RESULTS OF ARCHAEOLOGICAL INVESTIGATIONS IN THE RUFET-HESS RESERVOIR EXPANSION AND HESS ROAD AREAS

Douglas County, Colorado
INTRODUCTION

The Parker Water & Sanitation District (District) provides water and wastewater service to residential and business customers in its service area in northern Douglas County (illustrated above).\(^1\)\(^2\) The population of Parker has grown from less than 200 when the District was formed in 1962 to more than 45,000 residents in 2015.\(^3\) In 1985, in response to a projected water shortfall, the District began the planning for the Rueter-Hess Reservoir Project, an off-stream dam and reservoir in Newlin Gulch, a tributary of Cherry Creek, located approximately 3 miles southwest of downtown Parker. The Project included a dam, reservoir, and associated facilities along Newlin Gulch; water pipelines; and a diversion facility along Cherry Creek. Because the Project affected jurisdictional waters of the U.S., the District was required to obtain a permit from the U.S. Army Corps of Engineers (Corps), under the provisions of Section 404 of the Clean Water Act. In 2003, the Corps completed an Environmental Impact Statement (EIS), in accordance with the National Environmental Policy Act (NEPA). Following the completion of the EIS, the District received inquiries from other regional water providers about using the reservoir to store water for their customers. The District approached the Corps about the possibility of expanding the size of the reservoir, and the Corps determined that a Supplemental EIS was required. The pool area expanded in size from 16,200 acre-feet to 75,000 acre-feet, inundating an area of approximately 1,170 acres (Figure 2). Following comprehensive environmental analyses,
the Corps approved the reservoir expansion, which was completed in March 2012.

As part of the EIS, a Programmatic Agreement (PA) was executed among the Corps, Colorado State Historic Preservation Officer (SHPO), Advisory Council on Historic Preservation, and the District, with the Northern Arapaho and Northern Cheyenne tribes as concurring parties. The PA addressed the proposed effects to significant cultural resources (archaeological and historic sites) that would be impacted by the Project.

**ARCHAEOLOGICAL INVESTIGATIONS AT RUETER-HESS RESERVOIR**

From 2000 to 2007, archaeologists surveyed the study area (shown in red above) and documented numerous archaeological sites. Some of those sites were intensively excavated, producing a wealth of information about the earliest inhabitants of the area. These studies have revealed that ancient peoples occupied Newlin Gulch and surrounding areas for at least 8,000 years before the first non-native groups arrived in Douglas County in the 1800s. Evidence for these early hunters and gatherers is abundant in the area, generally represented by varying-sized scatters of chipped stone, ceramic, and ground stone artifacts. Two ancient village sites also provided evidence of ancient living structures, some of the oldest (4,000 - 6,000 years old) found in eastern Colorado. Let’s look at this evidence and what it tells us about the lifestyles of the ancient people who once inhabited this area.

![Small lithic artifact scatter](image)
PIECING TOGETHER THE PUZZLE

Deciphering an archaeological site is like trying to put together a large puzzle. If all the pieces are present, then one may be able to figure out how they fit together and reconstruct the original picture. As is often the case, however, many pieces are removed or lost over time, due to the interaction of natural and human factors, and it’s very difficult, if not impossible, to reconstruct the entire puzzle. That is why the archaeologist must also be a good storyteller, someone who can fill in the “gaps” between the puzzle pieces and construct a plausible story about what happened at this place, when, and by whom. The Rueter-Hess Reservoir Project has many pieces, which when combined, tell us part of the story of Newlin Gulch and its ancient, and more recent, inhabitants. Included in this puzzle are artifacts and features, the land itself, past climates, and the regional cultural context (prehistory and history).

THE ARTIFACTS AND FEATURES

Excavations at several archaeological sites in the Rueter-Hess Reservoir Project area have recovered a diverse assortment of chipped stone, ceramic, and ground stone artifacts (Photos 2, 3, and 4). One of these artifacts, a ceramic zoomorphic (animal) effigy, was recovered from the Oeškeso Site (Photo 3). It was voted as one of Colorado’s 2015 Top Ten Significant Artifacts. These digs have also exposed several intriguing features, such as ancient living structures (basin houses) and firepits (Photos 1 and 5).
THE LAND

For eons, streams have gradually incised the soft igneous and sedimentary rocks that underlie the area. The present-day Newlin Gulch is a relatively narrow valley with shallow slopes on either side. The surface stream is intermittent, because numerous water wells have drawn down the water table over the last century in response to periodic drought conditions and increased population. Water is not far below the surface, however, and a variety of edible plants grow within the valley, and various animals, large and small, fed upon these plants. The human inhabitants drew water from this stream when it was available, gathered the plant resources, and hunted the animals that fed upon those plants. They found rocks of varying sizes suitable for stone tools in thick outcroppings of ancient gravels that are exposed along the edges of the surrounding mesas. Besides serving as a veritable pantry and toolbox for the inhabitants, Newlin Gulch may also have served as a convenient route of travel between the lower valleys and the uplands.

