

# Bones and Stones: Recent Discoveries of Clovis and Late Paleoindian Deposits at the Water Canyon Site, Socorro County, NM

by  
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## BACKGROUND

The Water Canyon site (LA 134764) was originally recorded in 1999 by the author (as Principal Investigator for Escondida Research Group) during an archaeological inventory for a proposed astronomical facility in Socorro County, NM. Located in a basin between the Magdalena Mountains and the Socorro Mountains, west of Socorro, NM (see Figure 1), the site was characterized as an open lithic artifact scatter (ca. 3250 square meters in size) created during the Late Paleoindian period (ca. 10,000 – 8000 cal yrs Before Present).



Figure 1. Overview of Water Canyon site, looking south. Magdalena Mts. in distance.  
(Photo by V. Holliday)

The temporal assignment was based on the presence of a Scottsbluff projectile point fragment (Figure 2) which is, in turn, part of the Cody Complex of Late Paleoindian tools that also includes Eden points and Cody knives. It was noted at the time that an incised arroyo to the northeast of the site contained an extensive layer of blackened sediments about two meters below the surface (Figure 3). These sediments were interpreted as a highly organic stratum that most likely represented the remains of an old cienega or marsh. Based on its stratigraphic position, the cienega was thought to have been extant at the end of the Pleistocene and the start of the Holocene geological epochs (ca. 13,000 to 8000 years ago).

In the summer of 2008, the author (OAS) returned to the site with Patrice Walker (Escondida Research Group), Vance Holliday and Bill Rietze (University of Arizona), and Bruce Huckell (University of New Mexico). We retrieved 4 dateable samples from the buried cienega deposit and documented a possible bison bone fragment extending from the deposit. By the spring of 2009, we received dating results (Table 1) which confirmed that the cienega existed between the



Figure 2. Scottsbluff projectile point base.  
(Photo by S. Jacquith)



Figure 3. View of cienega deposit in arroyo near Water Canyon Site.  
(Photo by B. Huckell)

Table 1. Radiocarbon ( $^{14}\text{C}$ ) dates on samples recovered from the cienega deposit relative to in-situ bone and upper and current lower levels of deposit.

Sample No. or Location	Material Dated	Depth below ground surface (cm)	Date (RCYBP)	Date (Cal BP)
Top of cienega deposit	---	150	---	---
A-15021	Auger sediments	179	9285 +/- 85	ca. 10,690 - 10,230
In-situ bone	---	182 - 187	---	---
A-15022 <sup>1</sup>	Auger sediments	201	7820 +/- 220	ca. 9350 - 8150
AA-83855	Charcoal	202-210	9750 +/- 50	ca. 11,240 – 11,070
Arroyo gravels at intersection of cienega deposit w/ arroyo sediments	---	215	---	---
AA-83854	Black sediments	216	11,030 +/- 60	ca. 13,200 – 12,850

Note: Radiocarbon dating done at University of Arizona Isotope Geochemistry Laboratory (A-#s) and the NSF-Arizona Accelerator Mass Spectrometry (AMS) Laboratory (AA#s).

<sup>1</sup> Due to it's large error, the date for this sample is considered to be unreliable.

Late Paleoindian period and the Clovis (early Paleoindian) period (ca. 13,325 –12,975 cal yrs BP), and that the bone fell squarely into the Late Paleoindian period.

#### CURRENT RESEARCH

A full week of archaeological testing was completed in early June, 2009. Participants in this phase included the author, P. Walker, V. Holliday, B. Reitze and Anna Martin (U of AZ). We succeeded in:

- fully mapping and field-analyzing the surface artifact distribution of the site (which turned out to cover an area six times larger than the original site);
- excavating portions of test units in the cienega deposit;
- recovering additional dateable samples and several bones (Figure 4) and pieces of tooth enamel (which support our previous bison identification);
- using a Giddings soil coring rig to further characterize the buried cienega deposit (which seems now to be fairly extensive and intact); and
- discovering fragments of a probable Eden projectile point and a Clovis point (Figure 5).

#### UPCOMING RESEARCH

We now believe that the site represents only the third intact Clovis site known in New Mexico. Given the results of our testing efforts in 2008 and 2009, the potential for the site to provide high resolution paleo-environmental, chronometric, faunal and cultural data for both the early and late Paleoindian periods seems immense. Pending the acquisition of sufficient funding, plans are now afoot to return to the site and continue research efforts sometime in the fall of 2009 and/or the summer of 2010.



Figure 4. Bison bone in Late Paleoindian level of cienega deposit.  
(Photo by P. Walker)



Figure 5. Clovis projectile point base.  
(Photo by S. Jacquith)

The upcoming archaeological work is aimed at recovering sufficient information from the Water Canyon site to verify its data potential. As such, we will endeavor, in October of 2008, to lay out test units within the four surface artifact loci and put in a backhoe trench just north of the test units excavated this year. The backhoe trench will provide us with a good view of the stratigraphy of the overburden, and allow us to test for the presence of intact cultural deposits, above the buried cienega deposit.

In the spring of 2010, OAS and others will complete hand excavations in the four artifact loci to test for buried, intact deposits and cultural features. In addition, we will mechanically expand the removal of overburden above the buried cienega deposit; search, using hand excavations, for additional bison remains; complete additional soil cores to further characterize the extent of the cienega deposit; and collect sufficient samples for the recovery of paleoenvironmental proxy data, such as pollen, phytoliths, and fossil insects.

#### FUNDING APPEAL

The OAS has committed some funding to pay for archaeologists to continue testing work during 2009 and 2010, and we are also being underwritten by a small grant from the Argonaut Archaeological Research Fund (AARF) at the University of Arizona to cover expenses for additional soil coring work and some radiocarbon analyses. We are receiving in-kind donations from New Mexico Tech, in the form of mechanical equipment and porta-potties and we have pre-applied for a grant from the National Geographic Society to underwrite per diem and some analytical costs. However, we are still in need of monies (upwards of \$10,000) to pay for sub-contractors and other analytical costs (e.g. phytoliths, fossil insects, stable carbon isotopes).

We would like to appeal to members of the general public for financial assistance.

Paleoindian sites in New Mexico are uncommon (less than 1% of all known sites) and those with intact, accessible deposits are vanishingly rare. So, at whatever level you think you might be able to assist, please know that you will be underwriting scientific research at one of the most ancient archaeological sites in New Mexico and one with enormous data potential.

Please contact Dr. Robert Dello-Russo at the Office of Archaeological Studies at (505) 827-6472 or [robert.dello-russo1@state.nm.us](mailto:robert.dello-russo1@state.nm.us). Thank-you in advance.