

La Vista
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Center for Big Bend Studies • Sul Ross State University • Volume 21 • Spring 2010
A Member of the Texas State University System

An Inside Look at **Archaeology**

CBBS archaeologists document a prehistoric stone feature in the chill of a winter morning.

Archaeology is the scientific discipline that studies past human cultures and a primary goal of the discipline is to understand and explain man's past behavior. This is no simple undertaking as the "trail of clues" is often hundreds, if not thousands, of years old. Like modern-day CSI investigators, archaeologists must meticulously apply research from a variety of disciplines—geology, biology, and chemistry—in order to make significant discoveries that shed light on man's past.

To the untrained observer, archaeological discoveries are often shrouded in mystery. How does the archaeologist know the age of a site? How does he/she know what kinds of foods were eaten, what time of year people occupied a site, or what the environment and site setting were like at the time of occupation? These are just a few of the questions archaeologists are commonly asked. In most cases the answers derive from field and/or laboratory analyses.

One of the first steps in an archaeological investigation is determining the age of a site. While this can be accomplished in several different ways, the most common technique used is radiocarbon/carbon dating. It requires a sample of something that was once alive, such as bone or wood, and is based on the fact that the radioisotope carbon-14 (¹⁴C) declines at a fixed exponential rate after death due to radioactive decay. An age range is computed by measuring the amount of ¹⁴C that remains and comparing it to that expected from atmospheric ¹⁴C. Charcoal preserved in thermal features, such as campfires or baking pits, is often the material chosen by the archaeologist for such analysis. These specialized chemical analyses are performed by various laboratories across the United States.

Archaeologists discover what foods were being consumed in the past through faunal and macrobotanical (floral) analyses, both of which require biological specialists. Analyses of animal bone are fairly straightforward—burned specimens can be more confidently identified as “menu items” compared to those not burned. Identification of plant foodstuffs in the Big Bend region (mesquite beans, grass seeds, and agave/sotol fibers) is typically made through analyses of sediment samples recovered from thermal features. The sediment is first “floated” in a contraption containing water; the heavier materials sink and the lighter ones rise

to the surface. Unless they are from inedible or poisonous plants, charred plant parts recovered in the lighter fraction are thought to have been intentionally burned during the cooking process.

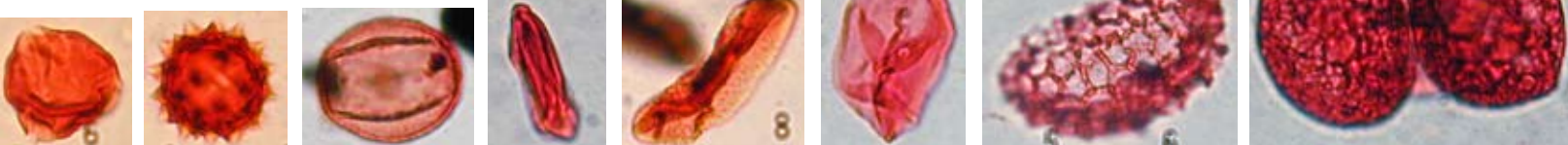
Data on seasonality—the time of year that a site was occupied—can also be forthcoming from botanical identifications. For example, mesquite beans, saltbush seeds, and prickly pear fruit usually ripen from mid to late summer, and sacaton grass seeds ripen in late spring to early summer. When these botanical remains are recovered from cultural features, one can assume they were not naturally burned. Thus, they supply approximate times of the year when occupations occurred.

Past environmental information can be gleaned from several different analyses. Soil samples collected from

Feature	Taxon	Common	Part	Count
2	<i>Prosopis glandulosa</i>	Mesquite	Wood	20
	<i>Prosopis glandulosa</i>	Mesquite	Seed, pod fragment	3
	<i>Atriplex</i> sp.	Saltbush	Wood	16
3	<i>Platyopuntia</i> sp.	Prickly pear	Fruit	2
	<i>Platyopuntia</i> sp.	Prickly pear	Seed	1
	<i>Populus/Salix</i>	Cottonwood/Willow	Wood	10
	Indeterminate	N/A	Wood	4
	Agavaceae	Agave, Yucca, Sotol	Caudex	3
4	<i>Prosopis glandulosa</i>	Mesquite	Wood	19
	Cheno-Am	Goosefoot or Pigweed	Seed	2
	<i>Atriplex</i> sp.	Saltbush	Wood	25
	<i>Atriplex</i> sp.	Saltbush	Seed	1
5	<i>Larrea tridentata</i>	Creosotebush	Wood	4
	<i>Prosopis glandulosa</i>	Mesquite	Wood	21
	<i>Prosopis glandulosa</i>	Mesquite	Wood	2
6	<i>Prosopis glandulosa</i>	Mesquite	Wood	7
	<i>Prosopis glandulosa</i>	Mesquite	Pod fragment	1
	Indeterminate	N/A	Wood	29
7	<i>Flourensia</i> sp.	Tarbush	Wood	3
9	<i>Populus/Salix</i>	Cottonwood/Willow	Wood	21
	<i>Prosopis glandulosa</i>	Mesquite	Wood	18
	<i>Sporobolus</i> sp.	Sacaton	Seed	3
11	Monocot	N/A	Culm	1
	<i>Prosopis glandulosa</i>	Mesquite	Wood	26
12	<i>Prosopis glandulosa</i>	Mesquite	Wood	25
13	Agavaceae	Agave, Yucca, Sotol	Caudex/fiber	6
	Cheno-Am	Goosefoot or Pigweed	Seed	3
	<i>Prosopis glandulosa</i>	Mesquite	Wood	50
	<i>Prosopis glandulosa</i>	Mesquite	Seed, pod fragment	2

This table details the wide variety of plants and plant parts identified by Dr. J. Philip Dering in flotation samples taken from features excavated at the Arroyo de la Presa site. This ancient open campsite along the Rio Grande in southern Presidio County yielded radiocarbon dates ranging from ca. A.D. 700–1700.

