Our dig season got a head start on summer when we ventured out to the Suarez Sisters site June 4. John, myself and Casey Dooms, an active museum volunteer, got an early start that Wednesday morning, made the long drive out to the quarry and put in a good day opening up the site, exposed a bed of Therizinosaur bones, stabilized, prepped and removed a number of fossils before the sky clouded up, the wind began to blow, it darkened and the rains came. Wonderful to have it rain in the desert. The air becomes sweet, rich with the smell of earth and flower, cool, life giving moisture. Good for many things, not so good for digging dino bones. Our excavation work at this quarry was done for at least a few days. It was a good rain.

Everything was dampened, except our spirits. We closed up the site, packed up the excavated bones and began the trek down the steep grade to the vehicle. More like skiing Alta with the slick mud. We had an eight mile drive before getting to the paved road. I offered John an ice cream in Green River if he could get us out of here without having to push, pull or dig out the Suburban in the process. Bless his heart, he took the challenge and performed admirably and drove us straight to the ice cream parlor. It was worth every penny.

The following day we headed for the heart of the San Rafael Swell and some expansive outcroppings of the Chinle Formation. We were going to spend this day doing site surveys looking for some of the rare fossil bone in this very old material (250 million years). It was a gorgeous day in a gorgeous place and while we found no bone, yet, we did find some fine samples of fossil wood. This wood is part of a huge forest that extended down from central Utah, through Arizona, New Mexico and into Texas. The impressive fossil wood found at Petrified Forest National Park in central Arizona is a part of this same forest, just much bigger samples. If you want to see living descendents of these trees, visit the Hall of Dinosaurs at the museum and check out the two samples in the center pit.

We collected some good samples of our own this day and found the source of this wood way high up near the top of the Chinle. Driving continued on page 3

**Field Notes**

By Bill Heffner

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We are doing wonderful things in collections. Aside from the planning and implementation of Mammoth Activity Day and the Mammoth Feast, we have been working very hard on the DV2 collection, our huge and impressive set of artifacts resulting from the Legacy Highway Project. Karen and Stephanie Fitzsimons have been diligently checking boxes for the correct artifact inventories, labeling said artifacts, repackaging in archival bags (bags upon bags upon bags!), and then starting over with new boxes of items. Stephanie has been a wonderful “übervolunteer” for both collections and archaeology this year, handling a wide range of activities from being on the Mammoth Activity Day Committee to cataloging Range Creek and DV2 artifacts. She has been a total blessing and a newfound friend.

Craig Royce, a teacher at Pinnacle Canyon Academy, has also recently begun volunteering with us. He has been very helpful, putting in time daily and cheerfully accomplishing all the random things we ask of him. His scheme is to build a sense of the inner workings of the place, and so has a number of different experiences under his belt already. As Craig is passing some of this knowledge along to students, we have also met several of Craig’s students interested in museum work. With the educational initiatives planned by Lloyd and new educational programs at Pinnacle, this promises to become a good partnership model.

We had a steady stream of interesting people this summer. CEU student Ariel Hayes acted as an intern for collections. Ariel is an artist and worked extensively on Activity Day artwork: you may have noticed her atlatl target! We have also seen several researchers hanging out in collections this summer. The Suarez Sisters were here, working on their geology dissertations, as well as several other dinosaur-inclined folks working on everything from Eolambia to Utahraptor. In particular, that last one caught the attention of Phil Senter of Fayetteville State U in North Carolina, who has been playing with skull bones and work-

Aside from all this excitement, general cleanup and training are to our collections schedule. This fall collections hopes to finish with the DV2 collection and move forward and onward to other things-like dinosaur bones, mapping, art collection cleaning, and sprucing of educational collections. This will be a satisfying fall!
Lab and Quarry

for a while, then dropped down and crossed the dry river bed and worked our way along the banks till the day grew late and our water bottles empty.

The following day we approached the Bad Lands from the south, a longer hike in but not as much of a climb. Great looking country. Early in the day we found several old quarry sites. As we got further into these clay banks and more distance from the road any signs of digging disappeared. We were finding numerous sites with weathered bone fragments and some petrified wood. In the early afternoon we began to find better material and, in time, came upon a good pile of dino vertebrae, possibly Eolambia, and nearby, 2 or 3 other collections of surface bone. GPS and photos were taken and a note to plan on coming back here to explore further another time.

During the week of 6/16 John headed back down to the Mussentuchit area, EO2 with a group of 9 students from Emery Co. Reese and Bill, at this same time, drove out to Suarez Sister site with a small crew from NY. Both crews put in some good work and long days, each transporting about 40 bones back to the lab. John's crew put in a final day prep ping some of the material they excavated.

