

PASTIMES

A close-up photograph of a hand holding a dark, flint arrowhead. The background shows an archaeological excavation site with a person wearing a green hard hat and a white bucket visible.

The Newsletter of the Panhandle Archaeological Society

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On The Cover: A beveled
knife recovered at Chill
Hill in 2010

The Panhandle Archaeological Society will hold its next meeting on Wednesday September 21, 2011, at 7:00 pm, at the Wildcat Bluff Nature Center Science Building, 2301 N. Soncy Road, in Amarillo, Texas. Our program will be presented by Pam Allison.

Born in Littlefield, Texas, Pam Allison has spent most of her adult life in the Texas Panhandle. She received a BS degree in Wildlife Science and a MS in Biology, with a focus on plant ecology, from West Texas State University. She has worked as an ecologist, wetland scientist, project coordinator, and has authored or co-authored journal articles about hydrology, wetlands, and plants of the Texas Panhandle and portions of New Mexico and Colorado. Her more recent publications have dealt with the life history of the state threatened Texas Horned Lizard (*Phrynosoma cornutum*).



Pam Allison

Rare or Endangered: What a Field Archaeologist Ought to Know

The Texas and Oklahoma panhandles straddle the boundary between the humid, well-watered landscapes to the east and the more arid, generally higher elevation landscapes to the west. Despite the seemingly uniform High Plains landscape, the Panhandle harbors a diversity of native plants. Much of this diversity is still inadequately documented.

Although one of the earliest systematic collections and descriptions of plants from the region was conducted by the Long Expedition more than 190 years ago, the inventory of plant species remains incomplete. One recent example is the 2003 Lake Meredith NRA inventory by Neesom and O'Kennon, in which 4 plant species were first documented to occur there - and were the first documented occurrences for these species in Texas - and 6 other species that were unexpected for the Panhandle. Another example is a species discovered by the author last year in Potter County that was previously documented once before in 1926 for the Texas Panhandle.

Some of the recent discoveries occur in habitats defined by their geological substrate or by specific water-rich habitats. Archaeological sites oftentimes are in the vicinity of seeps, springs, or streams that may support relatively intact vegetative communities and a diverse assemblage of plant and animal life. Field Archaeologists are in a unique position to observe plants that may be rare or expected but not yet documented in the region. Some recent discoveries and other plants that archaeologists working in the region might watch for will be discussed.

GPS Devices For Recording Location



Like they say in real estate "Location! Location! Location!"

By James Coverdale

There has always been a need in archaeology to record a location of an artifact or feature by using the most accurate means. GPS (Global Positioning System) technology provides a handy way to do this within certain limitations. There is a wide array of GPS devices available on the market today that can mark a location. Here are a few possible choices of GPS technology.

The handheld personal GPS unit has been around for many years and has been a good choice for recording locations. It's usually small enough to fit inside a pants pocket and it's fairly easy to operate. The price can be around one hundred dollars and upwards. These personal GPS units can record hundreds of locations (as waypoints). On some units a storage card can be uploaded with maps and then inserted into the GPS unit for use in the field. Collected field data can be downloaded onto a storage card and saved or loaded onto a computer. The major drawback of these type of units is the accuracy. While most handheld units are WAAS (Wide Area Augmentation System) enabled to increase accuracy they still lack precision. WAAS is a system that broadcasts differentially corrected satellite position data over the United States. Even

with corrections a location fixed by a personal handheld GPS unit can still be off by about 3.048 m (10ft.) from the actual location 95% of the time. Their accuracy can be increased by averaging a location (A feature available on some GPS units for taking an average of multiple readings). Data collected with a personal handheld GPS unit can be used in several GIS software programs once the data file has been converted to a file that a GIS (Geographic Information System) program can open and use.