Analyzing pollen extracted from soil samples provides archaeologists with clues to prehistoric environments. These microscopic portraits of pollen from the 4,000-year old Paradise site in Presidio County represent a wide variety of plants: trees (hackberry, ash, cottonwood, juniper, oak, walnut, and pine), shrubs (verbena, Mormon tea, knotweed, and goosefoot), other desert plants (agave, prickly pear, creosotebush, and yucca), and grasses.



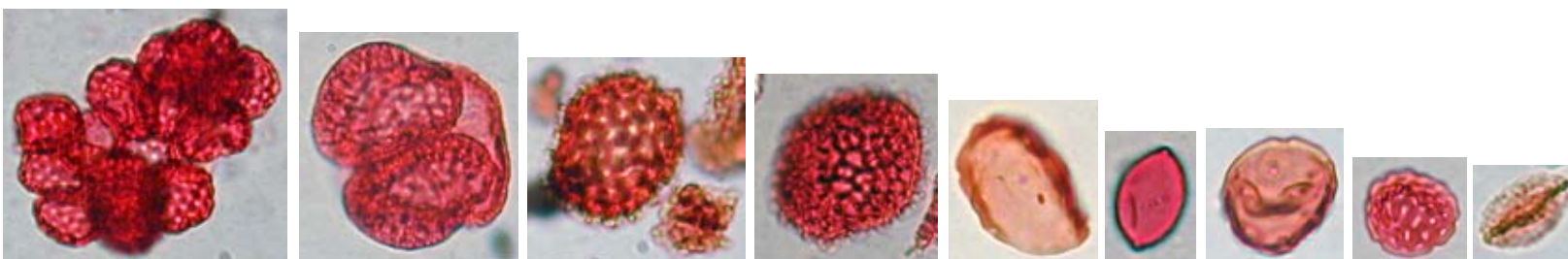


(Left) CBBS intern Casey Wayne Riggs uses a flotation device to recover plant materials from soil samples. The lighter materials float on the surface of the water and typically include charcoal and other charred debris that can provide insights about both the prehistoric environment and the plants people used for food; (right) a CBBS archaeologist carefully extracts a charcoal sample from a hearth/roasting feature. Archaeologists typically dig below the surface to secure charcoal samples in order to minimize the chance of contamination. A relatively large sample of charcoal can be dated for about \$350; smaller samples cost about \$600.

stratigraphic profiles or cultural features can be analyzed for pollen grains which can help to paint a picture of past vegetational regimes in the area of a site; however, in arid settings, such as those within the Big Bend region, pollen preservation is generally poor. Furthermore, because some pollen grains can travel great distances in the wind, researchers must use these data prudently. Other clues about past environments come from macrobotanical identifications, including wood identifications that can be determined from most charcoal samples. For example, recent CBBS investigations at a number of Early Archaic campsites in the region have indicated that mesquite was the fuel of choice as early as 7,000 years ago. Macrobotanical and other wood identifications from these sites—cholla, saltbush, and creosotebush—provide further data

that the modern environment was essentially in place by this time.

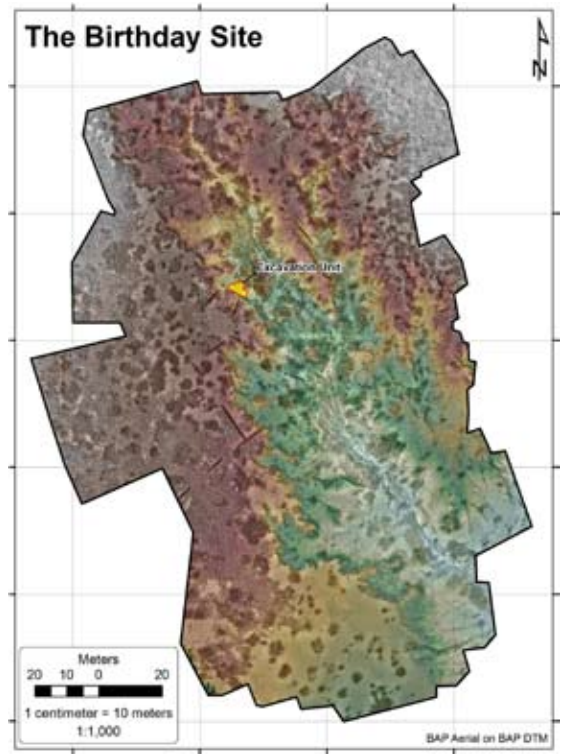
Information concerning the past setting of an archaeological site comes from geomorphological investigations, best described as “reading the dirt.” While CBBS archaeologists have a high proficiency at understanding the depositional history at a site, a geomorphologist or geoarchaeologist is often brought in to provide important details. For example, the CBBS recently documented a site in the cut bank of an arroyo which contained thermal features at both the top and bottom of the exposure. Because both occupations were dated to the Early Archaic period (ca. 6500–2500 B.C.), it seemed reasonable that erosion had stripped away the more recent deposits. However, after an extensive perusal of the area, a geomorphologist (Continued on page 14)



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microns

In the Field

A sampling of CBBS projects



(Top left) Aerial photography provides informative overhead images and detailed contour maps. This cutting-edge photographic technique also saves CBBS both time and money. Here, researcher Mark Willis launches a blimp carrying a digital camera with the aid of CBBS intern Casey Wayne Riggs; (top center) this overhead image of the Birthday site, one of many taken by a camera held aloft by Mark Willis' blimp apparatus, illustrates the test trenches dug to explore the location and extent of the Birthday site in Brewster County; (top right) over 1,000 overhead digital images of the Birthday site were "stitched" together and digitally manipulated to produce this highly accurate aerial map of the site and its surroundings. Highlighted on the map is the location of the CBBS block excavation initiated in fall 2009.