THE CLIMATE

The Parker area has a high inland continental type of climate, characterized by low precipitation, low average humidity, variable windiness, and wide temperature range.\(^4\) The regional climate was not always been so congenial, however. During the Holocene epoch (the last 10,000 years when most of the sites in the area were occupied), the climate has varied from cool and moist to hot and dry. Recent studies have shown that population increases coincide closely with more agreeable climatic regimes, and conversely, populations decreased during drier years.\(^5\) Local groups either stayed and adjusted to these climatic changes, or left the area to find locales where the climate was more favorable for habitation.

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PREHISTORY

People have lived in eastern Colorado for more than 10,000 years. From the earliest Paleoindian big game hunters, through the Archaic hunters and gatherers, to more sedentary pottery-using horticulturists, these groups have been able to extract a decent living from the abundant natural resources, which include water, plants, animals, stones for tools, and clay and temper for pottery. Their historic descendants include the Arapaho, Cheyenne, Ute, Apache, Comanche, and Pawnee tribes; all of whom, with the exception of the Ute, presently live outside Colorado. The different cultural groups are distinguished in the archaeological record by distinctive styles of projectile points (spear, dart, and arrow points), pottery, and other artifacts. Many sites have also been dated using different chronometric techniques (for example, radiocarbon dating). Although these groups did not leave behind any written records, they left ample clues about their lifestyle.
The Town of Parker was settled in 1863 with the establishment of the Pine Grove way station on the Denver-Santa Fe Stage Road, but the area remained relatively undeveloped through the end of the nineteenth century.

The population of Douglas County was 1,388 in 1870, grew slowly to approximately 8,400 inhabitants in 1970, and nearly tripled to 25,123 over the next 10 years. Since 1980, Douglas County’s growth rate has been exponential, reaching an estimated population of 305,963 in 2013.

Newlin Gulch was named after William Gilpin Newlin, a native of Minnesota, who moved to Colorado with his father and mother in 1865. The family came with a bull team and 30 head of shorthorn cattle. The Newlin family ran an open range cattle ranch, with some dairy cows and approximately 130 acres of cultivated small grains and hay. Another early settler, E.R. Parsons, established the first commercial orchard in Colorado along Newlin Gulch. Using only dry farming techniques, he had 50 acres of orchard fruits, including 15,000 currant bushes, 200 plum trees, 200 apple trees, and 1,000 cherry trees. Another rancher, Percy Hess, came to the Newlin Gulch area around the 1920s to 1930s. He married Rosie Rueter, the daughter of local landowner August Rueter.

Mining at Newlin Gulch began in the mid-1880s, declined for a few years, resumed in the late 1890s, and peaked from 1911 to 1919 and in the 1930s. Mines that were known to be active during these periods included the Muldoon Mine, which was active by 1896 and had a shaft to a depth of 60 feet.

Several newspaper articles and engineer reports note that the gold from the Muldoon Mine was found in a deposit called the “Gold Reef,” which was 10 miles wide and 20 miles long, from which it was deduced that the area was formerly a large lake or water channel that deposited soil and was then eroded or sunk to the present day (pre-reservoir construction) surface. The gold was said to be concentrated in the bed of the former lake/channel. The latest reported mining operation was in 1941.

Today, Parker is a rapidly expanding town whose population has more than doubled in the last 15 years. It is a vibrant community that takes pride in its rich cultural heritage.