The use of a PDA (Personal Digital Assistant) that is equipped with a GPS receiver is an option that can record locations and data about an artifact or a site. The PDA can be set up with customized drop down menus that require onscreen fields to be filled in by using the touch screen. These menus provide a quick and easy way to control what data is collected about a location. The GPS capabilities are about the same as the personal handheld devices. The advantage of the PDA is with the amount and kinds of data that are recorded for each location, artifact, or site. A PDA device can usually connect to the internet by a wireless (WiFi

wireless (WiFi or Bluetooth) connection so you can upload new data from the internet or download data to a computer.

A more recent device, one that many people already own and are very familiar with, is the smartphone. The smartphone is a cell phone and a PDA combined. The smartphone uses A-GPS (Assisted - Global Positioning System) technology to provide location data. A-GPS is quicker to acquire a location through the assisted use of cell towers and/or WiFi triangulation in addition to satellite signals. While the accuracy of smartphone GPS data is good, with the assistance of triangulation from cell towers or WiFi signals it is generally better. Of course if you are in an area where there are few cell towers the GPS accuracy is the same as a handheld personal GPS unit. Many smartphones come with a built-in camera that can produce Geotagged photographs that will have the metadata (digitized information about time and location) embedded into the photo. This photo can later be accurately placed on a map by using the Geotagged information. While the smartphone costs about the same as a personal handheld GPS unit, it is capable of so much more. Smartphones can be updated and upgraded easily plus there are many apps (application software designed for use on a smartphone) available for Geotagging or using the GPS feature.

Another device on our list is one that is very accurate and includes many features that have been highlighted in the preceding paragraphs. It is a sub-meter accurate GPS receiver and PDA combined into a single handheld device. This device can collect GPS locations within an accuracy of less than a meter (30 cm to 50 cm (11.9 in - 19.7 in) with post processing). Data collection is easy with the use of drop down menus and a touch screen. This sub-meter accurate GPS can receive updated information or maps over the internet with a wireless connection. It has Bluetooth and WiFi capabilities and a smartphone can be connected to the unit so that the smartphone becomes a wireless internet modem that works anywhere you can receive a cell signal. Highly accurate Geotagging of photos can also be accomplished with a digital camera and the correct hook-up. Some models have



Recording GPS coordinates in the field

built in cameras for this purpose. These GPS units can also receive Russian (GLONASS) satellite system signals in addition to the U.S. system for increased accuracy. The cost of such a unit is very high because of the increased accuracy and the additional capabilities. These sub-meter GPS receivers are definitely in the class of professional grade use.

Now we come to the final piece of equipment for recording GPS data in the field. It is the simple mechanical pencil and field notebook. It is very important to back up that electronic GPS data that is recorded in the field. Always back up your GPS data.

FURTHER INVESTIGATIONS AT CHILL HILL: AN ANTELOPE CREEK PHASE SITE IN THE CANADIAN RIVER VALLEY

By Scott D. Brosowske



For the fourth year Courson Archaeological Research (CAR) has hosted an annual summer archaeological field school. From May 23rd to June 10th, 2011 students participated in excavations at three different prehistoric sites, conducted a systematic metal detecting survey at numerous historic period sites, and worked in the laboratory processing artifacts recovered during the field school. All of these activities provided participants with an excellent introduction to basic field and laboratory techniques. This article provides a brief overview of this year's investigations at the Chill Hill site.

During the first two weeks of the field school,

excavations were conducted at Chill Hill (41RB132). Chill Hill is a large Antelope Creek village located near the confluence of Dugout Creek and the Canadian River valley. Six Accelerator Mass Spectrometry (AMS) dates run on corn (*Zea mays*) from Areas A, B, and C indicate that the site was primarily occupied from about A.D. 1420 to A.D. 1440 (Figure 1). Another AMS date, also run on corn, was obtained from a trash filled basin-shaped pit in the far northern end of the site. This sample yielded a date of A.D. 1350 and indicates that this portion of the site may contain an earlier component contemporaneous with Eastview, another Antelope Creek site about 3.2 km north of Chill Hill.