The Birthday Site

In summer 2009, a CBBS crew discovered the Birthday site in a transition zone between the lowland desert and lowest foothills of the Davis Mountains. Transition zones appealed to early inhabitants because of the wide variety of floral and faunal communities that live in, and cross through, these zones. Archaeologists first noticed evidences of three separate hearths that had been exposed by erosion; dating charcoal extracted from these features yielded Early Archaic dates for the site, ca. 5130 B.C., ca. 4850 B.C., and ca. 4620 B.C. These dates rank among the earliest radiocarbon dates associated with human activity in the Big Bend region, and led us to dig a series of exploratory trenches to discern the horizontal and vertical extent of the site. Additional work at the site included aerial photography and mapping, and a major excavation effort initiated in the fall and winter of 2009 continued into the early spring of this year. The block excavation has revealed a thick deposit (ca. 10–15 cm) of charcoal and ash associated with the thermal feature dated to ca. 4850 B.C., and is allowing a glimpse of past human behavior at the site.



Excavators painstakingly "pedestal" fire-cracked rock exposed in a block excavation at the Birthday site. Taking care to reveal the patterning of stones aids in understanding feature intactness and natural erosional processes that have occurred at the site. Charcoal retrieved from this ancient cooking event yielded a date of ca. 4850 B.C., one of the earliest dates recorded in the Big Bend region.



This photograph illustrates only a small portion of the extensive array of prehistoric art pecked and abraded onto a boulder at the Passmore Petroglyph site. The imagery conforms to what has been termed the Chihuahuan Desert Pecked Abstract Tradition, and is thought to have been created by Archaic hunters and gatherers.

Rock Art Research

One of the most intriguing aspects of Trans-Pecos and Big Bend archaeology is the discovery of significant examples of prehistoric rock art. This past year, CBBS teams have documented previously unknown petroglyph rock art at three separate sites. CBBS Research Associate Jamie Hampson visited these newly identified sites for inclusion in his ongoing synthesis of the rock art of this region. Drawing on his world-wide experiences with aboriginal rock art, Hampson has made steady progress in unlocking some of the mysteries of eastern Trans-Pecos rock art imagery, and presented his thoughts to gatherings of rock art scientists in both Brazil and England during the past year. Back at the office, CBBS Rock Art Coordinator Reeda Peel has continued to make progress on a searchable database for the seven large counties that comprise the eastern Trans-Pecos region. To date, complete data has been entered for more than 30 sites, including text, drawings, and photography.



This photo illustrates one of two piles of lithic debitage found during excavation of the David Williams site. All of the pieces of stone are the same transparent chalcedony, residue from the manufacture of stone implements. We suspect that these two piles of stone pieces represent the flint knapper's effort to contain the sharp-edged stones and to prevent them from littering the campsite, a behavior not often documented.

The David Williams Site

Just a few years ago, the Early Archaic period (ca. 6500–2500 B.C.) was one of the least understood cultural periods in our region. Our work over the past two years at the David Williams site—in tandem with more recent investigations at the Birthday site and other sites—has increased our understanding of Early Archaic times. At the David Williams site, recent excavations have revealed at least two short-term occupations separated by about 500 years, the oldest of the two dating to ca. 7,000 years ago. Although we have not yet uncovered any diagnostic projectile points, the burned bones of deer, antelope, cottontail rabbit, and jackrabbit recovered from the site give hints as to some of the menu items of these early peoples.

Across Alamito Creek from the David Williams site, CBBS staff and crew members conducted a scientific excavation of exposed animal bones; these bone fragments have been preliminarily identified as the mandible and ankle bones of a bison. If these bones are, in fact, bison bones, this will be the first such discovery in the Big Bend proper, and is an extremely important find.

Wood charcoal identifications from all of the Early Archaic sites—mesquite, creosotebush, cholla, and wood from the sunflower family—indicate that elements of the modern floral community were present and well-established in the region as early as 7,500 years ago. These data have contributed greatly to our understanding of the paleoenvironment during the Early Archaic period.



Another cold winter morning finds CBBS crew member Gena Roberts providing scale next to the Tinaja Blanca boulder. This isolated boulder on the edge of an arroyo in western Presidio County displays both petroglyphs and cupules.

In the Field continues on page 14.

In the Community

CBBS staff go above and beyond



Participants gather outside the barn at the MacGuire Ranch before attending an afternoon of archaeological presentations and a dinner.

Fundraiser a Soggy Success

Not even the West Texas monsoon season can keep staff from the Center for Big Bend Studies from sharing their love of archaeology with others. The Center for Big Bend Studies hosted “An Afternoon of Archaeology” at the MacGuire Ranch on September 12. The event was a fundraiser to benefit the Center’s Trans-Pecos Archaeological Program, or TAP.

The 65 attendees, including Center staff and board members, had planned to visit three archaeological sites on the ranch: the David Williams site, San Esteban Rockshelter, and the Chihuahuan Trail Archaeological District. Because of a sudden, intense downpour, they remained inside the metal barn to stay dry and to hear presentations about each site. Robert Mallouf and Andy Cloud spoke about archaeology in the Trans-Pecos, and John Seebach, Roger Boren, and Reeda Peel discussed sites on the ranch and regional rock art.

