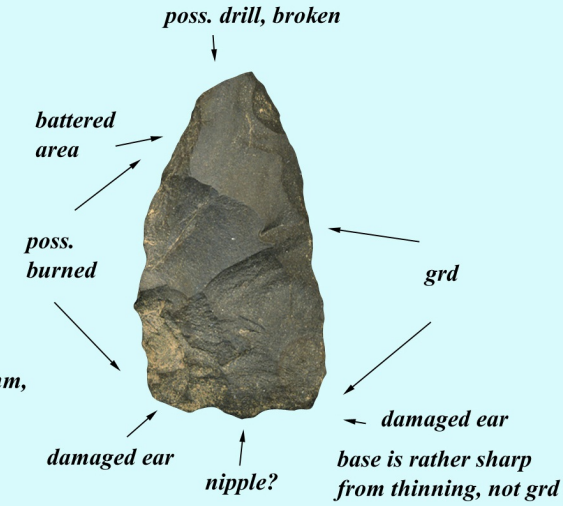
9GO32 Specimen 56



Thick biface or used preform , thickness suggests reworked (rebased) fragment. Made from grainy dark brownish cherty material. Originally a big thick biface (biconvex shape) with long end thinning flake (2 step fluting) on one side and short thinning flakes opposite. Base is well thinned and ground, edge grinding hard to tell but looks rather short. Blade edges rather crudely flaked/retouched but tip is heavily worn in drill-like fashion. Though thick and crude, this biface is similar to others in that it appears to be utilized and basally thinned after breaking. The basal portion is somewhat adze-like.

9GO32 Specimen 57

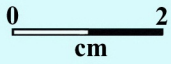


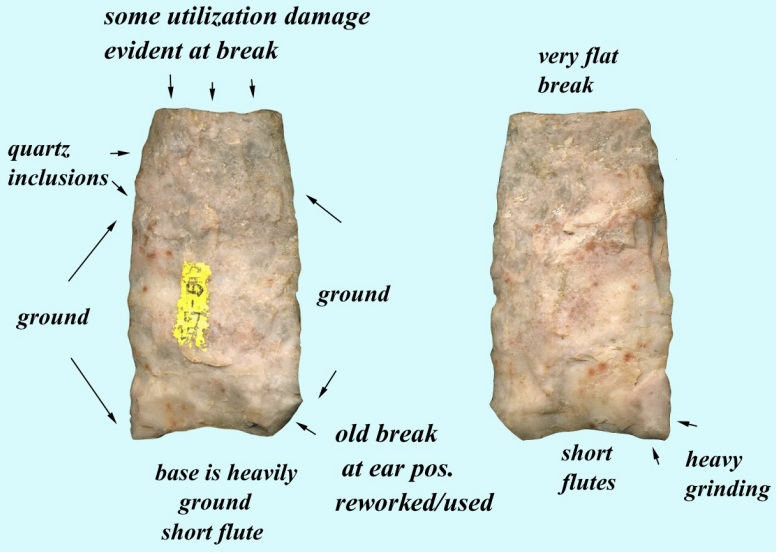


46 mm long, 26.5 mm wide, base width 23 mm, haft length ? & 22 mm, thickness 11 mm, flute/thinning 8 & 12 mm, basal concavity - none

A thick biface made from grainy brownish, cherty material. Haft is damaged with adze-like flaking. Distal may have been used as a drill. Not sure if this was ever mean to be a finished point, if ears were present, both are damaged. Bi-convex in cross-section with a thin distal portion. Given the thickness and the observation that some flake scars originate far outside the existing outline, it seem likely this is a reworked biface fragment (distal portion of a large biface. May be burned, as one edge and the tip break are grainy and irregular.

9GO32 Specimen 58

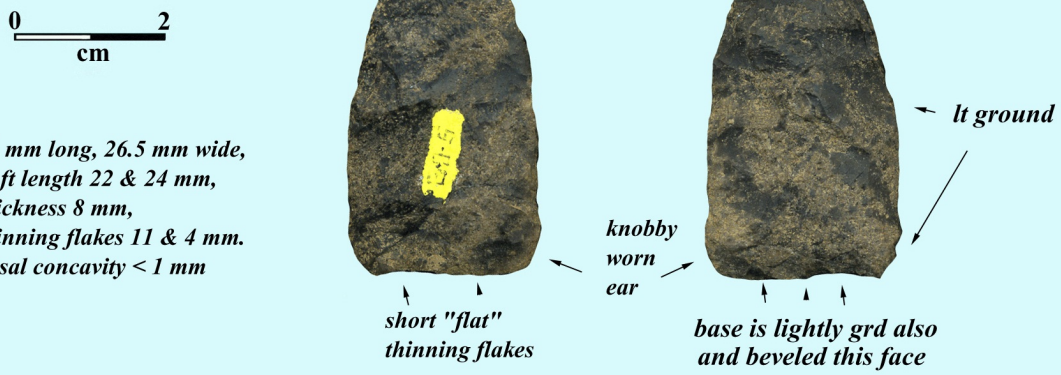




Length 44 mm, width 25 mm, base width est. 24 mm, haft length 28 mm, thickness 8.3 mm, flute/thinning 8 & 9 mm

Relatively well made lanceolate biface made from a light grey (poss. R&V) chert containing some interesting mineral inclusions. The raw material has a pinkish hue with small red spots, along with a number of drusy quartz veins, the may indicate some degree of metamorphism. The point is bi-convex with remnant median ridge (stacks) on one side Base is well formed by multiple short flutes/thinning flakes on both sides. The base is more heavily ground than the sides of the haft. The distal end is snapped off and appears utilized along the edges of the break. The haft thinning is similar on both sides (symmetrical) and it appears that this was originally made as a small biface.

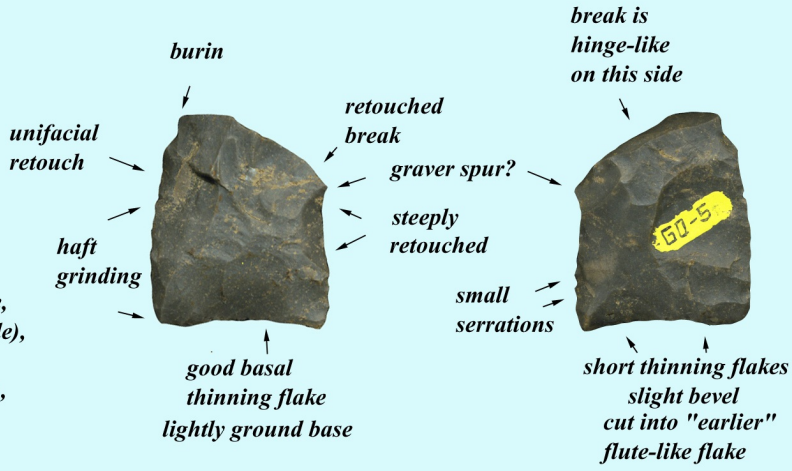
9GO32 Specimen 59



45 mm long, 26.5 mm wide, haft length 22 & 24 mm, thickness 8 mm, thinning flakes 11 & 4 mm. basal concavity < 1 mm

Appears to be a rebased point, biconvex in form, poss. overshot flaking, mottled black and grey Ridge and Valley chert. Base is not symetrical, somewhat beveled, ears appear damaged. Extensive wear (step fracturing at distal end, possibly reworked tip break or just use. Raw material appears to be a low grade Ft. Payne chert that could be locally available.

9GO32 Specimen 60

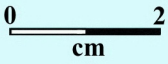


28 mm long, 24.5 mm wide, haft length 22 mm (one side), thickness 6.2 mm, flute/ thinning flakes 3 & 15 mm, basal concavity 1 mm

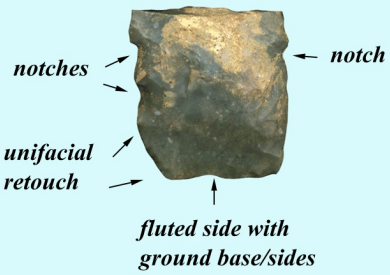
Rebased, thin, fluted, biface. Pretty good quality chert, more bluish-grey (possibly separate source RV chert). Basically lanceolate form with a plano-convex cross-section. There is retouching along one side of the haft & more evidence of retouch and use at the snapped off tip especially at the sides (one small area next to the flat break shows unifacial retouch, the opposite side shows a burin-like flake (from use?)

Break may be the result of bending, but it looks like some sort of force was applied to one side (left image). Probably given aboriginally based on all the reworking but somewhat resembles a plow break. Raw material is particularly unusual for the local area.

9GO32 Specimen 61

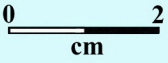


23 mm long, 21.5 wide,
haft length > 22 mm,
thickness 6.5 mm,
flute/thinning 14 & 2 mm,
basal concavity 0 mm

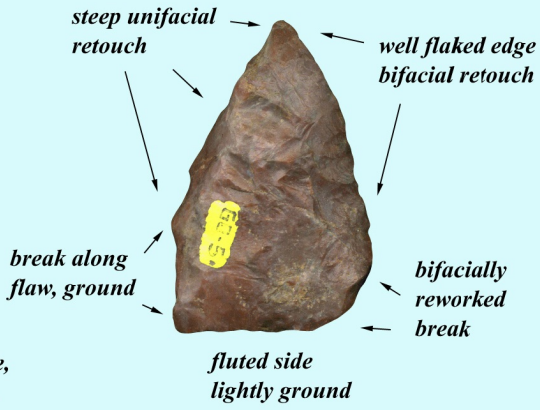


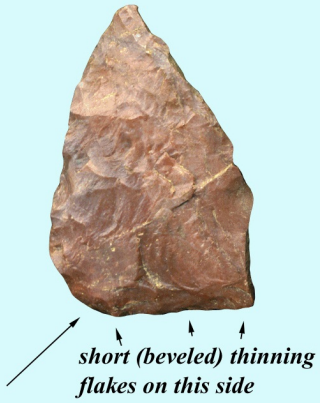
Rebased point fragment, nicely fluted on one side, base shows small notch at flute and opposite side is beveled but fluting not accomplished. Nice bluish Ridge and Valley chert. Appears biconvex. Undamaged ear not conspicuously shaped but well flaked, other is old break that was reworked, One edge has been reworked as notches, the snapped distal end displays some nibling (use-wear) and seems almost polished.