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Figure 7-14. Topographic plan map of Feature 2, the Hess site Middle Archaic component.
Newlin Gulch abounds in natural resources (water, food, and material for tools and weapons) and these resources have attracted people for thousands of years. It is also a natural corridor from the uplands to the lower valleys of Cherry Creek and the South Platte River. Recent archaeological excavations associated with the Rueter-Hess Reservoir project have discovered that the earliest people traveled and settled in the valley at least 8,000 years ago and possibly further back in time. These people left behind ample evidence – some spectacular, some ephemeral – of their visits. The eras of most intensive use occurred during the Archaic stage (Early and Middle Archaic periods, 6000-4000 BC and 1000-0 BC), and during the Late Prehistoric stage (Early and Middle Ceramic periods, approximately A.D. 500-1500). A significant occupational hiatus occurred during the Middle Archaic period (3000-1000 BC), for reasons not yet fully understood but believed to be climatic in origin. A Paleoindian stage occupation is likely, but not confirmed. Highlights of the Archaic and Late Prehistoric occupations are described and illustrated on the following pages.
ARCHAIC OCCUPATIONS

“Archaic” refers to a lifestyle as well as a time period. It is generally characterized in this region as broad-spectrum hunting and gathering. Animals large and small (bison, elk, deer, rabbits and rodents), as well as birds, fish, and amphibians, were pursued and captured, and edible wild plants (seeds, nuts, and berries) were collected and processed. The seasonal availability of these resources, as well as water and raw materials, influenced the movement of people across the landscape; both where they moved, and how long they stayed. Larger settlements were established at locations where food and water were most readily available, surrounded by open camps and places where specific resources could be obtained.

Significant occupations with long durations occurred at the Hess and Oeškeso sites, found near the center of the valley, on opposite sides of Newlin Gulch, immediately north of the Frank Jaeger Dam. Each site contained several subterranean or basin houses and numerous storage pits and basin hearths. Radiocarbon dates and other evidence collected from both sites indicate that the Hess and Oeškeso sites were residential camps for people during principally the Middle Archaic period and they repeatedly returned to these sites over a span of approximately 450 years. Thousands of chipped and ground stone artifacts, made of locally available petrified wood and quartzite, as well as plant and animal remains, were recovered from the sites and define a pattern of settlement and subsistence that was focused on the pursuit, capture, and processing of regionally available plants and animals. Additionally, a ceramic zoomorphic effigy, shaped like a dog, was recovered from the Middle Archaic occupation at the Oeškeso site. It was possibly used as an amulet, pendant, or even a child’s toy; its purpose may be whimsical or possibly even spiritual. The site was named after this unique artifact (Oeškeso means “dog” in the Cheyenne language).
LATE PREHISTORIC OCCUPATIONS