Presentations were followed by a social and dinner catered by the Food Shark-Marfa and Patrick Olivas of Fort Davis. CBBS Director Andy Cloud presented ranch owner Betty MacGuire with a plaque and an honorary Lifetime Membership for her outstanding support of archaeological discovery in the Big Bend.

The Center for Big Bend Studies plans to continue research at the MacGuire ranch, specifically at the David Williams site, one of the oldest buried sites identified in the region.



Patrick Olivas of Fort Davis cooked the traditional brisket and Food Shark-Marfa provided the non-traditional side dishes and desserts for the gathering at the MacGuire Ranch in September 2009.



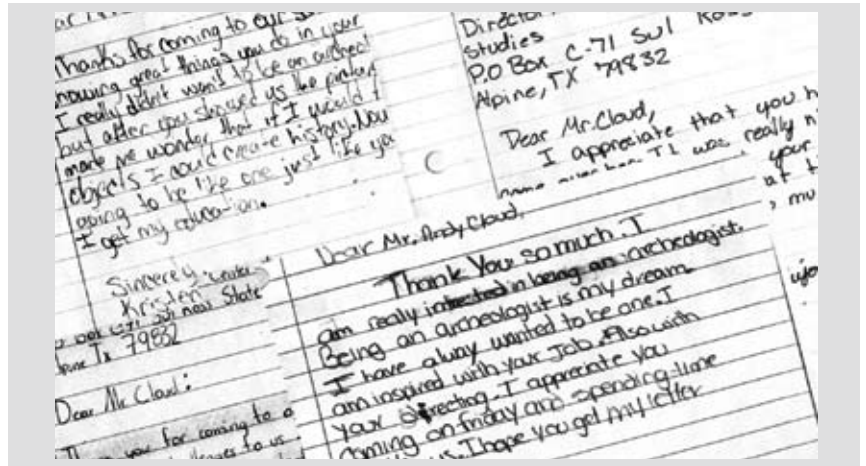
CBBS staff interprets the excavations at the Birthday site on the O2 Ranch for second-, third-, and fourth-generation members of the Lykes family from across the United States.

Ranch Camps

For the first time this year, the CBBS hosted a series of informal, day-long “Ranch Camps” designed to inform younger generations of ranch owners about the archaeological resources of their inheritances. In early August, Robert Mallouf guided several members of the Means family on a day hike to Mount Livermore and explained the prehistoric connections between the cache discovered there in 1895 and the cache discovered by the Means family on their ranch in 2002. During the first weekend in August, CBBS archaeologist Melissa Keane and SRSU Natural Resource Management professor Louis Harveson toured the Catto-Gage Ranch with three generations of Catto-Gage families and pointed out significant archaeological and wildlife resources to the assembled parents, children, and grandchildren. On a warm, sunny day in November, a full complement of CBBS staff archaeologists turned out to highlight some of the O2 Ranch’s many archaeological sites to members of the widely spread Lykes family. In addition, CBBS project archaeologist David Keller gave the gathered cousins a presentation on the nineteenth and twentieth century history of the O2 Ranch.



One of the youngest members of the Catto-Gage ranching family investigates pictographs on the interior wall of a rockshelter on the family’s ranch.



Letters from Presidio Middle School children.

Many Places, Many Faces

Informing the public about our field and lab work is a very important facet of the Center’s mission. This past year, CBBS staff members have been busy presenting more than 50 talks on the archaeology and history of the region to a wide variety of audiences. The following sampling of these talks hints at their broad reach, both in geography and in topics presented.

- In early spring, Melissa Keane co-hosted the Texas Archeological Society’s Regional Academy in Big Bend National Park.
- April took Andy Cloud, Reeda Peel, David Keller and Richard Walter to Lubbock to deliver archaeological and historical papers at the West Texas Historical Association’s annual meeting.
- April also flew John Seebach to Atlanta, Georgia to deliver a poster session, *The Paleoindian Record for Trans-Pecos Texas*, at the Society for American Archaeology’s annual meeting.
- In July, Sam Cason worked with Presidio High School students to clean up the Millington site and provided them with archaeological and historical information about their La Junta heritage over the course of the day.
- In October, Andy Cloud elaborated on *Eight Hundred Generations of People in the Big Bend: The Trans-Pecos Archaeological Program* to both the Alpine Kiwanis Club and a Front Street Books audience in Alpine.
- Reeda Peel presented illustrated talks on regional rock art to the Iraan Archaeological Society in February and at the Texas Archeological Society’s annual meeting in Del Rio in October.
- CBBS staff members spoke about careers in archaeology to Presidio Middle School students in May and to Marfa High School students in October.
- Three CBBS staff members made separate appearances on Talk at Ten, the Marfa Public Radio community interview program. Melissa Keane touted the upcoming 16th Annual CBBS Conference on the air in November, John Seebach spoke on the *Peopling of the Americas* in December, and Richard Walter described *Historic Indians of the Trans-Pecos* in January of this year. The interviews can be heard at www.sulross.edu/cbbs.