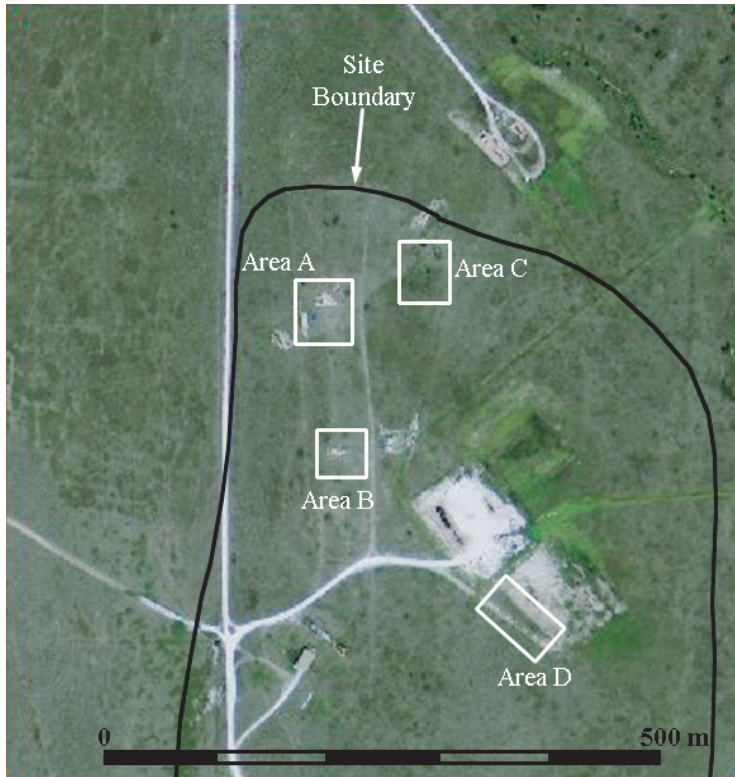


Figure 1

This summer we continued work at Areas A and C and salvaged features exposed along the margins of an existing well location designated as Area D. Open block excavations conducted at Area C in 2008 and 2009 enabled the outlines of several features to be identified. These features primarily represented a number of shallow, circular to oval basin-shaped features ranging size from about 1.5 m to 0.6 m in diameter and 0.5 m to 0.3 m deep. These basins were clearly visible from the surrounding soil as dark stains containing ash, charcoal and other cultural debris. The basin interiors did not contain any evidence for heating. It is possible that they were features associated with bone grease manufacture, although their actual function still remains unclear at this time. Interspersed with these basins were numerous post molds. It was evident that these posts were not associated with a permanent habitation structure. As such, they may represent the remains of arbors that covered outdoor activity areas. Similar features, also associated with basin-shaped pits, were interpreted as arbors at the New Smith site (34RM400), a Zimms complex site near Camargo, Oklahoma (Brooks et al. 1992; Brosowske 2002).

The work conducted at Area D of Chill Hill sought to investigate several features exposed by the construction of a well location many years ago (Figure 1). These features were along western margins of the location where the well pad cut into a shallow slope. As at Area C, these features showed up as dark stains containing ash, charcoal, and sparse to abundant cultural remains. These features were first identified in 2005, but had remained relatively stable until recently. With the dry and windy conditions of the last year, these features began to actively erode and we elected to salvage these features. Work at Area D began by shovel skimming to determine the horizontal extent of the features. A total of three circular houses, three small pits, and one post mold were identified. Due to time constraints, only one house, the three pits, and the post mold were excavated during the field school. After shovel skimming and drawing a horizontal plan view map, approximately one-half of each feature was excavated to provide a profile. Later, the remaining half was excavated.