9GO32 Specimen 62



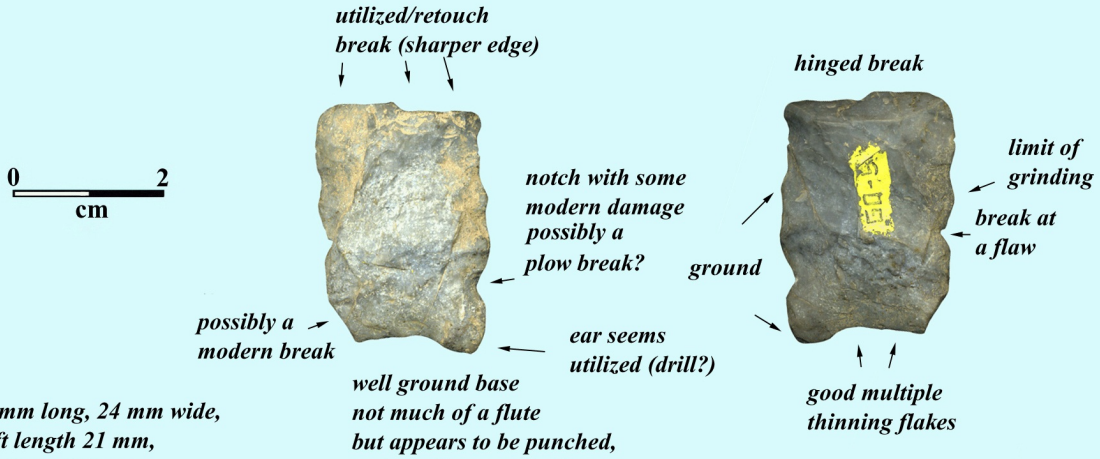
42 mm long, 27 mm wide,
haft length undermined,
thickness 7.5 mm,
flute 23 mm one side and
thinning 3 mm other side.
No basal concavity





No real "feel" for whether this is a reworked/rebased point, though the unifacial aspect suggests a reworked break. Well-thinned flake base (not symmetrical), one side is beveled and the displays one flute-like flake along with short retouch flakes. Steep unifacial retouch is found along what appears to be an edge break. Edges are worn and the ears (if ever present) are broken and reworked. The apparent flute on one side displays differential patination related to burning. Jasper-like material of possible R & V origin.

9GO32 Specimen 63



32 mm long, 24 mm wide,
haft length 21 mm,
thickness 8.5 mm,
thinning 9 & 10 mm,
basal concavity 1.5 mm

Battered biface with well thinned (fluted?) base and lancelate shape. There is a notch on one side but his may be the result of reworking (the ear appears to have been used as a drill-like tool) or possibly some amount of plow damage (there is some light powdery crushing evident on the notch). A reddish-brown residue or stain is visible on the reworked ear, the distal break, and part of the blade edges. The blade is worn and seems heavily used. The distal break is utilized or possibly slightly retouched along the sharpest edge. The biface is essentially bic-convex in cross-section and the base is symmeetrical. This may have been made as a small dart point. The raw material is a blue-grey chert that is somewhat viented with a dull finish (it does not seem burned).

9GO32 Specimen 64

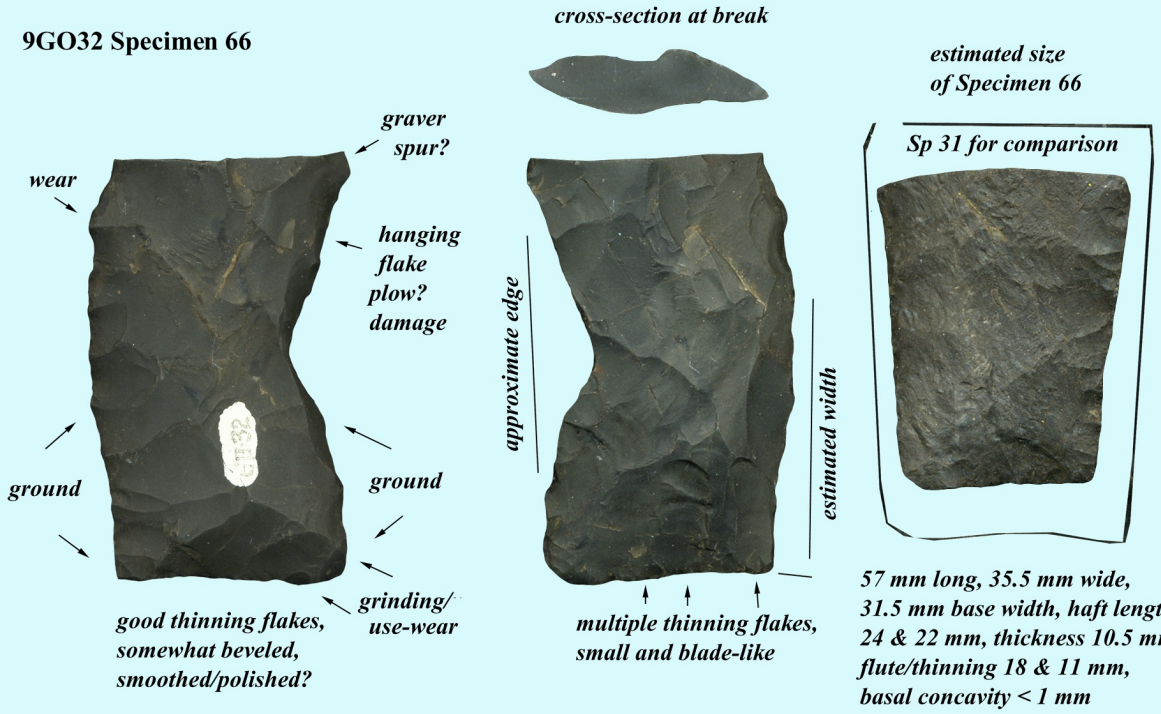
32.5 mm long, 23.5 mm wide,
haft length 22 mm, thickness
9 mm, flute/thinning 13 & 11 mm,
basal concavity 2 mm

Rebased? triangular biface with reworked distal portion suggestive of a drill. Made from a grey R&V chert with darker bands, similar to Sp. 63. Bi-convex in cross-section. Well-thinned and ground base that quckly increases in thickness at about 1 cm. Both ears are damaged. Distal end has a flat break with evidence of utilization (small step fractures and sheering. Displays a good patina.

9GO32 Specimen 65

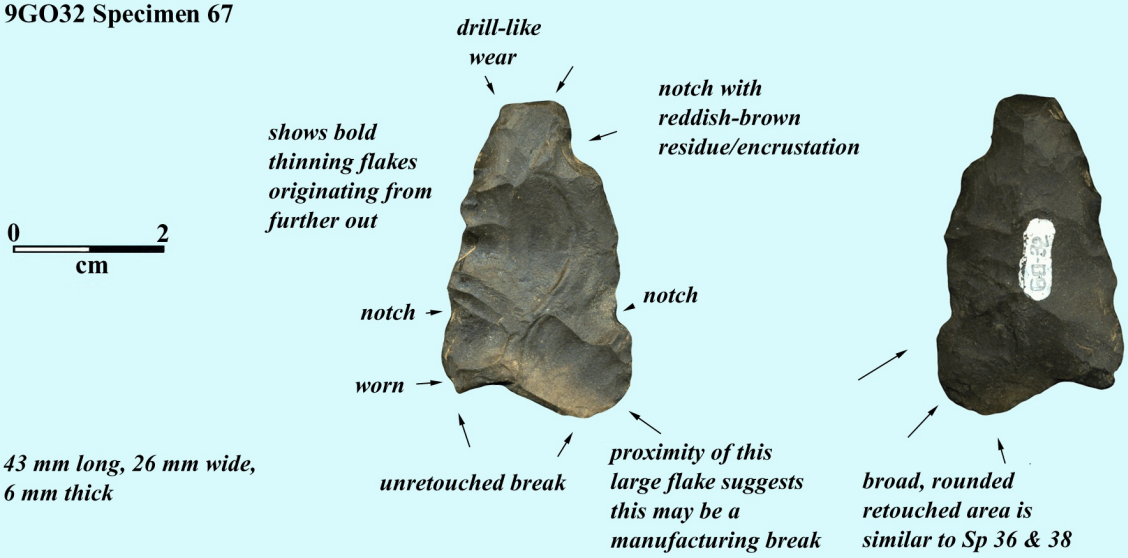
Reworked distal portion of a large fluted point (original channel flake is evidenct on one side). The raw material is a dark chert with a nice patina that looks like typical Ft. Payne found in the eastern R&V. The "healed" fracture lines are diagnostic. Possible impact fracture is present at the distal end. Blade edges are well flaked and used with some fine reworking near the distal end that may have reduced the flade width in that area. The broken base or original mid-section has been extensively reshaped but not clearly rebased. The is a projection associated with a burinated edge adjoining an area of steep unifacial retouch suggestive of a spokeshave or scraping tool.