Prehistory in an Evolving Landscape

Applications of Geo in the Big Bend

Archaeological campsites are locations where prehistoric peoples subsisted, provided for their families, carried out their daily routines, and left behind artifacts, features, and activity areas that now comprise the archaeological record. In the Big Bend region this record can be exposed on the surface or lie buried beneath sediments, the former typically resulting in eroded or partially destroyed remains and the latter often preserving cultural manifestations. In either case, the archaeological record has been subjected to a surprisingly complex array of geomorphological processes. Understanding these processes, the relationship between evolving landscapes and human settlement, and how vestiges of human behavior are altered after a site is created helps the archaeologist decipher certain aspects of the record and ultimately facilitates the reconstruction of past lifeways. Geoarchaeology, the study of natural physical processes that have affected archaeological sites, provides a mechanism to shed

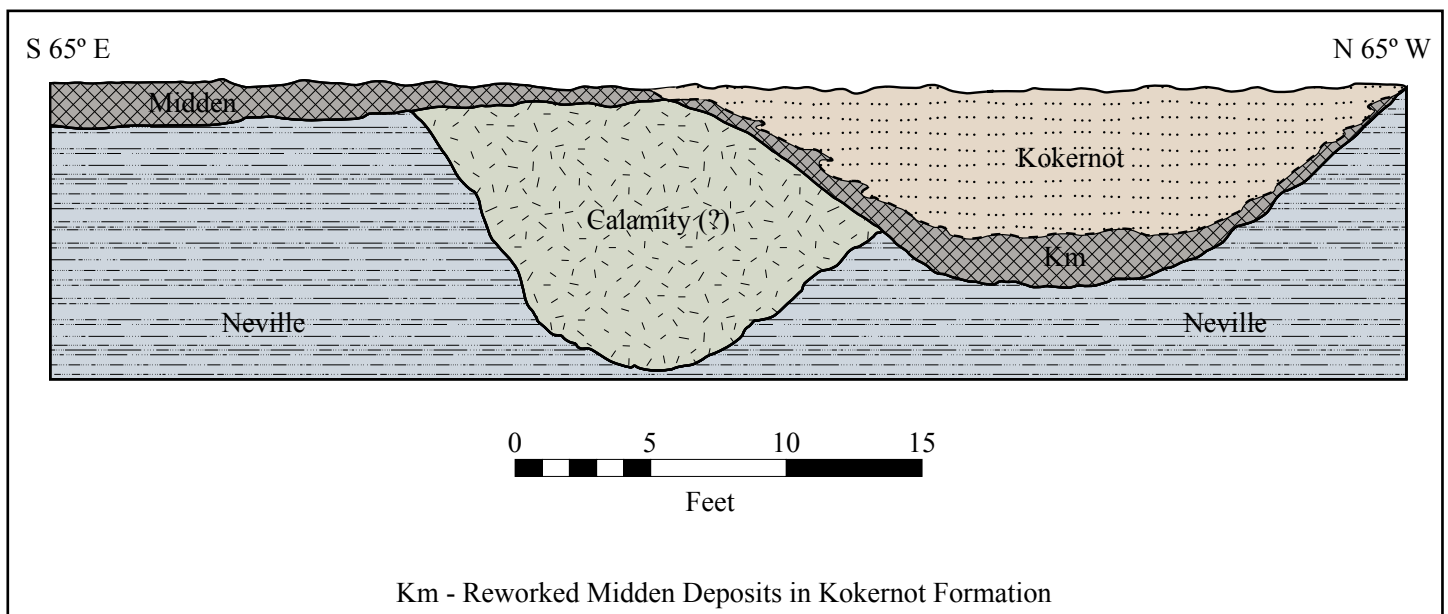
light on these areas of study.

A landmark geoarchaeological investigation was carried out in the Big Bend region in 1938 under the auspices of the Peabody-Sul Ross Archeological Expedition, an interdisciplinary team comprised of geologists and archaeologists. Claude Albritton and Kirk Bryan, of the Geologic Society of America, identified a repeated stratigraphic sequence evident in the layered sediments along prominent drainages in the study area. The sequence is comprised of three distinctive soil formations, each with unique characteristics, and each falling within an approximate time period. All three formations are thought to have been deposited during relatively humid times and are separated by erosional periods associated with aridity. Discoveries of cultural material within the sequence by project archaeologists J. Charles Kelley, Tom Campbell, and Donald Lehmer helped date the formations through seriation—a relative dating technique based on artifact changes through time. The result was a remarkably accurate timeline, given that this work was carried out before the advent of radiocarbon dating techniques. The oldest soil, the Neville formation, roughly correlates to the late Pleistocene and early Holocene epochs (ca. 25,000–8000 B.C.). Its latter portion may encompass Paleoindian times, although the expedition archaeologists suggested those cultural developments occurred during the subsequent erosional period. Overlying the Neville is the Calamity formation, encompassing the Early, Middle, and Late Archaic periods (ca. 6500 B.C.–A.D. 700). Lastly, the uppermost and youngest Kokernot formation correlates roughly to the Late Prehistoric period (ca. A.D. 1000–1535). Through an interdisciplinary approach, the expedition identified associations between characteristic geologic units, distinct tool types, habitation structural remnants, and human remains. Furthermore, they generated expectations for the



(Left) Dr. Charles Frederick wets a trench wall at the David Williams site while profiling; (right) sediments from the trench at the site are tested for texture and elasticity.

Archaeology



The juxtaposition of distinct sedimentary formations, along with archaeological materials within the sequence, helped the interdisciplinary team to construct a relative timeline of cultural developments in the eastern Trans-Pecos study area. Originally published by the project geologists (Albritton and Bryan 1939:Figure 8), this is a section from Nine Point Draw at the base of Red Bluff.

kinds of archaeological assemblages that could be found in the different geologic formations, their approximate ages, and in some instances, cultural affiliations.