Feature D1 is the bottom portion of a trash filled pit approximately 1.5 m in diameter. Because the upper portion of the pit had been removed by well construction, it is difficult to estimate to original depth of the feature below ground surface. Except for the western side of the feature which was slightly undercut, the pit had straight sides, and a flat bottom. Notable items recovered in this pit were three halves of ceramic vessels and an Alibates Harahey knife. Feature D4 was located approximately 2.5 m to the southeast from Feature D1. This circular pit was about 0.7 m in diameter and approximately 0.4 m of the bottom portion of the pit remained. The walls of this feature were slightly sloped inward to almost vertical and the bottom was basin shaped. This feature contained a variety of cultural remains, but was dominated by abundant ash and charcoal. This suggests that materials cleaned out from a nearby hearth were deposited in this feature. Feature D3, the bottom portion of a post mold, was located about 0.5 m to the southeast of Feature D4. This post mold was 27 cm in diameter.

Features D2 and D5 were located about 20 meters southeast of the above cluster of features. Feature D2 represented a shallow, circular house that had burned (Figure 2). This feature measured 3.1 m north to south and 3.1 m east to west. Although the upper portion of the house walls had been removed by well construction, the overall depth below ground surface was likely about 0.5 m. A low bench or ramped entryway was present along the south wall. Five burned posts, separated from one another by 0.4 to 0.5 m and running north to south, were present in the western third of the house. All of these posts were still lodged in the ground and ranged in diameter from 8 cm to 15 cm. Interestingly, many of the burned posts present in this house had been split into slats approximately 4 cm x 12 cm in size. Similar behavior was observed at the nearby Hank site (Boyd 2004). A 1.5 m long portion of a 15 cm diameter support post was lying on the floor in three sections parallel to and east of the above alignment of posts. Except for charred posts and associated charcoal and daub, this feature contained sparse amounts of other cultural materials.

In November of 2008 human remains were observed eroding from a feature about 1.25 m to east-southeast of the burned house. Following the guidelines outlined in the recently revised Texas unmarked burial law, legal steps were taken to obtain permission to salvage this feature. Permission was granted by the state to excavate, study, and eventually re-inter these remains in August 2010. This feature, designated as Feature D5, was a small basin-shaped circular pit feature 0.6 m in diameter. Well construction had removed most of the feature with only 18 cm of pit remaining on the western margin and only a couple of centimeters remaining on the east side. Nonetheless, the pit outline was easily identified by the presence of ash and charcoal. Besides human remains, represented by an ulna shaft fragment and a mostly complete cranial vault, very little other cultural materials were recovered. The latter included burned daub and a small portion of a burned post. These items may indicate an affiliation with the nearby burned house. The cranial fragments recovered from Feature D5 were extremely unusual in that the exterior showed

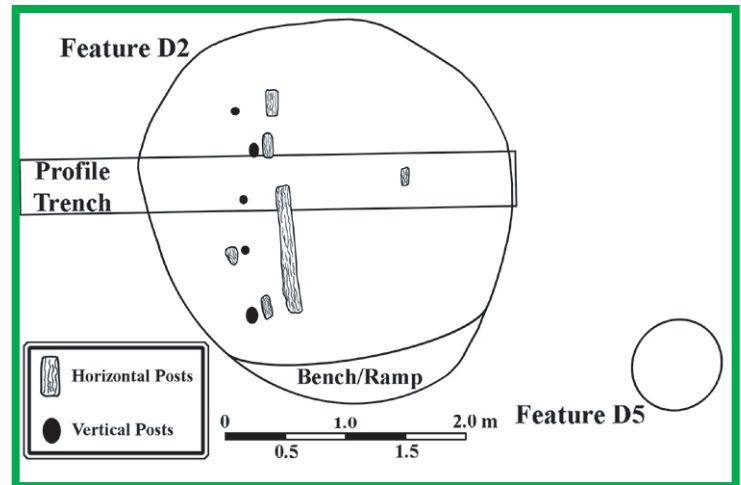


Figure 2

evidence of burning, while the interior was coated with a shiny, black tar-like substance. In contrast, the ulna fragment was not burned indicating that this was not a cremation burial.