9GO32 Specimen 66



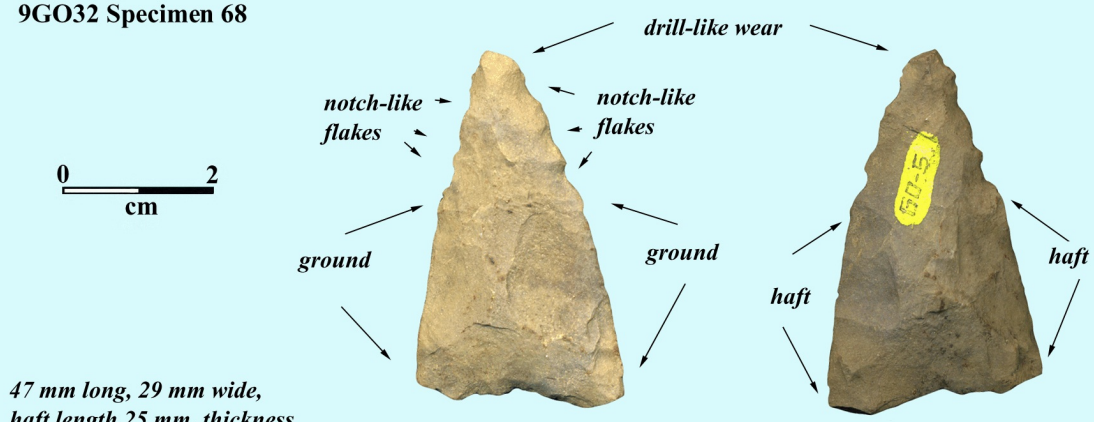
Lanceolate biface quite similar to Sp. 31. Possibly a late stage prform. Raw material is a good quality material that is not typical of Ga. R&V chert (more like Tenn. chert). One side oof the haft is well formed but the other seems to have broken away during thinning. One side of the biface has a wide and deep unifacial intrusion that is thought to be plow damage. Bi-convex with a slight amount of curvature. There is some utilization along the distal break and some residue buildup.

9GO32 Specimen 67



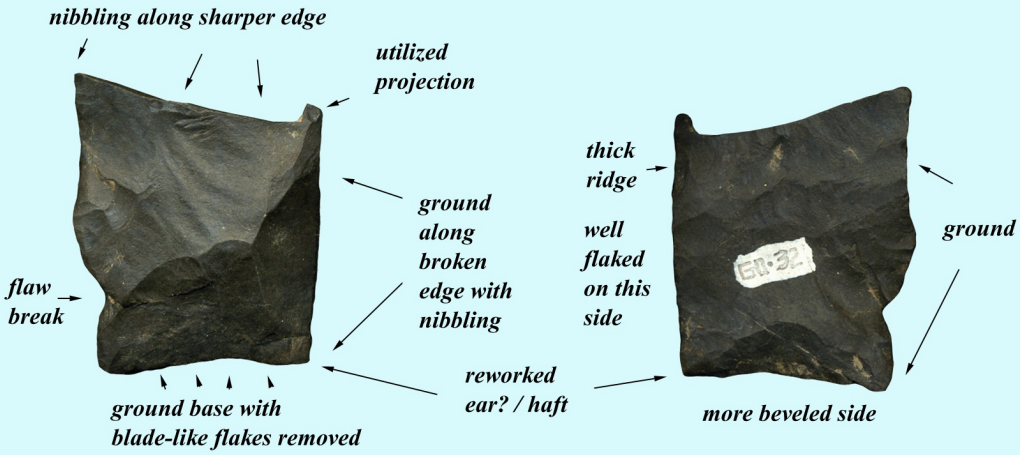
Reworked biface fragment (probably distal portion) well flaked bifacially but flat and plano-convex in cross section. Better quality grainy brownish cherty material. There is no clear evidence of an effort to rebase the biface. One corner of the base displays a heavily worn projection while the other is wide and rounded dand shows fine bifacial retouch or wear flaking. Several notches are present that could relate to hafting. The distal end is broken but appears to be a drill. Reddish-brown residue or staining is present on the distal end.

9GO32 Specimen 68



Triangular biface with drill-like tip. Uncertain if it is a reworked point tip or simply a small drill. Raw material is thought to be a light grey quartzite. The base is well thinned in a manner found on other early points from the site. The tool is bifacially worked and somewhat plano-convex in cross-section. There is a low stack on one side that was not removed but appears to show haft polish. Several notches near the distal end appear to relate to the use of the tool as a drill. Of the two option, a re-based point tip appears more likely.

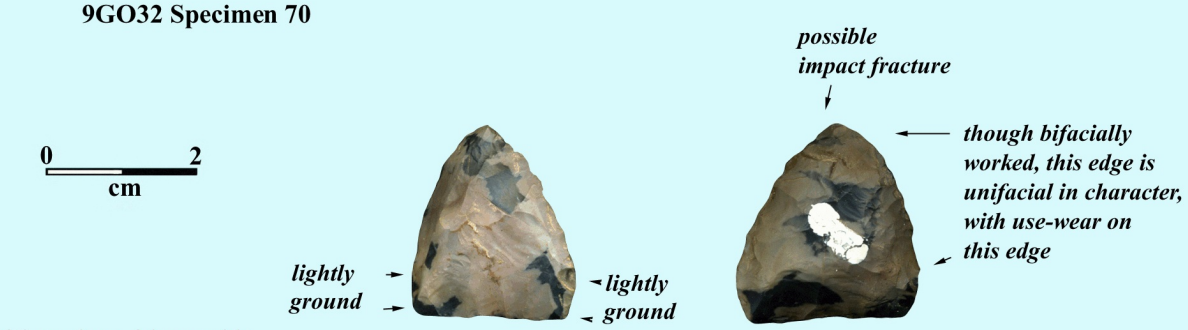
9GO32 Specimen 69



40 mm long, 33 mm wide, base width 28.5 mm, haft length 28 mm, thickness 8.5 mm, thinning 16 & 7 mm, concavity 1.5 mm

Looks like a fragment of a large late stage preform (similar to Sp. 31 and 66) made from a good quality grainy brownish cherty material. Seems to be lanceolate in form, possibly slightly constricted toward the base. One ear is present and the opposite side appears to have been reworked after a break. Basal thinning flakes extend all the way to the reworked ear suggesting originally a wider biface. One face is much better flaked than the other. The haft area is well-thinned by multiple blade-like flakes on one side while the other side is somewhat beveled and thinned. The biface appears to have originally broken near mid-blade and a projection is well used (perforator-like rounding). Bifacially worked but plano-convex in cross-section.

9GO32 Specimen 70



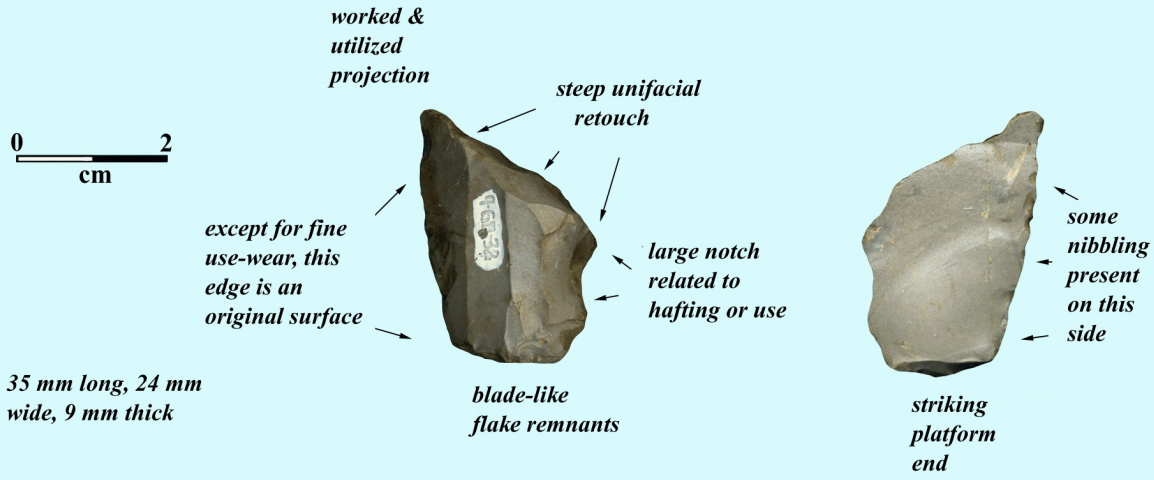
26 mm long, 24 mm wide, haft length 8 mm ?, 8 mm thick, basal thinning 7 & 6 mm