Early July we invested several days out at PR2 with the help of Craig Royce and a bunch of students. Tons of overburden were moved and we were once again back down to the bone bed. PR2 has been a producer over the many years we have worked out there with bones of seven individual brachiosaurs and three armored dinosaurs. With this volunteer help we were able to get some jackets made and additional excavation on exposed bone.

Mid July John spent some time sculpting a nodosaur skull that will be needed for a mount being made in Colorado. Not one to be idle, I snuck off to Range Creek and put in some time with the Archaeology crew helping excavate a small Fremont farming village site. I had forgotten just how small a one square meter pit can be and with what difficulty one is faced when squeezing a fat old body into those confines.

By July 22 we were back out to PR2. With the help of Bronson, a grad student, we were able to remove the Ischium jacket, finish a larger bone cluster jacket and excavate a couple of grand nodosaur bones, a cervical vert and a radius. And, all this before a mean old nasty storm drove us away from the quarry, leaving a tarp, a bucket and some tools buried in the mud.

Aug 4 John and I were again at PR2, retrieving the tarp and tools and facing a mountain of dry mud that the last storm brought down into the quarry bed. Oh, well! Got to have a sense of humor. The up side is, we no longer have to face the looming and threatening mud cornice that hovered over the quarry this past year or two. This last rain took care of it. Many wheelbarrows later we were back down to our bone bed and feeling the pleasure of working in a safer quarry.

So now is the time to come out to the quarry. The summer heat is gone. The gnats are gone. And the imposing mud monster is gone. All that left is a fine bone bed of very large, rare nodosaur material there for your pleasure. Come on out and enjoy the excellent fall weather.
THE DIRT ON ARCHAEOLOGY BY K. RENEE BARLOW

We will continue excavating Appliqué House during the 2009 CEU archaeological field school next summer, and will start excavations at the “Burnout Village,” later this month.

We are continuing investigations at a small 1000 year-old Fremont village in the north end of Range Creek, and working on other archaeological projects in the San Rafael Swell, Nine Mile Canyon and the Price River Canyon. In Range Creek we finished excavating a three by one meter area to the floor of what appears to be a very large circular masonry one-room structure, or “Fremont pueblo” that we nicknamed “Appliqué House.” The structure appears to have been approximately eight to twelve meters in diameter. It was occupied around AD 1000, most likely during the hot summer months. Dr. Reese Barrick and Amber Schweiger visited the site and helped screen and find artifacts, and we have recovered grayware ceramics, appliqué ceramics, mano fragments, stone and ceramic pendants, a hammerstone, lithic waste flakes, a projectile point, a biface fragment, charcoal, animal bone and a Fremont stone ball, with some artifacts clustered on the floor near a small ash-filled hearth. We also recovered samples for Carbon-14 dating and sediment analyses. Last week we excavated a deep one-by-one meter test pit on the floodplain below “Appliqué House.” The goal of these small tests units placed just off-site is to recover sediment that is approximately 1000 years old that may yield evidence of maize farming, and possibly prehistoric irrigation or farming features near Range Creek. We dug through several levels of rocks, silts, sands and charcoal lenses, and collected sediment samples for pollen, phytolith and chemical analyses from approximately 1.5 meters below the current ground surface.

Hopi Visit
We also met with the Director of the Hopi Cultural Preservation Office and four Hopi elders, who were very excited about the Range Creek flute and other artifacts in the museum. They feel that the Fremont of this region may be part of their ancestral clans, and would like to visit Range Creek with us to look at rock art.

The Cliff Green Site
This week we recorded a new Fremont site near one of the Dinosaur Quarries in the San Rafael desert. The site was literally washing away towards a small side drainage, and included multiple sherds from a single, small Emery gray jar that had been dropped or cached at the site, two stone cores, part of a biface and several pieces of chipped stone.

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CEU Excavations at Range Creek & Etc.

Continued

Upcoming Conference Presentations

We will be presenting a paper and a poster at the Great Basin Anthropological Conference in Portland. The paper is “The Fremont Granaries of Range Creek: Defensive Maize Storage on the Colorado Plateau.” The poster is called “Archaeology of the San Rafael” and will include information multiple sites we are investigating as part of our newest CEU project: the San Rafael Archaeological Project.