Although the Peabody-Sul Ross Archaeological Expedition applied geoarchaeological methods during a formative period of such studies, the model they developed has largely stood up to the test of time. However, investigations in the region by the Center for Big Bend Studies (CBBS) over the last fifteen years have allowed some refinements to the model based on radiocarbon dating. More recently, beginning in 2007, the observations of experienced CBBS staff scientists have been complemented by the support of Charles Frederick, Ph.D., a renowned geoarchaeologist with international experience. Dr. Frederick added his expertise to key investigations in 2009, and his first-hand knowledge and on-the-ground field observations helped shape our investigations and interpretations.

Since 2008, excavations have been ongoing at the David Williams site along Alamito Creek in Presidio County. Through these efforts a complex sequence of very old arroyo deposits has been exposed, several of which date to the Early Archaic period (6500–2500 B.C.) and others possibly to the late Pleistocene epoch (possibly encompassing the Pa-

leoindian period). Dr. Frederick's identification of cut-and-fill episodes in the banks of the drainage and surface characteristics of the floodplain suggest that an earlier course of Alamito Creek—perhaps its location when the site was occupied—lies a short distance west of the David Williams site. In fact, the channel morphology suggests that the current course of the drainage is very new, possibly less than 100 years old. This reconstruction of the prehistoric landscape will guide future testing and excavation at the site in 2010 in our efforts to discover additional intact cultural deposits with preserved features, activity areas, and tool assemblages—data sorely lacking for the Early Archaic period.

In a second case study, at the Early Archaic-aged Birthday site in Brewster County, excavations are underway that complement Dr. Frederick's 2009 geoarchaeological study. This site is situated within the lowland desert a short distance from the southern foothills of the Davis Mountains. As a result of this setting, the site has been subjected to unique kinds of deposition and erosion when compared to the David Williams site. The pending results of excavations at the Birthday site will provide supplemental data on how the landscape changed through time and how archaeological deposits were affected during the disparate depositional



Alternating stratigraphic layers of sediment, such as these at the Calendar site in the headwater area of Terlingua Creek, provide indicators of which type of deposition or erosional process was dominant before, during, and after prehistoric occupation.

and erosional events. These data, combined with information from the David Williams site and several other Early Archaic period sites in the region, will help us better understand settlement and land use patterns during a time when lifeways changed substantially from the preceding Paleoindian period.

In yet another case study, staff scientists and Dr. Frederick discovered distinctive stratigraphic sequences along the middle reaches of Terlingua Creek, a major drainage basin in the central portion of the Big Bend. A radiocarbon assay from a hearth feature found within the sequence at the Meander site yielded a date of 1220–1050 B.C. Juxtaposed with younger dates from hearths within a distinct and widespread deposit at the nearby Side Arm site, the data tell us when these sediments along this portion of Terlingua Creek were deposited. When these deposits are mapped along adjacent portions of the drainage and its tributaries, they will serve as marker beds, providing chronological points of reference. This, in effect, will refine observations made during the 1938 Peabody-Sul Ross Archaeological expedition, while building on the foundation of their landmark study.

The projects described above have been conducted

through the CBBS's Trans-Pecos Archaeological Program (TAP), a research program uniquely situated to take advantage of modern geoarchaeological methods and concepts. Before the advent of TAP, we lacked sufficient funds to significantly build on the foundation of the 1938 Peabody-Sul Ross Archaeological Expedition. However, funding obtained through the program has made it possible to generate a critical mass of data using modern analytical techniques, new site discoveries, substantive investigations at sites from underrepresented time periods, and interdisciplinary collaborations. Geoarchaeological data gathered thus far have revealed a number of meaningful patterns, and with each step we have a clearer understanding of the natural and physical forces at work in the disparate environments of the Big Bend and how they affect our interpretation of the archaeological record. Applying geoarchaeology, we are making technically informed predictions of where key resources are preserved (e.g. anticipating where intact Paleoindian sites might be located), and conceptualizing human prehistory in a setting of diverse, ever-changing landscapes.

— Samuel S. Cason and William A. Cloud

Good Work



In February, CBBS staff and J. Travis Roberts, Jr. (far left) gather around the new highway sign that will be installed on Highway 118 later this summer. Text and pictures on the sign, created by members of the Brewster County Tourism Council in consultation with Center for Big Bend Studies staff and designed by Vast Graphics of Alpine, will give visitors an insight into the archaeology of the region.

The long strides made over the last several years in our understanding of the prehistory of the Trans-Pecos region would not have been possible without the good work and dedication of a host of supporters. This past year, we awarded honorary CBBS Lifetime Memberships to two important contributors. Betty MacGuire accepted her award at the fundraiser held at the MacGuire Ranch in September. Two months later, at the CBBS Annual Conference, Jeff Fort accepted his award. Thank you both for all your support!

Day-to-day dirt archaeology in the Trans-Pecos requires the goodwill and cooperation of on-site ranch managers. The CBBS has been extraordinarily lucky to have the opportunity to work with many good people, and this year we have honored two ranch managers with "Certificates of Appreciation." David Williams of the MacGuire Ranch accepted his certificate at the CBBS Annual Conference in November. Homer Mills of the O2 Ranch received his in March at an informal gathering on the ranch. Both men have facilitated our work in dozens of ways, including calling our attention to newly discovered



Andy Cloud presents Betty MacGuire with a certificate of Lifetime Membership to the Center for Big Bend Studies in September 2009.

sites and arranging ranch chores in order to accommodate our crews.

J. Travis Roberts, Jr., who serves as president of the Friends of the CBBS, as a CBBS Advisory Council member, and as chairman of the Brewster County Historical Commission, was recently chosen to receive the Texas Historical Commission's George Christian Outstanding Volunteer of the Year award. Roberts, who works tirelessly to save, restore, and protect archaeological and historical properties, was nominated for this prestigious state-wide award by CBBS Director Andy Cloud. The award and well-earned recognition will be given to Roberts on April 23 at the annual meeting of the Texas Historical Commission in Houston.