base is lightly ground and well thinned this side

steeply retouched, somewhat sharp basal edge

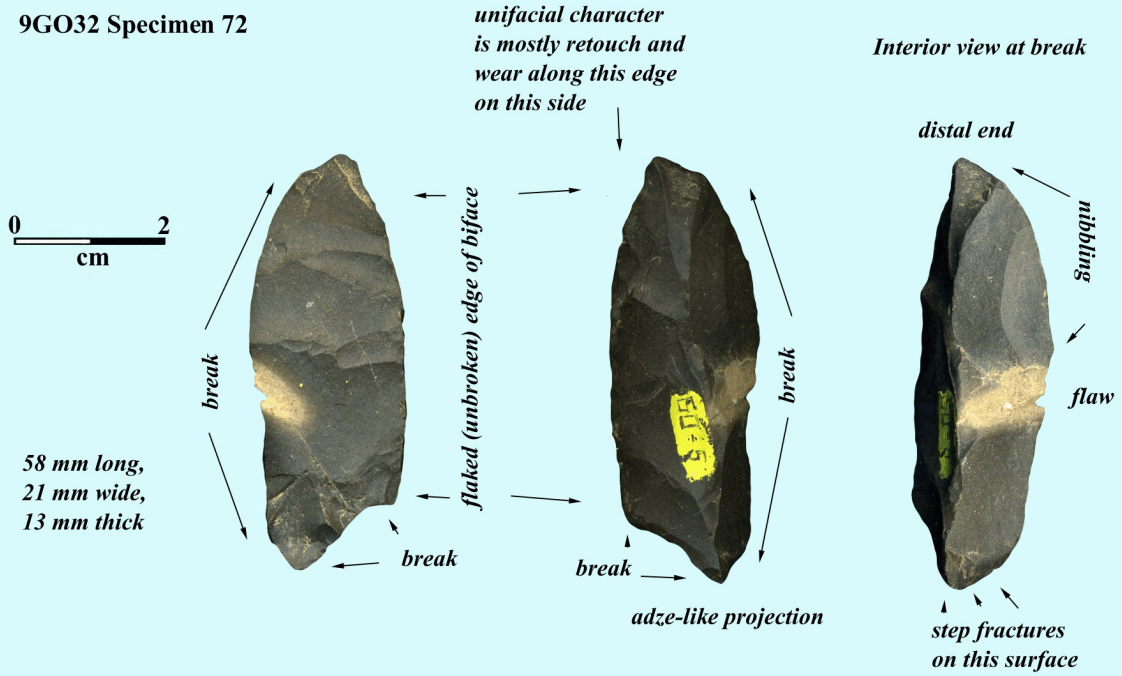
Appears to be a rebased distal portion of a relatively large biface. A possible impact fracture at the tip has been reworked. The base is well thinned on both sides and forms a triangular constriction. One side of the haft is steeply retouched (bevele) and could have been used as a scraping tool. While there is indeed a base, this feels like a multi-purpose tool. The raw material is typical Georgia R&V chert similar to material found locatlly.

9GO32 Specimen 71



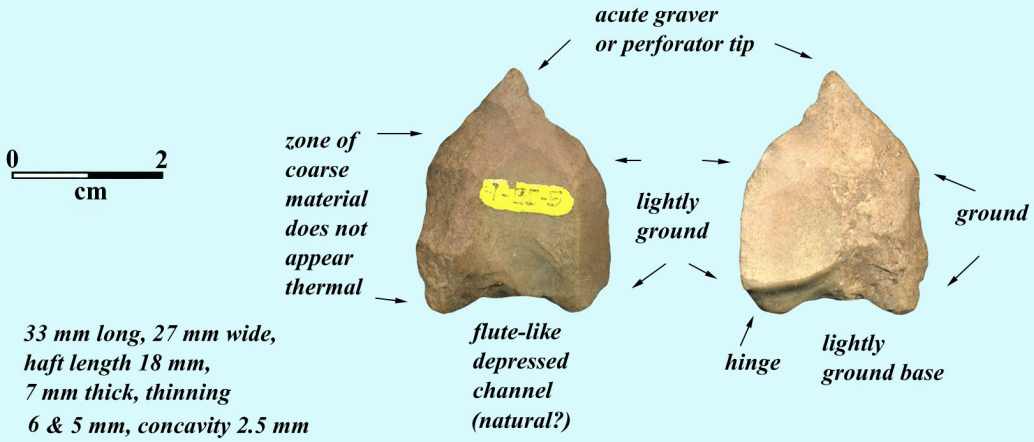
Early unifacial tool made on either a blade core or an adze-like biface. The well patinated chert is most similar to material from extreme NW Georgia (Walker /Dade Counties). Seems to haft a distinct haft area made on the platform of the flake and the distal end consists of a diagnonal unifacial scraper with a perforator-like projection. A reddish-brown stain or residue is present in several areas.

9GO32 Specimen 72



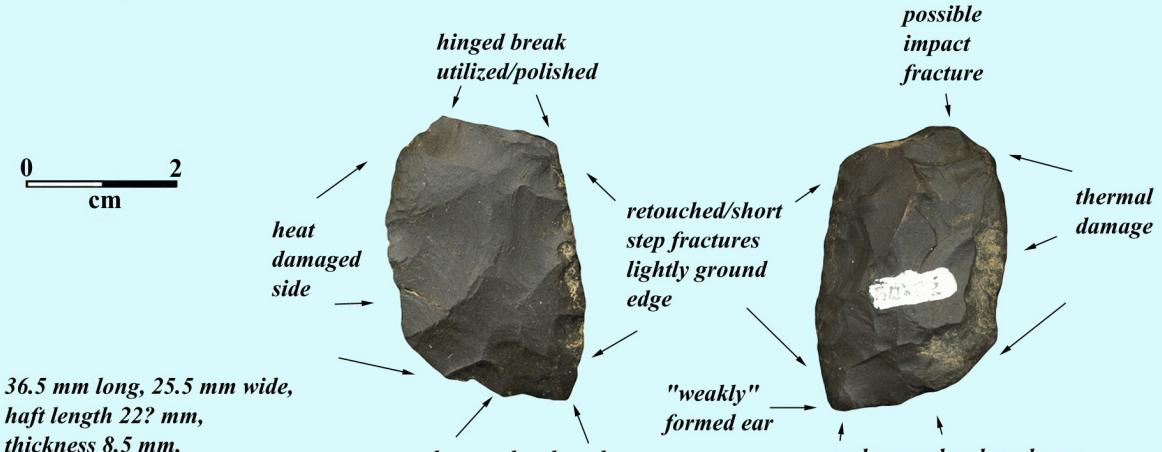
Utilized edge fragment of a large bifacial preform. The flaw in the raw material likely caued breakage. The biface is well flaked and seems bifacally symmetrical. It is made from a good quality variety of the typical grainy brownish cherty material found on the site. Utilization is found on the sharper broken edges. The proximal end displays chisel-like retouch and wear.

9GO32 Specimen 73



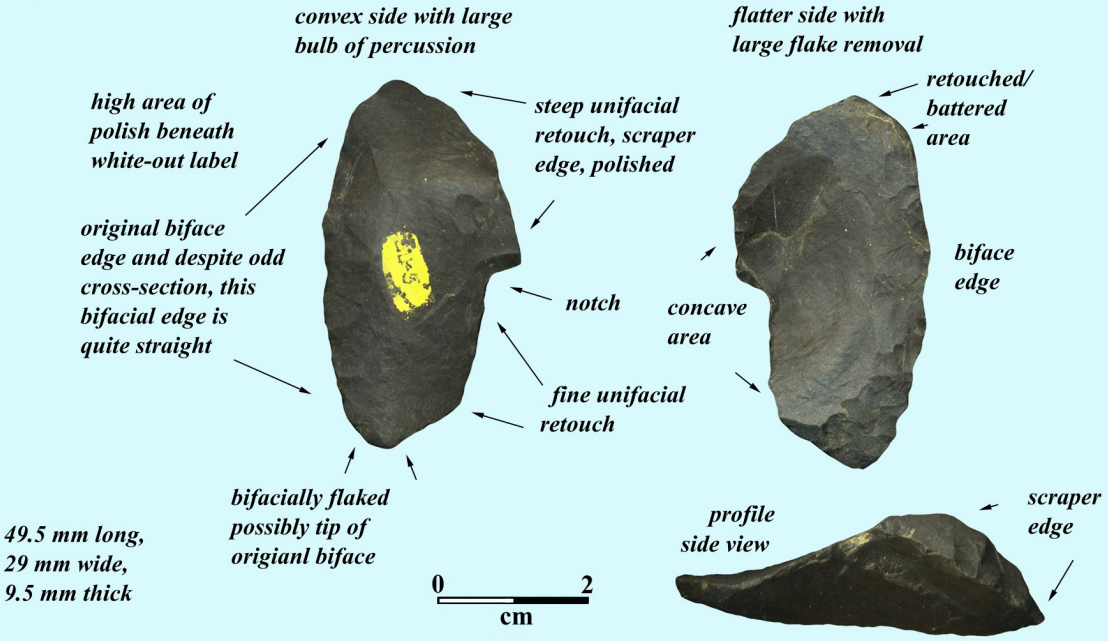
Hafted parti-bifacial drill/perforator made on a thick flake. Chert is not typical of most of the raw material on the site (somewhat pinkish in color with old flake surfaces distinquishable from the shades of the flakes scars (possibly heat altered). One side is slightly depressed like a channel flake but it appears to be a depressed area of the original flake. Base is pretty well thinned and otherwise bifacial retouch is limited primarily to the edges. The perforator-like projection is relatively sharp.