The Archaeology of Range Creek

Located on the northern Colorado Plateau, Range Creek is one of the deep canyons of the Green River drainage. The terrain is rugged and steep, and heavily vegetated. Range Creek Canyon cuts through the Roan Cliffs on the West Tavaputs Plateau, and is a major tributary of the Green River with a confluence just below Desolation Canyon. The perennial creek and springs provide a constant, predictable supply of fresh water, and the Douglas fir forests, pinyon/juniper woodlands, lush riparian thickets and desert saltbush communities of Range Creek hosted a substantial prehistoric population of farmers and foragers.

The archaeological record of Range Creek is unique. After seven seasons of fieldwork approximately 400 archaeological sites have been discovered and documented, including more than 100 sites with rock art, 148 granaries, and dozens of small pithouse villages. The majority of sites are associated with the Fremont culture, and the people who produced them hunted and farmed maize, beans and squash through-much of Utah and parts of Colorado, Idaho, Nevada and Wyoming from approximately AD 400 to 1350. Archaic peoples who were part of the same culture that painted the beautiful Barrier Canyon pictographs in Horseshoe Canyon and Buckhorn Wash camped in the canyon and probably hunted sheep and deer on the ridges above the floodplain beginning between 5,000 and 3,000 years ago.

The earliest Fremont started farming in the canyon by about AD 400. From this time to about AD 800, these ancient people mostly used the lower canyon for hunting, collecting wild plants, and cultivating small plots of maize and gourds. They probably lived in small, mobile bands like the Paiute hunter-gatherers of southern Utah, planting seeds and crops at a half dozen locations in several different canyons. Later in the year they would return, harvesting their crops and wild plant foods and storing them in small juniper, sandstone slab and adobe-lined bins, or “cists” in the floors of caves and shallow alcoves.

Between AD 930 and AD 1040, the Fremont in Range Creek began farming the middle and upper reaches of the canyon and became a unique, local cultural entity. They inhabited dozens of small pithouse villages on the first rise above the canyon floor, stored their maize in large granaries on the cliffs, and built circular masonry rooms on prominent knolls above farms and villages. They painted shields, spirals, snakes, and figures of people in masks, and constructed a few village sites high on the ridges, 800 to 1700 feet above the canyon floor. They farmed corn, harvested local seeds and hunted bighorn sheep and deer. They mainly used local pottery and raw lithic materials from the area of the San Rafael Swell, Ivie Creek and the Muddy River, but also imported cherts, quartzite, obsidian and pottery from other Fremont regions, including areas near Vernal, Fillmore, and Richfield.

By AD 1160, agriculture in Range Creek was waning. The cliff granaries were abandoned by this time, and only a few, larger villages in the middle and lower portions of the canyon appear to have been occupied. Perhaps they lived year-round in the canyon, and stored their maize in the houses like some Fremont in other regions. In addition to the traditional small Fremont grayware jars, they used large trough-shaped grinding stones, decorated black-on-white bowls, large corrugated cooking jars, and Tsegi orangeware and polychrome pottery. They probably traded for some Kayenta Anasazi wares with Fremont or Anasazi neighbors to the south, along the Green River and Colorado River corridors. The Range Creek Fremont appear to have abandoned the canyon by AD 1200.

ciao-
KIDS ONLY

COLOR ME FUN!
The comments from the public seemed to indicate that the Mammoth Celebration was a success. People seemed to like the activities that were authentic or more prehistoric or true to the culture. Renee Barlow’s activities of painting rock art with natural pigments was a huge success, and corresponded extremely well to the grinding of the pigments and maize and grass seed. Her station was busy all day.

The coiled basket station was very popular with adults and kids. This was especially true when Tyler and April were manning the station. The station was surrounded for hours with Tyler as the teacher! We, on the mammoth committee, were especially thankful for Bruce Burgess and Blaine Atwood for bringing their fiber and cordage and pottery booths to the festivities. Speaking of thanking people—the Mammoth Day committee included: Steffanie Fitzsimons, Karen Green, Reese Barrick, Renee Barlow, Jeff Bartlett, Alison Sundahl and Connie Leighton. We very much appreciated the food being done by the Potts family, it was all very tasty. Special speakers for the day were Don Burge, Navajo traditions, and Robert Kirby. Alison did an excellent job of spearheading the speakers and timing the kids movies in the classroom. The CEU staff were also more than helpful with the actual Mammoth Day activities and we owe them a big thanks.

The Mammoth Feast was a huge success! We had Jake Enk from the U of U speak on mammoth DNA and Robert Kirby of the Salt Lake Tribune speak on being mammoth aged! We had 109 diners that evening at the Elks lodge and Richard and his staff did an excellent job with dinner. All the businesses in town who donated for the auction were terrific and very supportive of the museum. Not one vendor said no when asked to help. It was a great night to get reacquainted and see old friends and a great way to celebrate the 20th anniversary of the mammoth being found.