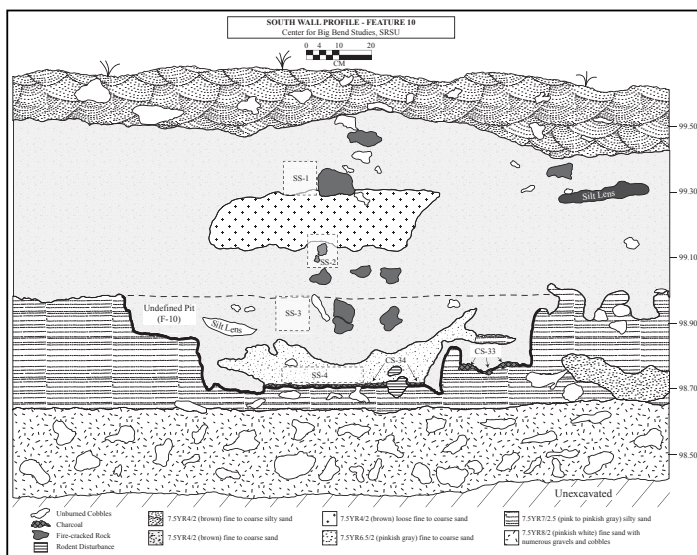
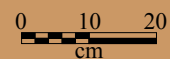
In March, Susan Chisholm, CBBS Administrative Assistant, received a well-deserved Bar-SR-Bar award from Sul Ross State University. The university-wide award recognizes Susan's hard work for the Center on a daily basis. In addition to greeting telephone callers, Susan ably handles the many details of membership, bookkeeping, travel arrangements, proofreading, and registration for the CBBS Annual Conference.

How Does He Do That?

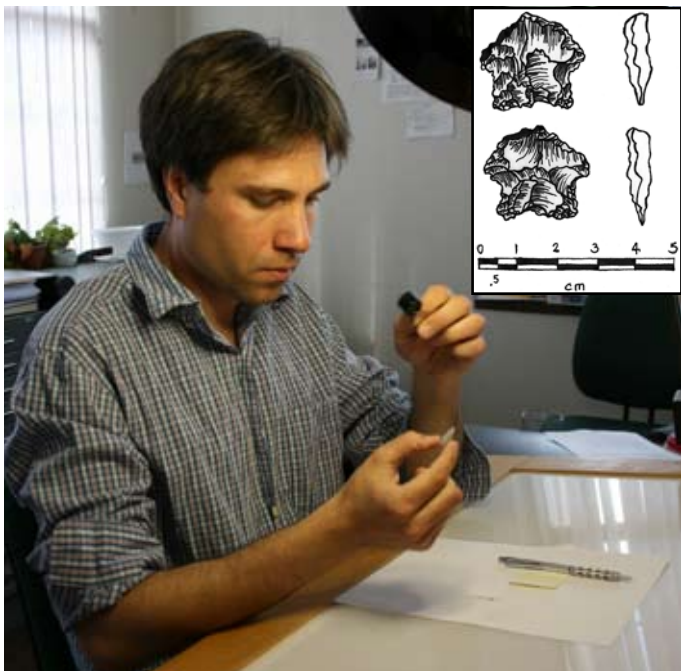
At the CBBS, we are lucky to have a scientific illustrator with both computer drafting skills and a background in fine art. Avram Dumitrescu's work varies from the highly technical to the artistic, and often combines both his eye for detail and his eye for design. On the technical side, Avram transforms assorted field drawings into digital renderings. Pencil drawings completed under diverse conditions in the field (wind, rain, heat) cover a wide variety of subjects, from site maps and excavation profiles to rock art. Avram uses his skills to translate the sketches, notes, and maps into clear, elegant, digital drawings that are used in publications, presentations, and in archival file copies of site records.

Archaeology relies on photography to illustrate scientific research, and digitizing and clarifying slides and photographs is an important part of the work of the scientific illustrator. At the CBBS, we call on Avram's skills to make the photograph of an artifact more effective by cleaning up the background, inserting a digital scale for better presentation, or simply improving the color and contrast. Sometimes, even the most precise digital photograph cannot illustrate the flaking patterns on a projectile point, and Avram returns to pencil and paper to demonstrate the details on these stone artifacts.

Profile drawings illustrate some of the most important information gleaned from archaeological excavations. As the first step of tackling the task of turning pencil drawings to digital ones, Avram works with the field archaeologists to understand the essential information they wish to be conveyed in the digital version of the profile. The field drawings are digitally scanned and used as the base template. Next, Avram outlines the elements of the profile drawing (for example, soil type or charcoal deposits). The next step is to choose an assortment of patterns to fill in the



The scientific illustrator translates the field archaeologist's pencil rendering of an archaeological profile of an excavation (lower left) into a digital illustration of the profile (lower right). To create this artistic portrayal of rock art (background), Avram first scanned the oversized original field drawing into his computer. Next, using Adobe Illustrator, he transformed it into a vector illustration. We used the redrawn graphic as the basis of the CBBS 2008 Annual Conference poster, a website banner, T-shirts, postcards, and greeting cards.



Dumitrescu illustrating a stone artifact found at the Oak Park site; (inset) his illustration of a point from the Double House site.

outlines and make the different elements of the profile easier to understand. The selection of patterns incorporates an element of artistic design because they must be chosen to enhance readability of the often-complex drawings. The finished profile is discussed once again with the field archaeologist to make certain that no content error has crept into the digital version.