9GO32 Specimen 74



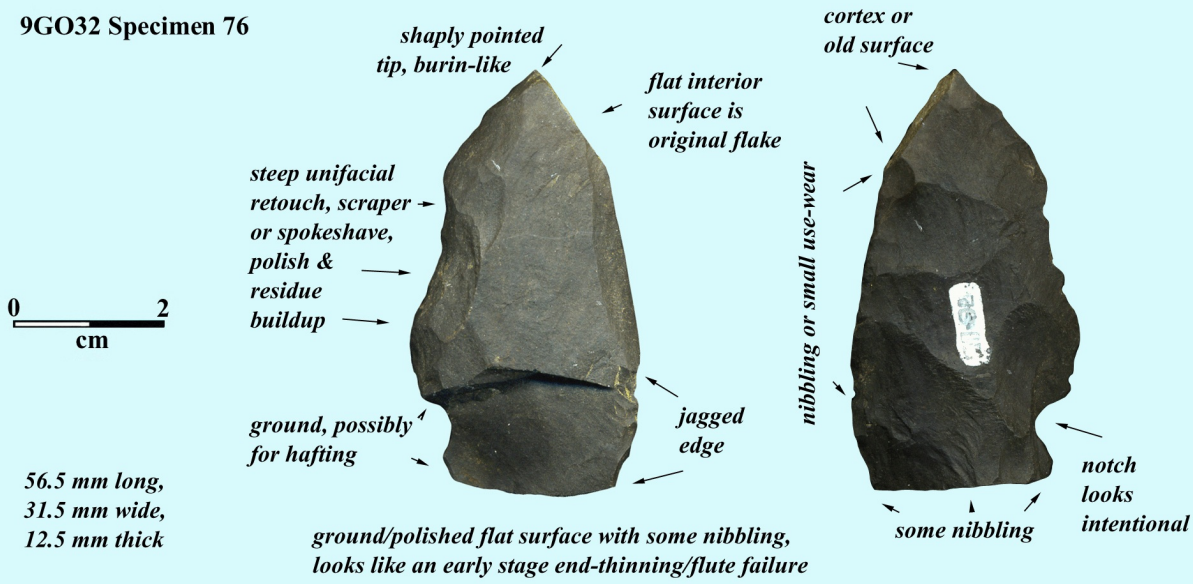
This appears to be a fragment of a large and well made point that was broken, rebased, and subsequently exposed to extreme heat. One side and part of the base are heat-shattered. The raw material is a typical grainy, brownish, cherty material with a slight reddish hue related to burning. The surviving portion of the base display flaking similar to the other rebased points. The point is slightly plano-convex but should probably be called bi-convex. The intact edge is battered or crudely reworked (this wass clearly a broader point fragment at one time. The tip displays a possible impact fracture and evidence of use after breaking, primarily in the form of polish.

9GO32 Specimen 75



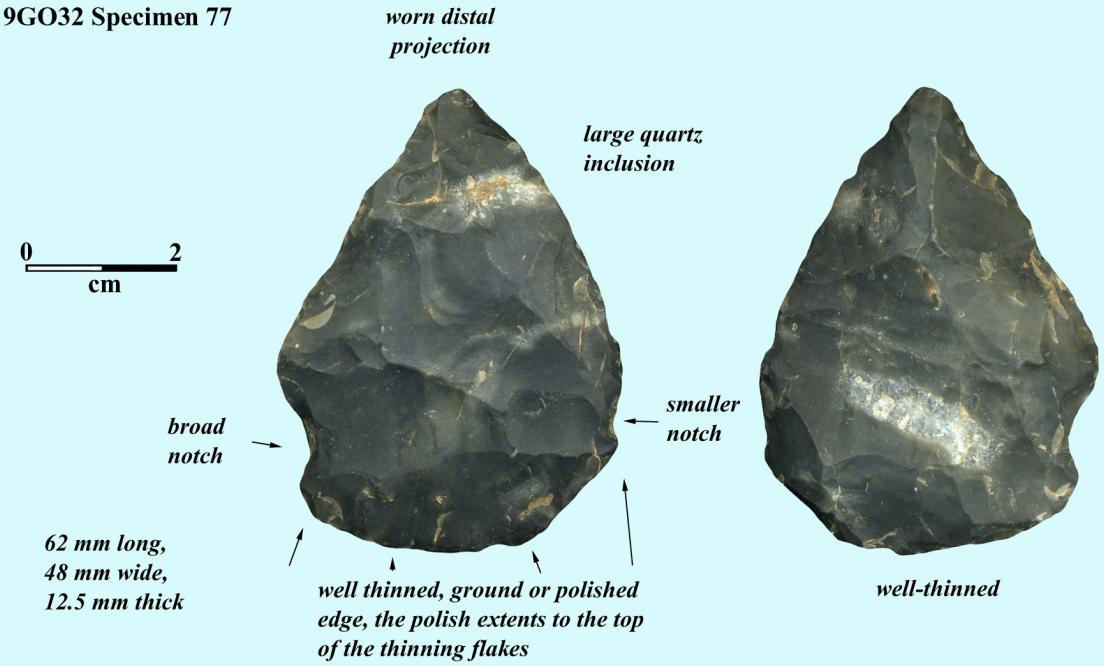
A bold flake with heavy percussion bulb that may be from a large biface or bifacial core (appears to be a multi-use tool). In some respects, it appears equivalent to a unifacial endscraper although is nice bifacial retouch along the edges and haft area associated primarily with the original biface. The endscraper portion of the tool takes advantage of the flake platform and lip (the polish appears to be primarily associated with use in this case). The bifacially worked edges display extensive use-wear. The raw material is a nice grade of the typical grainy, brownish, cherty material found on the site.

9GO32 Specimen 76



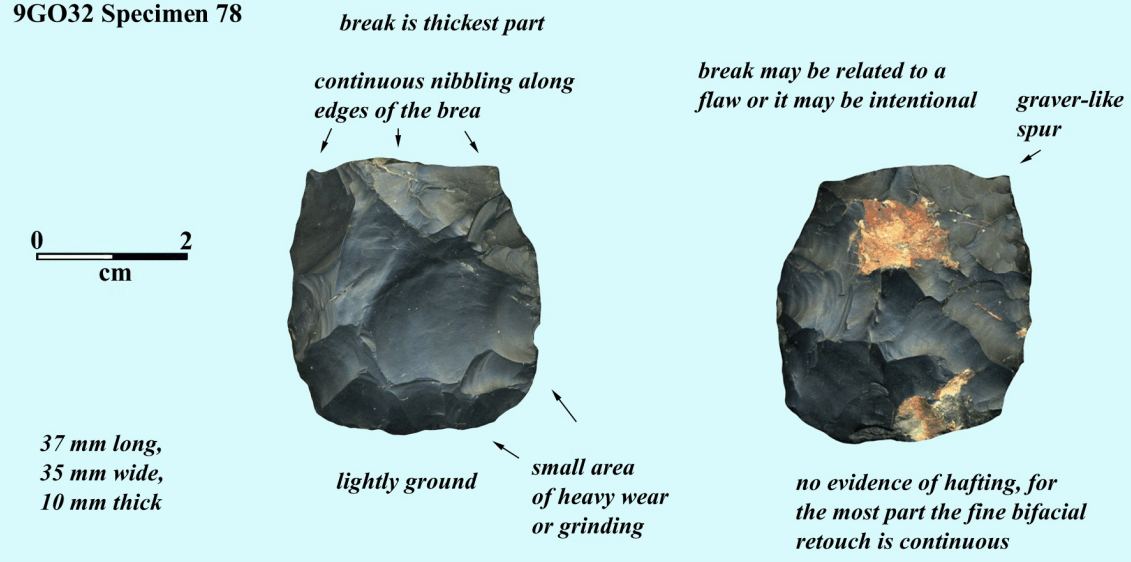
Reworked distal portion of a large thick biface/preform made from typical grainy, brownish, cherty material. Bi-convex in cross-section with the surface of the orginal flake present on one side (made on a thick flake). One side is well flaked but the opposite side is mostly unmodified (preform-like). The break at the proximal end resembles a very large step fracture that may have been utilized for hafting. The break appears to be an end-thinning/fluting failure. The distal end is thick and pointed (burinated?) and a concaved area on one side shows steep unifacial retouch, polish, and encrustation/residue from use. A similar build-up is evident along the opposite (sharper) blade edge. Nice multi-use tool from a broken biface.

9GO32 Specimen 77



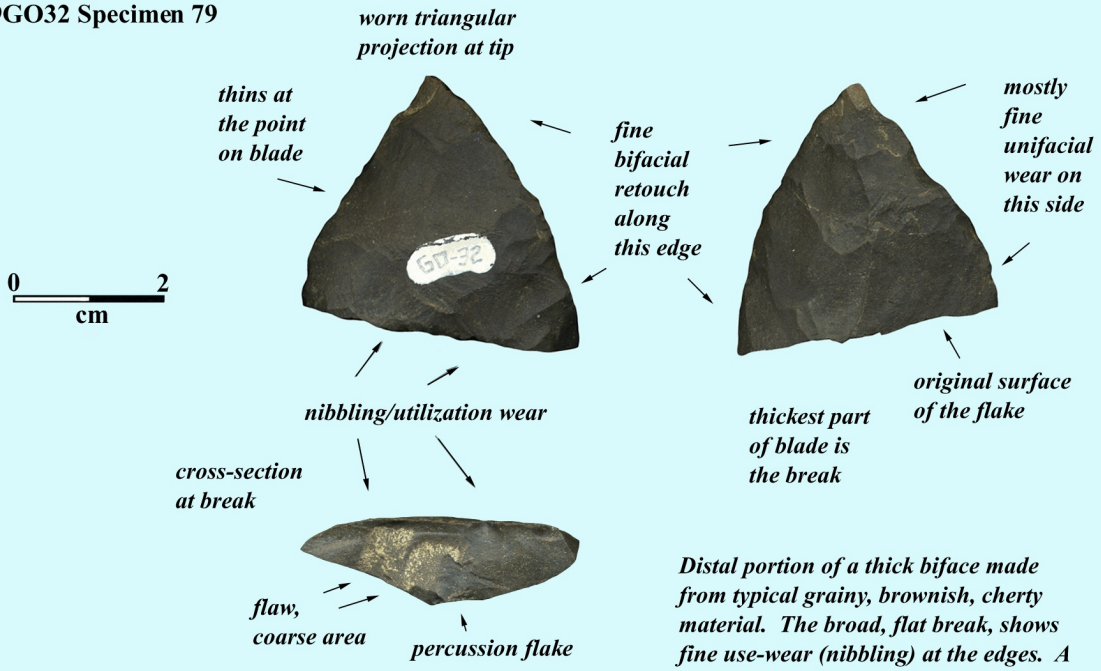
Thick biface fragment, possibly a rebased distal portion of a large biface or preform. The raw material is a dark grey-brown chert with large quartz inclusions. Similar to R&V chert found in the Adairsville area. The broad rounded proximal end is well flaked and polished, either use-wear or haft polish. A broad notch on one side possibly relates to hafting. The biface is bi-convex and the thinning flakes at the proximal end produce a symmetrical (haft?) area. The distal end is used and battered (somewhat drill-like). The tool may be multi-purpose. It has a nice patina.