The last area investigated at Chill Hill in 2011 was a residential structure at Area A (Figure 1). This structure was first identified in 2009 and the southern third was excavated in 2010. The rest of this house was excavated this summer and was designated as Feature A7. This house was circular in shape, 2.0 m in diameter from northwest to southeast, had a floor that was 1.3 m below ground surface, and had a sloped entryway along the south wall. The fill within this house contained localized concentrations of trash debris and ash and charcoal. These concentrations had the appearance of dumps of debris perhaps from a basket or hide. This structure had been reoccupied at least once. A small basin shaped hearth (Feature A14) was encountered at a depth of 0.6 m below the ground surface. It is not clear whether the house pit was simply used as shelter to get out of the wind or if a superstructure had been erected at this later date. After the house pit had completely filled in, a straight sided pit 0.7 m in diameter, 0.5 m deep with a flat floor was excavated into the fill. The latter, like all of the other pits excavated at the site, showed no evidence of burning.

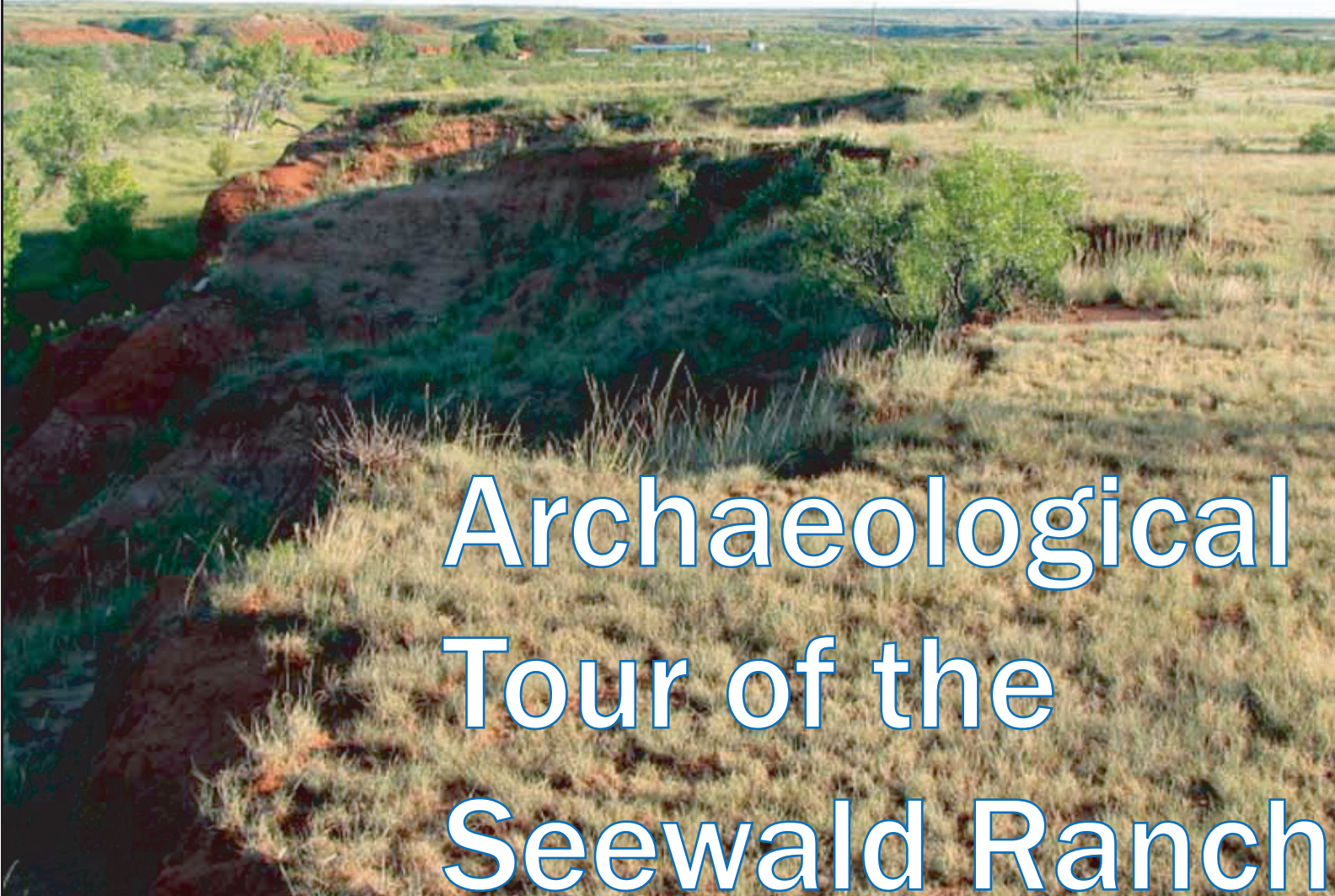
A total of seven different residential structures have been excavated at Chill Hill. From these examples it is apparent that a single type of house structure is present. These structures are circular to slightly oval,