Also on the technical side, Avram creates and manages the CBBS website, keeping it up-to-date and visually compelling. Look for the new rotating banner with field work photographs, as well as updated publication information and streamlined navigation. Recently Avram has added several radio interviews given by members of the staff (audio files are now posted, and written transcripts will soon be available). In 2010, Avram will expand the CBBS website horizontally to improve its display on new monitors.

On the artistic side, Avram contributes graphics for posters, brochures, the *Journal of Big Bend Studies*, and the newsletter you hold in your hand. All the illustrations have been created by the able hands and mind of our scientific illustrator.

— Melissa Crowfoot Keane

We depend on our scientific illustrator to create posters for various CBBS events. Shown here is his design for the 2010 Sul Ross State University Archaeological Field School, his painting in a poster designed by Erin Caro Aguayo for the 2009 CBBS Annual Conference, and his poster for a lecture on the history of groundwater law in Texas.



La Vista de la Frontera is the annual newsletter of the Center for Big Bend Studies of Sul Ross State University. Address correspondence to the Editor, Center for Big Bend Studies, Box C-71, Alpine, TX 79832, or cbbseeditor@sulross.edu.

Editing by Erin Caro Aguayo and Melissa Crowfoot Keane. Graphic design by Erin Caro Aguayo and Avram Dumitrescu.

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Mission

The Center for Big Bend Studies fosters interdisciplinary scholarship of the diverse prehistoric, historic, and modern cultures of the borderlands region of the United States and Mexico, with emphasis on the area encompassed by Trans-Pecos Texas and north-central Mexico. The Center is committed to the recovery, protection, and sharing of this region's rich cultural legacy through dynamic programs involving research, education, public outreach, and publication.

Volume 21, Spring 2010
www.sulross.edu/cbbs/
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An Inside Look at Archaeology, continued from page 3.

determined the arroyo had changed its course after the last occupation and had deposited Middle- and Late Archaic-aged sediments in a lateral direction prior to returning to its former course.

These are just a few examples of how archaeologists use a multidisciplinary approach to breathe life into the past. Importantly, a suite of additional analyses is now available to the archaeologist, including stone and ceramic sourcing through instrumental neutron activation analysis, and residue analysis using gas chromatography. All together, these various analytical tools are helping to revolutionize the field of archaeology while providing an array of details about man's past behavior and lifeways.

—William A. Cloud

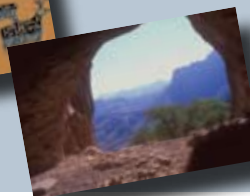
In the Field, continued from page 5.



Survey includes detailed recording of sites and features. Here, CBBS crew members record a Cielo complex hilltop site (ca. A.D. 1300–1700) in Big Bend National Park.

Big Bend National Park Survey

In 1995, the CBBS and National Park Service initiated a long-term archaeological survey in Big Bend National Park. After years of work, and a five-year hiatus in funding, the project is finally nearing completion. In spring 2009, our crews surveyed 8,500 acres in 22 separate blocks over a 50-day period, recording 305 sites. During the project thus far, approximately 1,400 sites have been documented during survey of 64,500 acres (over 100 square miles!). The spring 2010 season will be focused on ca. 4,000 acres within randomly generated blocks to test our model of site settlement within the park. Although this will complete our field work for the project, the publication detailing this work is not scheduled for completion until December 2013.

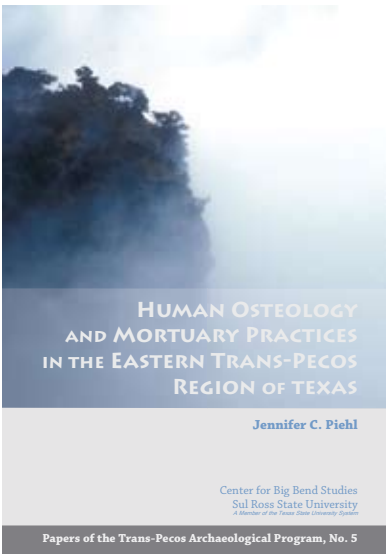


CBBS Notecards

A detail from Tablecloth Rockshelter, recorded by Reeda Peel, and a stunning photograph by Andy Cloud are now available on postcards and notecards. \$1 per postcard (\$8 for a pack of 10), \$2 per notecard (\$18 for a pack of 10). Contact Susan Chisholm at (432) 837-8179 to place an order.

CBBS Store: books and gear

New TAP Book: Osteological Studies



Papers of the Trans-Pecos Archaeological Program, Number 5
Jennifer C. Piehl

This volume presents an osteological and mortuary analysis for the eastern Trans-Pecos region of Texas. The work was undertaken for the Center for Big Bend Studies of Sul Ross State University, as part of the Center's Trans-Pecos Archaeological Program. The study includes archaeological and osteological data from 123 interments, including those recovered by the Center for Big Bend Studies as well as those available in private and organizational archives, publications and collections.

\$20 (\$15 Member Price)

Journal 21 now on sale

Copies of Volume 21 of the *Journal of Big Bend Studies* are now available. We also have some of our more popular journals, listed below. The abstracts can be read on our website, www.sulross.edu/cbbs/

Volume 21–2009

Volume 20–2008

Volume 19–2007

Volume 18–2006

Volume 13–2001

\$15 Each

Index for vols. 1–8, \$5 (free for members)



New CBBS T-Shirt Design

Featuring rock art from the Big Bend's Tablecloth Rockshelter, the new CBBS t-shirts were designed by our graphic illustrator, Avram Dumitrescu, and are produced in Alpine, Texas. Available in green or khaki, adult sizes S, M, L, XL, XXL and youth sizes S, M, and L. **\$15 each**

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