9GO32 Specimen 78



Tool seems to be a sub-triangular or ovate biface similar to Sp. 77. It is made from a glossy black Ridge & Valley chert similar to Knox chert which is locally available in Gordon County, usually in tabular form. The tool is well flaked bifacially and bi-convex in cross section. The biface is thnnest at what we are calling the proximal end and thickest near the distal break. Use wear visible as small step fractures is visible over most of the edges and some nibbling is visible along the edges of the break. Possible graver spur at the break (it is sharp but appears intentional).

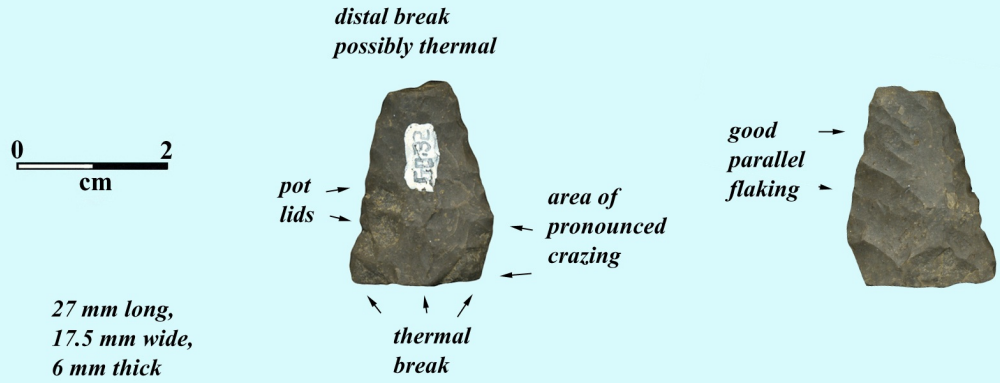
9GO32 Specimen 79



33 mm long,
36 mm wide,
12 mm thick

Distal portion of a thick biface made from typical grainy, brownish, cherty material. The broad, flat break, shows fine use-wear (nibbling) at the edges. A percussion flake on the flat surface of the break is probably related to the manner in wich it was originally broken. Most of the wear appears at the distal end. A flaw in the raw material may be the reason for the break.

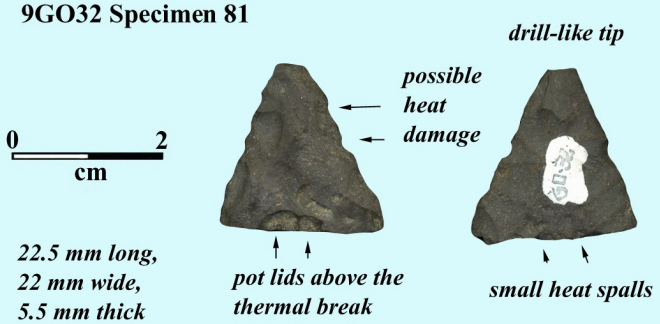
9GO32 Specimen 80



27 mm long,
17.5 mm wide,
6 mm thick

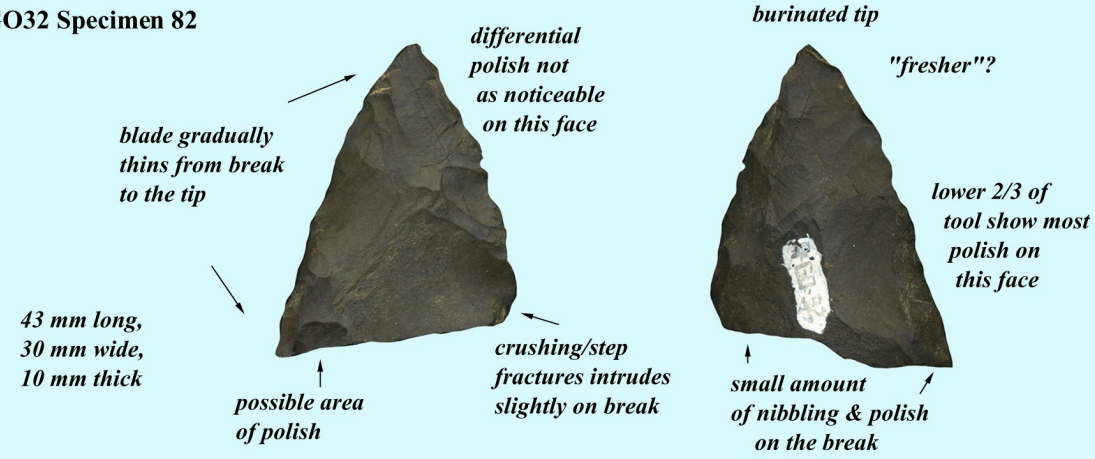
Distal portion of a small well flaked projectile point. Made from a grey-brown chert that has been severely burned. The point displays crazing, pot lidding and thermal breaks which makes further identication of the raw material difficult. Point is well flaked which produces fine serrations that are still relatively sharp. It is unclear if this biface goes with the early component or is intrusive from a later occupation.

9GO32 Specimen 81



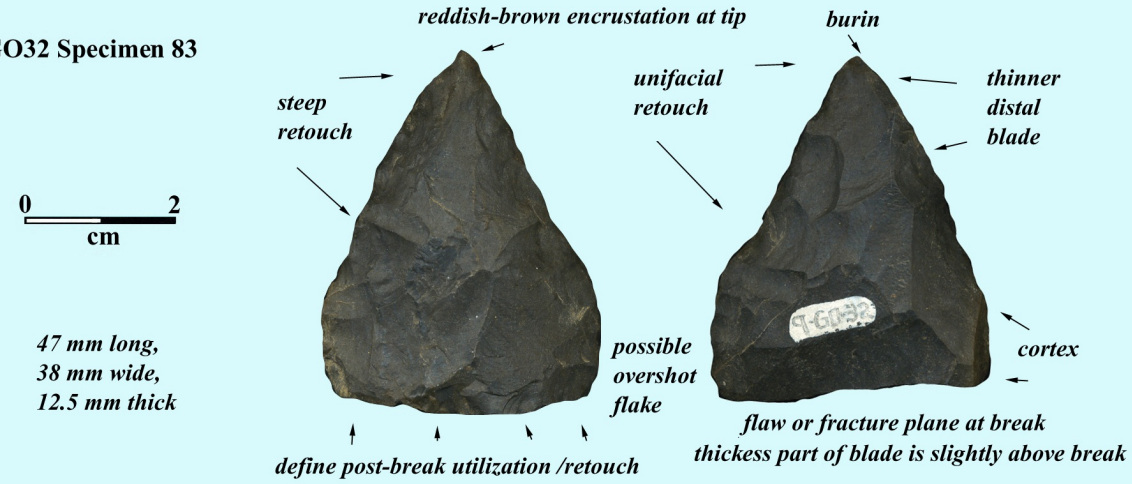
Distal fragment of a thin biface made from grainy, brownish, cherty material. The tip is consistent with use as a drill-like too (rounded with tip break and notches on either side). The biface is pitted with heat spalls indicative of burning. The prox. break appears to be thermal. The thinness and evidence of use suggests a finished biface broken in use and discarded. There is no evidence of reworking.

9GO32 Specimen 82



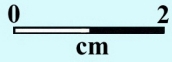
Distal portion of a large, well made biface made from typical grainy, brownish, cherty material (good quality). Bi-convex in cross-section with most of the blade retouch/resharpening closest to the distal end. The tip displays some interesting damage (sheering or burination) and the broad flat proximal break shows evidence of utilization after breakage. This is apparent differential polish near the distal end that could be evidence of utilzation or reworking.

9GO32 Specimen 83

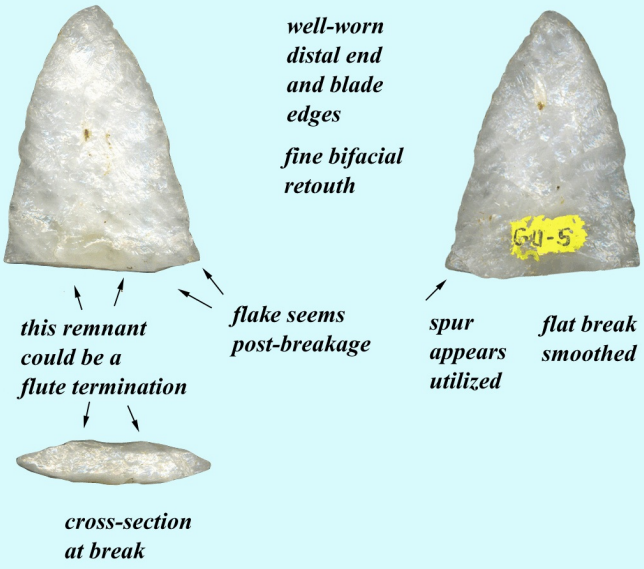


Distal portion of a large biface (possible late stage preform)made from typical grainy, brownish, cherty material (somewhat glossy). Bi-convex in cross section and displays minimal retouch except near tip is bascially on alternating sides. Tip is rounded and contains a reddish-brown encrustation. Broken proximal end is well utilized especially on the sharpest edge. As with many of the "typical chert" bifaces, the tip end is disproportionately thin and acute compared to the main body.