On top of a low hill located immediately east of Newlin Gulch lies site 5DA1656. Similarities between the occupation of this site and with the later occupations of the Hess site, suggest that related people may have occupied both locations. Radiocarbon dates on charcoal collected from a fire hearth and one of two hide-fleshing tools made of elk antler, plus the occurrence of ceramics and temporally diagnostic projectile points, indicate that the site was occupied during the Early and Middle Ceramic periods, between 1,200 and 1,500 years ago (ca. A.D. 400-700). The occupants of 5DA1656 hunted mostly locally available animals, such as elk, pronghorn, rabbits, and rodents, but traveled farther afield to fish from larger streams, such as Cherry Creek or even the South Platte River. They gathered plants that mostly grew nearby, but they were also in contact with other groups who grew corn. These plants and animals were cooked in ceramic pots. Based on this evidence, it is likely that 5DA1656 was used, in part, as a work area for processing animal hides away from the main habitation areas at the Hess and Oeškeso sites, one-quarter to one-half mile to the west.
The archaeological crew chief rose early that morning; he had planned a full day in the field. He met the four other members of his crew at the office at 6 a.m. They collected their field equipment, including a Total Station (a device for mapping all of the finds and features), screens for sifting the excavated dirt, several shovels, and a couple of five-gallon water jugs (it promised to be a hot and dry day). The archaeologists carried their personal dig kits, which included small trowels, tape measures, North arrow, flagging tape, marking pens, and other items. The equipment was loaded in the back of a large pickup truck and the crew set off for the Project area, 30 miles south. They arrived just as the sun was beginning to top the horizon and visited the construction headquarters to inform the construction supervisor that they had arrived on site. The crew noticed that the large earth movers and other equipment that were building the dam and related facilities were already hard at work. Leaving the construction headquarters after a safety briefing, the crew located the graveled haul road and drove cautiously to the archaeological site, watching for and yielding to the large construction trucks. They arrived unscathed at the site, located on top of a narrow, relatively flat-topped mesa, which overlooked Newlin Gulch. They parked the vehicle a short distance from the excavation area, unloaded the equipment, carried the screens and shovels to the excavation units, and set up the Total Station over the site datum at the western end of the site. They stopped for a moment to admire the view from the site, perched as it is above a relatively lush stream valley with many edible resources.
Two crew members continued their use of the ground-penetrating radar (GPR) equipment to try and identify other buried cultural materials, while several members of the crew resumed work on their 1-meter-square excavation units. One person carefully removed the soil in shallow (less than 1 centimeter) increments and threw the excavated dirt into a nearby screen. A second person vigorously shook the screen, allowing the finer materials to pass through the ½-inch mesh hardware cloth, leaving behind larger chunks of dirt, rocks, and (hopefully) artifacts. Such artifacts might include flakes of unworked stone; modified flakes that exhibit evidence of use (scraping or cutting); prepared tools, such as knives, scrapers, and projectile points; ceramic sherds; and sometimes fragments of grinding stones. All artifacts were collected and placed in appropriate containers (paper sacks or plastic, reclosable bags) and their provenience (excavation unit and depth) was marked on the outside of the container. If an artifact was found in situ, its location in three dimensions (distances from two adjoining walls of the excavation unit and depth below the ground surface) was determined, and it was collected. A crew member suddenly shouted out that she had encountered a charcoal stain. Careful scraping with her trowel and a soft-bristled brush revealed a circular concentration of dark soil and large chunks of charcoal. A thin zone of fire-reddened soil encircled the charcoal concentration. The archaeologist measured the feature in two dimensions (length and width) and took several photographs from different directions. Next, she bisected the feature along its north-south axis and removed the interior contents from the eastern half of the feature until unmodified soil was reached.
She described and measured the vertical profile of the feature, now recognized as a probable fire hearth, and took several photographs. She observed at least two episodes of burning in the profile, identified by slight differences in soil color and texture. She prepared two small aluminum foil packages and collected sizable chunks of charcoal from each burning episode in the profile. These charcoal samples would be sent to a radiocarbon dating laboratory to obtain an age estimate for each episode of burning. These dates, when combined with the other evidence collected from the site, would help the archaeologists determine when the site was occupied and what the occupants did at the site. The archaeologists put in a full day digging at the site, stopping only briefly for lunch. As the sun began to set, the light grew flatter, making it more difficult to discern subtle signs of use in the soil, so the crew chief called it a day. The archaeologists laid a plastic tarp over the fire hearth, so that they could examine it again the next morning to make sure they had not missed any important clues, and packed up their equipment. The archaeologists were weary, but they were excited about their finds from that day and looked forward to tomorrow when they could return and resume their excavations. They realized that this site had the potential to tell a great story about the ancient inhabitants of Newlin Gulch: how they camped at this location many centuries ago, hunted local game animals, gathered edible plants, and made stone tools from nearby raw materials.
Archaeologists are scientists, but they are also storytellers. They dig up amazing things, such as arrowheads and pottery, and they combine these pieces of data to learn more about the people who lived in a particular place, at a particular point in time. Telling stories about long-ago – or not-so-long-ago – people, as deciphered from studying those bits of rock and clay, is very rewarding.

Our narrative focuses on the ancient peoples who once inhabited Newlin Gulch, near Parker, Douglas County, Colorado, for more than 8,000 years. Different groups came and went, but all were attracted to the valley for its abundant natural resources: water, plants, animals, stone for tools, and clay for pots. Some may have simply traveled through the valley, going from one place to another. The climate changed throughout that long period, from warm/dry to wet/cool conditions and back again, such that people were sometimes compelled to seek these vital resources elsewhere. Eventually, people returned when conditions improved.

We know a lot about the prehistory of Newlin Gulch, enough to tell the story, because of archaeological investigations that have been conducted here for more than 10 years. These investigations have excavated many cubic meters of dirt, collected thousands of artifacts, and recorded numerous features (subsurface dwellings and fire pits), which individually and collectively provide the bits and pieces of the story we’re trying to construct. Future investigations will allow us to refine the details of Newlin Gulch’s ancient inhabitants even further. The story may also be likened to a huge jigsaw puzzle, from which many pieces are missing, so we make reasonable assumptions about the information contained in those gaps based on data from other pieces of the puzzle. If the assembly is done well, then our story about the ancient peoples of Newlin Gulch will come alive.