For all those who helped with Mammoth Day and Mammoth Feast this year, a great big THANK YOU. For all those who couldn’t help this year, we’ll hit you up next year!
MAMMOTH DAY/MAMMOTH FEAST UPDATE
By Alison Sundahl

We celebrated Mammoth Day on 8-8-08 (the 20th anniversary of the discovery of the Huntington Mammoth) and it was a huge success. Over 450 people attended the activities and a crowd of over 100 attended the Mammoth Feast. The Mammoth Day schedule was filled with at least 15 different educational activities, presentations, and demonstrations. Demonstrations included Primitive Food Prep and Rock Art- Natural Paints with Renee Barlow, Rope/Cordage Making with Bruce Burgess, Clay Pot making with Blain Atwood, Drum and Basket Making with Karen Green, and Flint Knapping with Stephanie Fitzsimons. There was much fun and excitement that day; visitors were treated to music by the talented Lazlo Brothers band and many people enjoyed the delicious food provided by Connie and Michael Potts. Even the dunking booth was very popular with the crowd, especially when the local government candidates were scheduled! We even had the “Ice Age” movies indoors on the big screen for those that wanted to escape from the heat. Over 30 volunteers and staff worked in shifts and we are extremely grateful for all of their efforts and hard work that day.

We were also fortunate enough to have some great speakers give presentations and we are still receiving wonderful feedback on their talks. Founder and past Director of the museum, Donald Burge, spoke about the discovery and excavation of the world famous Huntington Mammoth and divulged interesting facts about this amazing creature. Lucille Hunt, an expert on Navajo culture, talked about Navajo customs, how they have responded to outside influences and what contemporary people might learn from this rich culture. Funding for Lucille’s presentation was provided by Utah Humanities Council’s Public Square Program. If you would like to find out more about this great program, visit www.utahhumanities.org.

Mammoth Feast keynote speaker Robert Kirby, columnist from the Salt Lake Tribune, ranged predictably far afield on his personal experiences in Utah and here in the resource area. His style lent a distinctly human side to the field experience, including numbers of humorous anecdotes from personal and professional lives. Both his talks resonated strongly with the audience and was an effective counterbalance to the weighty fare served by the first speaker, Jake Enk, on mammoth molecular relationships and the exciting work on the Huntington Mammoth. Jake researches with the Anthropology Department at the U of U, focusing on taphonomy, the processes of burial and fossilization, and unlocking the secrets of ancient DNA.

The Mammoth Feast was held at the Price Elk’s Lodge, where Richard and his professional staff provided excellent service and served up a mean mammoth roast! After the dinner and presentations, we had our silent auction. Thanks to our generous contributors listed below, we raised well over $1,000 for our educational programs!

We want to thank our presenters Don Burge, Lucille Hunt, Jake Enk and Robert Kirby and our demonstrators Bruce Burgess, Blaine Atwood, Stephanie Fitzsimons, Renee Barlow and Karen Green. And a BIG thank you to all the volunteers and the Mammoth Day Committee, we could not have done it without you!

And a special THANK YOU to the following donors and sponsors:

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- Triceratops 37”
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Featured Book

Cruisin’ the Fossil Freeway
Written about recently in The Salt Lake Tribune - Article Last Updated: 07/22/2008 02:23:24 PM MD
“Cruisin’ the Fossil Freeway”
Kirk Johnson, 208-page paperback, $29.95, Fulcrum

Kids are fascinated with dinosaurs, and parents who want to interest their children in a vacation should find plenty of interesting places to see in this book by paleontologist Kirk Johnson and artist Ray Troll. The pair take a 5,000-mile road trip through Colorado, Wyoming, Montana, Nebraska, Utah and South Dakota in search of fossils, small-town museums, rock quarries and interesting characters fascinated with dinosaurs.

One tour features the Dinosaur Diamond in Utah and Colorado that includes such sites as the CEU Prehistoric Museum in Price, the Cleveland Lloyd Quarry in Emery County, the Dinosaur Museum of Blanding and the Vernal Fieldhouse Museum.

The book offers great detail and fun graphics presented in an entertaining way.
This book contains a lot of references to our museum and the area!
Find the JUMBO Cuddly Triceratops before someone else finds him first!
Jumbo Cuddly Triceratops and other Jumbo friends available for sale at the CEU Prehistoric Museum Gift Shop

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