9GO32 Specimen 84

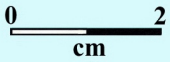


35 mm long,
26.5 mm wide
6.5 mm thick

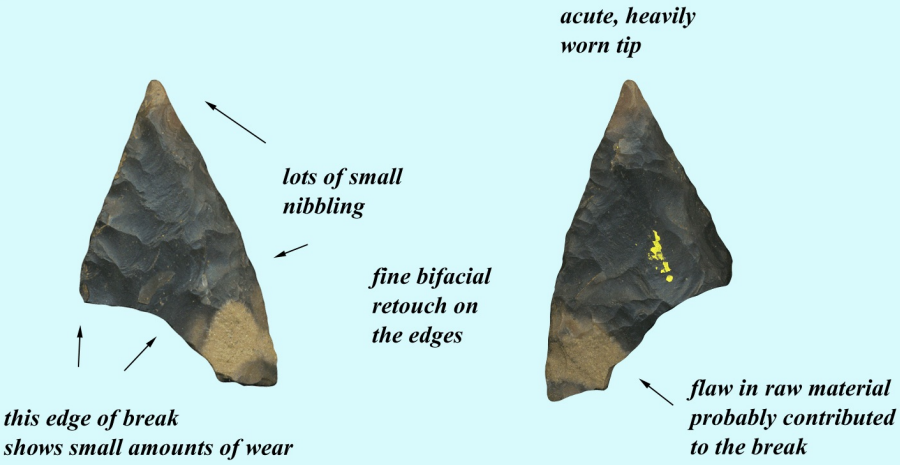


Distal portion of a very well flaked point made from a high quality quartz. The blade edges and tip are finely retouched bifacially and worn suggesting repeated resharpening. Depressed area just above the break may be remnant or fluting. There appears to be some evidence of reworking around a graver-like spur on the break. There are areas of brown staining or residue on a few areas.

9GO32 Specimen 85



40 mm long,
25 mm wide,
6.5 mm thick



Distal portion of a well made point made from material similar to local Ft. Payne chert. The biface is basically bi-convex in cross-section but shows the curvature of a flake. The distal end is acute and worn. The blade edges are bifacially retouched but not steeply retouched (possibly indicating limited resharpening). The point is patinated and is possibly associated with the early occupation or a later component.

Appendix C

High Resolution Scans of Material

Collection from the Scoured Site Area on 9GO32

9GO32 cm cm Sp. 1

9GO32 cm cm Sp. 2

9GO32 cm cm Sp. 3

9GO32 cm cm Sp. 4

9GO32 cm cm Sp. 5

9GO32 cm cm Sp. 6

9GO32 cm cm Sp. 7

9GO32 cm cm Sp. 8

9GO32 cm cm Sp. 10

9GO32 cm cm Sp. 9

9GO32 cm cm Sp. 12

9GO32 cm cm Sp. 11

9GO32 cm cm Sp. 13

9GO32 cm cm Sp. 14

9GO32 cm cm Sp. 15

9GO32 cm cm Sp. 16

9GO32 cm cm Sp. 17

9GO32 cm cm Sp. 18

9GO32 cm cm Sp. 19

9GO32 cm cm Sp. 20

9GO32 cm cm Sp. 21

9GO32 cm cm Sp. 22

9GO32 cm cm Sp. 23

9GO32 cm cm Sp. 24

9GO32 cm cm Sp. 25

9GO32 cm cm Sp. 26

9GO32 cm cm Sp. 27

9GO32 cm cm Sp. 28

9GO32 cm cm Sp. 29

9GO32 cm cm Sp. 30

9GO32 cm cm Sp. 31

9GO32 cm cm Sp. 32

9GO32 cm cm Sp. 33

9GO32 cm cm Sp. 34

9GO32 cm cm Sp. 35

9GO32 cm cm Sp. 36

9GO32 cm cm Sp. 37

9GO32 cm cm Sp. 38

9GO32 cm cm Sp. 39

9GO32 cm cm Sp. 40

9GO32 cm cm Sp. 41

9GO32 cm cm Sp. 42

9GO32 cm cm Sp. 43

9GO32 cm cm Sp. 44

9GO32 cm cm Sp. 45

9GO32 cm cm Sp. 46

9GO32 cm cm Sp. 47

9GO32 cm cm Sp. 48

9GO32 cm cm Sp. 49

9GO32 cm cm Sp. 50

9GO32 cm cm Sp. 51

9GO32 cm cm Sp. 52

9GO32 cm cm Sp. 53

9GO32 cm cm Sp. 54

9GO32 cm cm Sp. 55

9GO32 cm cm Sp. 56

9GO32 cm cm Sp. 57

9GO32 cm cm Sp. 58

9GO32 cm cm Sp. 59

9GO32 cm cm Sp. 60

9GO32 cm cm Sp. 61

9GO32 cm cm Sp. 62

9GO32 cm cm Sp. 63

9GO32 cm cm Sp. 64

9GO32 cm cm Sp. 65

9GO32 cm cm Sp. 66

9GO32 cm cm Sp. 67

9GO32 cm cm Sp. 68

9GO32 cm cm Sp. 69

9GO32 cm cm Sp. 70

9GO32 cm cm Sp. 71

9GO32 cm cm Sp. 72

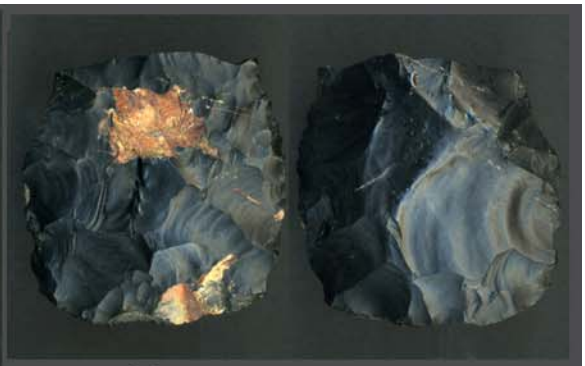
9GO32 cm cm Sp. 73

9GO32 cm cm Sp. 74

9GO32 cm cm Sp. 75

9GO32 cm cm Sp. 76

9GO32 cm cm Sp. 77



9GO32 cm cm Sp. 78

9GO32 cm cm Sp. 80

9GO32 cm cm Sp. 79

9GO32 cm cm Sp. 82

9GO32 cm cm Sp. 81

9GO32 cm cm Sp. 84

9GO32 cm cm Sp. 83

9GO32 cm cm Sp. 85

Appendix D

Metric Data: Specimen Numbers 1-85

Material Collection from the Scoured Site Area on 9GO32

Lee Thomas Collection

Specimen Number	Tool Type	Raw Material	Length (mm)	Width (mm)	Base Width	Haft Length	Flute/ Thinning	Thick-ness	Basal Concavity
1	lanceolate Biface	GBCM	80	30		33	14/18	11	7 mm
2	lanceolate biface	GBCM	54	30	26	32	11/13	7.8	4 mm
3	lanceolate biface	GBCM	50	30	29	32	10/15	9	5 mm
4	lanceolate biface	GBCM	47.5	27	23	29	7/26	9	3.5 mm
5	lanceolate biface	GBCM	43.5	27	27	24	8/28	8	4 mm
6	thick/lanceolate biface	RV chert	56.5	25.5	22.5	12/14	7/16	9	2 mm
7	thick/lanceolate biface	GBCM	56	24.5	22.5	18	4/4	9	4 mm
8	lanceolate biface	quartz	26	18	18	10	10/10	8.3	2 mm
9	lanceolate biface	GBCM	46.4	34.5	29	22	3/9	12.5	6 mm
10	lanceolate biface	GBCM	63.5	27	---	27	5/7	7.5	2.5 mm
11	lanceolate biface	GBCM	44.5	29	29	22	8/26	8.5	3 mm
12	lanceolate biface	GBCM	40	27	25	30	6/10	7.5	3.5 mm
13	triangular biface	GBCM	41.5	26.5	26.5	22	9/10	6.5	2.5 mm
14	lanceolate biface	GBCM	30	29	29	23	7/16	7.5	4 mm
15	lanceolate biface	GBCM	30	31	__	20	5/18	8.5	---
16	lanceolate biface	GBCM	38	31	---	30	7/12	8.5	2 mm
17	lanceolate biface	GBCM	29	24.5	23.5	19/20	4/19	6.5	5 mm
18	lanceolate biface	GBCM	28	29	25.6	25	6/9	9	2 mm
19	lanceolate biface	GBCM	23.5	26.5	26.5	> 19	4/14	7.5	3 mm
20	lanceolate biface	GBCM	29.5	32	32	26	14/18	10	2 mm
21	lanceolate biface	GBCM	31	26	26	21	8/11	7.5	5 mm
22	lanceolate biface	R&V chert	27	31	31	26	4/4	6.2	2.5 mm
23	triangular biface	GBCM	38.5	29	29	20	5/11	7.5	3 mm
24	lanceolate biface	R&V chert	53.5	32.5	28.5	21	8/10	10	2 mm
25	lanceolate biface	GBCM	56	27	27	24	5/16	9.5	5 mm
26	lanceolate biface	GBCM	36	26.5	26.5	23/25	5.5/7	7	4 mm
27	lanceolate biface	GBCM	40.5	30	30	24	8/12	9.5	4 mm
28	lanceolate biface	cf R&V chert	42	25	25	20	7/12	7	1 mm
29	lanceolate biface	GBCM	44.5	25	21	24	7/11	7.5	1 mm
30	fluted preform	GBCM	51	30.5	30	20/21	15/17	13.5	1.5 mm
31	lanceolate biface	GBCM	42	36	26	39	7/13	10	1 mm
32	lanceolate biface	GBCM	59	39	---	24	9/22	14.5	1 mm
33	lanceolate biface	GBCM	43.5	27	24	22	5/11	7.5	1.5 mm
34	lanceolate biface	GBCM	51	21.5	20.5	22	7/9	6.5	1.5 mm
35	thick biface (rebased)	GBCM	50.5	26.5	26.5	21	5.5/11	9	1.5 mm
36	triangular biface	untyped chert	40	28.5	---	24	5.5/9	5.5	4 mm