So, our tale begins, gleaned from bits of stone, clay, and bone; it is a story about three fictional people, separated by hundreds, perhaps thousands of years.
Switching between a square-nosed shovel and a trowel, the archaeologist carefully scraped away the soil in the excavation unit. Her trowel suddenly struck some object considerably harder than the silty clay soil. She removed the soil from around the object, revealing the thick knurled end of what was clearly an antler from a large animal, perhaps an elk. It was an interesting, but not terribly exciting find. As she removed the dirt from the opposite end of the antler, however, her breath quickened as she recognized clear evidence of working by human hands. The short section of antler had been ground down on its distal end to a blunt point, possibly for use as some kind of hide-working tool. She called out excitedly to the field director, who quickly came over to see what she had found. Meanwhile, two other archaeologists were digging nearby in another excavation unit, and one was laboriously screening the dirt from that unit. Suddenly, he yelled out that he had just found some pottery. The two finds convinced the field director that they had a more interesting site than they had originally believed. A story began to form in his mind...
A.D. 400
The young woman walked slowly down to the shallow stream in the early morning light. Wading out into the middle where the water was slightly deeper, she filled a ceramic bottle with clean water. Carrying the bottle skillfully on her head, she strode resolutely back to her mud and brush hut, where her young children waited. Other inhabitants of the village were also rising, gathering water as she had done and attending to their daily activities. She poured the water from the bottle into a pot that rested on a slow-burning fire in the center of the hut and waited patiently for the water to heat. As it began to boil, she placed large pieces of the hind quarter of a nice, fat rabbit in the pot, along with a handful of fragrant herbs. Her family would eat that day, but she looked forward to the return of her mate and his brothers, who had been gone for two days, hunting down valley near the river. If their hunting foray was successful, they would have enough food perhaps to last them through the winter, which was fast approaching...

1,300 B.C.
The three hunters marched quickly up to the head of the rapidly narrowing valley, eagerly searching for the elk that one of them had wounded. The drops of blood from their prey’s wound were dark red and glistening in the low light. If they could find the animal soon, then there would be time to get back to the camp before nightfall; they didn’t wish to spend another night out in the open. They crested the low hill and...there she was! The massive animal, which easily weighed at least 700 pounds, stood breathing heavily and raggedly. She could run no farther and wearily turned to face the three men who were quietly encircling her. Two of the men positioned themselves so that she could not escape down the valley between them. The third man, who had wounded the animal, crept cautiously towards her, slowly raising the long shaft, hafted with a deadly dart point and resting in the elaborately carved atlatl, or spear thrower. Taking careful aim, he launched the dart shaft into the heaving side of the elk. His aim was true and the animal falls heavily to the ground. Their clan would eat well tonight...
FOR MORE INFORMATION ABOUT DOUGLAS COUNTY HISTORY:

Douglas County Research Center, Douglas County Libraries
Philip S. Miller Library
100 S. Wilcox
Castle Rock, CO 80104 (303) 688-7730
The web site provides information about Douglas County events and topics, places, cemeteries, oral history collection, genealogy, and photographs.
http://douglascountyhistory.org/

Douglas County Virtual History Museum
100 Third Street, Suite #220
Castle Rock, CO 80104 (303) 660-7460
The website describes several prehistoric and historic sites in the county and the visitors can view historic photos and artifacts collected from these sites.
http://www.douglas.co.us/about-us/historic-preservation/virtualmuseum/

COLORADO ARCHAEOLOGY:

The Archaeology of Colorado
by E. Steve Cassells, 1997.
Johnson Books, Boulder, Colorado

Hunter-Gather Archaeology of the Colorado High Country
by Mark Stiger, 2008.
University of Colorado, Boulder

Radiocarbon Dating: An Archaeological Perspective (2nd ed.)
by R.E. Taylor and Ofer Bar-Yosef.
Left Coast Press, Walnut Creek, California.

The Colorado Archaeological Society (CAS)
Several chapters in Colorado, including Denver.
More information about CAS can be found at
www.coloradoarchaeology.org

The Colorado Council of Professional Archaeologists (CCPA)
More information about CCPA can be found at
www.coloradoarchaeologists.org

Program for Avocational Archaeological Certification (PAAC)
A joint program of the Colorado Archaeological Society and the Office of the State Archaeologist of Colorado.
PAAC is a mutually beneficial educational program for avocational and professional archaeologists. Established in 1978 by the Colorado Archaeological Society (CAS) and the Office of the State Archaeologist of Colorado (OSAC), it allows CAS members and other citizens to obtain formally recognized levels of expertise outside of an academic degree program. It also facilitates avocational public service and assistance in education, governmental management of cultural resources, research, and the protection of archaeological resources in Colorado. More information about PAAC can be found on the History Colorado website at
http://www.historycolorado.org/oahp/program-avocational-archaeological-certification-paac
SITE GRID SHOWING EXPOSED ANCIENT FIRE HEARTH