have sloped or stepped entryways, and are about two to three meters in diameter. The only difference noted in these houses is the depth of the house floors. Of the houses excavated thus far at Chill Hill, four had floors that were about 0.4 m to 0.6 m below ground surface. The remaining three houses had floors that were between 1.0 m and 1.5 m. The differences in floor depth may be related to season or length of occupation. Both house types usually have shallow basin-shaped hearths about 0.3 m to 0.4 m in diameter that were often adjacent to the walls of the house pit. Except for the burned house investigated at Area D this year, evidence for the type of roof structure has been lacking and evidence for posts are absent. Given their small size and lack of evidence for superstructures suggests fairly ephemeral structures, probably occupied for relatively short periods of time. Indeed, these houses may have been more like the small hide tipis used by the nomadic Querechos and described by Coronado when he visited the Southern Plains in 1541 (Winship 1896:504).

In closing, 2011 field season at Chill Hill was a great success despite the hot temperatures and high winds. The students and volunteers who participated in this summer's field school did an excellent job in all aspects of the fieldwork. As a result, we were able to complete a large amount of work in a very short period of time. With the investigations completed at Area D, we now can compare and contrast features and artifacts from four different areas of this large Antelope Creek phase site. Lastly, I would like to thank Mark Latham and Tod Bevitt who have worked at Chill Hill for the past four summers. They have served as principal investigators overseeing the field investigations at this site.

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Archaeological Tour of the Seewald Ranch

In recent years, Panhandle Archaeological Society (PAS) activities and events have included less and less fieldwork and "hands on" opportunities. As a result, the predominant PAS events have become monthly meetings, the Annual Studer Banquet, and activities associated with Texas Archaeology Month.

In response, the PAS will begin to offer a number of new activities that we hope will attract interest among members and non-members alike. Planned events include guided tours of archaeological sites, pedestrian surveys and site revisits, documentation of private collections, and monthly volunteer opportunities at the Panhandle-Plains Historical Museum. Thanks to member Alvin Lynn, who obtained permission from the landowner, our first event will be a guided tour of the historic Seewald Ranch.

The Seewald Ranch is located approximately 10 miles north of Amarillo. The ranch is dissected by West Amarillo Creek cutting through the Triassic and Permian formations on its way northward to the Canadian River. The creek normally has some flow of water, but due to the drought it is now dry. There are numerous archaeological sites on the ranch, both prehistoric and historic. The Fort Smith-Santa Fe Trail crosses the creek just above the Permian dolomite pour-off. On the west side of the creek, a Tecovas chert outcrop forms the caprock of some of the bluffs. There are some partially buried tipi rings north of the old historic trail. Additional prehistoric sites occupy both bluffs and the lower terraces. There is also a CCC camp near the small ranch house on the east side of the creek.