Specimen Number	Tool Type	Raw Material	Length (mm)	Width (mm)	Base Width	Haft Length	Flute/ Thinning	Thick-ness	Basal Concavity
37	triangular biface	GBCM	44	30	30	24	7.5/10	8.5	1.5 mm
38	reworked biface	GBCM	48.5	28	---	15?	6.5/13.5	8.5	2 mm
39	triangular biface	GBCM	35.5	23.5	---	20	7/14	10.2	2 mm
40	triangular biface	R&V chert	45	30	20	24	18/19	7.8	3 mm
41	reworked biface	GBCM	41	32	---	22	8/11	7.5	---
42	fluted preform	light grey chert	87	39	34	28	21/23	18	2 mm
43	reworked biface/preform	light grey chert	35.5	33	30	26	11/17	11	3 mm
44	fluted preform	GBCM	33.5	36.5	29.5	30/32	15/22	14.5	1.5 mm
45	triangular biface	oolitic chert	41.5	31	31	20/22	12/16	9	2 mm
46	lanceolate biface	R&V chert	36.5	31.5	31.5	27	5/12	12	1 mm
47	lanceolate biface	R&V chert	42	28.5	28.5	26	4/9	11	2 mm
48	lanceolate biface	R&V chert	55.5	29.5	---	24/26	12/12	13	1.5 mm
49	drill	GBCM	50	34	34	20	5/10	11	4.5 mm
50	drill	GBCM	41	> 22	---	17	6/7	8.5	3 mm
51	triangular biface/drill	GBCM	43	26.5	26.5	23	9/11	8.5	4 mm
52	lanceolate biface	R&V chert	48.5	28	---	29/30	6/7	7	1 mm
53	lanceolate biface	R&V chert	32	33.5	31	27	5/11	11.5	1 mm
54	triangular biface	R&V chert	32	28.2	---	15/20	3.5/5	7.4	1 mm
55	reworked biface	GBCM	48	33.5	---	26/28	8/24	10.5	---
56	reworked biface	GBCM	47	28	24	16/20	13/30	16.5	1 mm
57	reworked biface	GBCM	46	26.5	---	22/?	8/12	11	---
58	lanceolate biface	cf R&V chert	44	25	24	28	8/9	8.3	2 mm
59	lanceolate biface	R&V chert	45	26.5	---	22/24	4/11	8	1 mm
60	reworked biface	untyped chert	28	24.5	24.5	22/?	3/15	6.2	1 mm
61	reworked biface	R&V chert	23	21.5	---	22	2/14	6.5	---
62	reworked biface	jasper	42	27	---	---	3/23	7.5	---
63	lanceolate biface	GBCM	32	24	---	21	9/10	8.5	1.5 mm
64	triangular biface	blue-grey chert	32.5	23.5	23.5	22	11/13	9	2 mm
65	reworked biface	R&V chert	63	26	---	?	4/20	9	---
66	lanceolate biface	untyped chert	57	35.5	31.5	22/24	11/18	10.5	1 mm
67	reworked biface	GBCM	43	26	---	---	---	6	---
68	triangular biface	quartzite	47	29	29	25	8/11	8.5	2 mm
69	lanceolate biface	GBCM	40	33	28.5	28	7/16	8.5	1.5
70	reworked biface	R&V chert	26	24	---	8?	6/7		
71	uniface	cf R&V chert	35	24	---	---	---	9	---
72	utilized biface fragment	GBCM	58	21	----	---	---	13	---

Specimen Number	Tool Type	Raw Material	Length (mm)	Width (mm)	Base Width	Haft Length	Flute/ Thinning	Thick-ness	Basal Concavity
73	parti-bifacial drill	untyped chert	33	27	---	18	5/6	7	2.5
74	reworked biface	GBCM	36.5	25.5	---	22/?	7/9	8.5	1 mm
75	uniface	GBCM	49.5	29	---	---	---	9.5	---
76	reworked biface tip	GBCM	56.5	31.5	---	---	---	12.5	---
77	ovate-base biface	cf R&V chert	62	48	---	---	---	12.5	---
78	ovate-base biface	R&V chert	37	35	---	---	---	10	---
79	utilized biface tip	GBCM	33	36	---	---	---	12	---
80	biface tip	burned chert	27	17.5	---	---	---	6	---
81	biface tip	GBCM	22.5	22	---	---	---	5.5	---
82	utilized biface tip	GBCM	43	30	---	---	---	10	---
83	biface tip	burned chert	27	17.5	---	---	---	6	---
84	utilized biface tip	quartz	35	26.5	6.5	---	---	6.5	---
85	biface tip	R&V chert	40	25	---	---	---	6.5	---

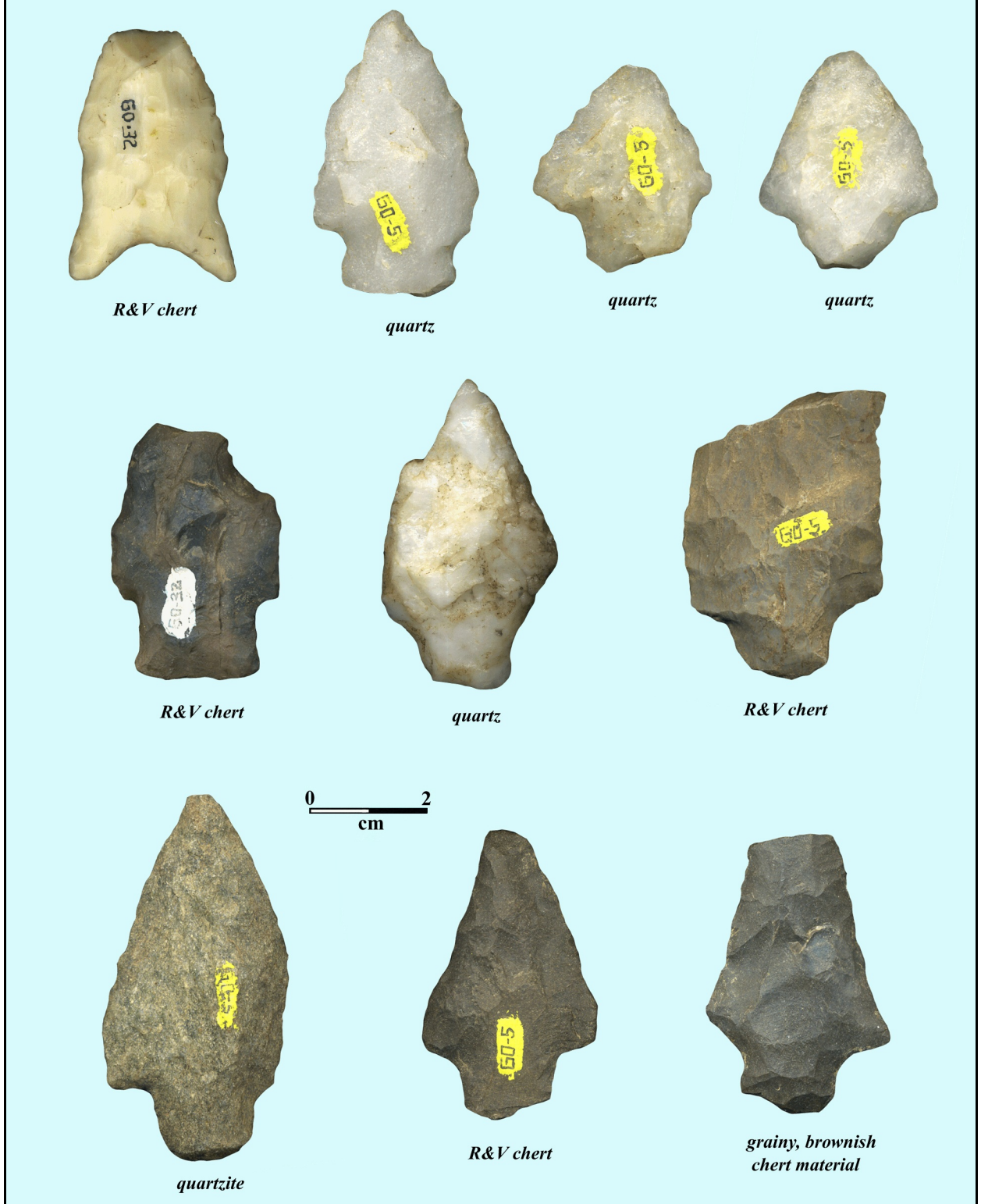
Abbreviations: GBCM is grainy brownish cherty material, R&V is Ridge and Valley.

Appendix E

Scans of Later Projectile Points

Found in Other Areas on 9GO32

(Surface of Higher Terrace Slopes Beyond the Limits of the Scoured Paleoindian Area)



Points are shown from earliest (upper left is a late Paleoindian Quad/Dalton) through Late Archaic. Raw materials include quartz, quartzite, several varieties of Ridge & Valley chert, and one point made from a raw material similar to the predominant type used by the earlier Paleoindian component (lower right).

All points are made from varieties of Ridge & Valley chert. Top two rows probably date to the transitional Late Archaic/Early Woodland and Woodland time periods. The bottom four bifaces a fragmentary bifaces that may date to any one of several time periods.