On the morning of Saturday September 24th we will meet at the Wildcat Bluff Nature Center and leave for the ranch at 10:00 am. Most all of the sites that will be visited are accessible by vehicle. The tour will last several hours, so bring a lunch and water. To sign-up or for additional information please contact Scott Brosowske at (806) 434-0157.

Panhandle Archaeological Society

Minutes of the May 18, 2011 Meeting

President Paul Katz called the meeting to order at 7:05 p.m. at the Wildcat Bluff Nature Center. Eighteen members and one guest were in attendance. Dee Landry (NPS) was the guest of Rozanna Pfeiffer.

The next meeting of the PAS will be held on Wednesday, September 21 at the Wildcat Bluff Nature Center, beginning at 7:00 p.m. A speaker had not been invited at this time.

Paul introduced the evening speaker, Dr. Gerry Schultz, a PAS member. He spoke about the vertebrate paleontology of the Texas Panhandle and the surrounding area.

The business meeting began at the conclusion of Dr. Schultz's presentation. The minutes of the April 20, 2010 meeting were approved unanimously.

Lisa gave the Treasurer's report. The current operating balance is \$1,784.08.

Rolla submitted the Publication Committee report in writing. The current checking account balance is \$2,570.91, with \$30.00 cash on hand, for a total Publication Fund of \$2,600.91.

The Pollyanna Hughes manuscripts have been copied and provided to Scott and Joe D. for review and evaluation.

There was a discussion about the publication of the Canyon City Club Cave report being edited by Chris Lintz. In the absence of a formal publications review process, any member is welcome to read the edited version when it becomes available. A concern was expressed about the nature and extent of the changes that Chris might introduce during his editing process. It was the consensus of the group that changes making the report more organized and readable were in order, but changes to Jack's interpretations were not. A balance between the historical period in which the report was originally written and a contemporary useful report is the ideal result of this process.

Paul asked the members to consider volunteering to serve on the Publication Committee, as editors and as reviewers for future publications.

No progress has been made in the revision of the Bylaws.

A Nominating Committee will be appointed at the September meeting, charged with providing a slate of officers by the October meeting. Voting will take place at the November meeting, with installation at the Studer Banquet in December.

Suggested speakers for the fall included Pam Allison and Dr. Robert Wright.

The meeting adjourned at 9:10 p.m.

Announcements, Updates, and Upcoming Events

2011 Texas Archeology Month Tours at Alibates Flint Quarries National Monument

Every Weekend in October

2011 Flint Fest Knap-In at Alibates Flint Quarries National Monument

October 1-2, 2011

For Additional Information on these events Call NPS HQ at 806-857-3151

Annual Family Archaeology Field Day

Museum of the Plains, Perryton Texas

October 22, 2011 from 12:00-4:00 pm

For more information or to sign-up

(806) 434-0157 or sbrosowske@pphm.wtamu.edu

Panhandle Archaeological Society Monthly Meeting

Wildcat Bluff Nature Center

2301 N. Soncy, Amarillo, Texas

October 26, 2011 at 7:00 pm

For more information visit the PAS website at:

<http://txpanhandlearchaeology.org/>

69th Annual Plains Anthropological Conference

October 26 - 29, 2011 Tucson, Arizona

For more information visit the conference

website at: <http://www.pac69.com>

82nd Annual Meeting of the Texas Archaeological Society

October 28 - 29, 2011 Fort Worth, Texas

For more information visit the conference website

at: <http://www.txarch.org/Activities/AnnualMeeting/am2011/index.php>

Panhandle Archaeological Society Monthly Meeting

Wildcat Bluff Nature Center

2301 N. Soncy, Amarillo, Texas

November 16th, 2011 at 7:00 pm

For more information visit the PAS website at:

<http://txpanhandlearchaeology.org/>

Panhandle Archaeological Society Annual Studer Banquet

December 17, 2011 from 6:00 - 10:00 pm

Hazelwood Hall; Panhandle-Plains Historical Museum

For more information visit the PAS website at:

<http://txpanhandlearchaeology.org/>