

## = Mummy Cave =

Mummy Cave is a rock shelter and archeological site in Park County , Wyoming , United States , near the eastern entrance to Yellowstone National Park . The site is adjacent to the concurrent U.S. Routes 14 / 16 / 20 , on the left bank of the North Fork of the Shoshone River at an altitude of 6 @, @ 310 feet ( 1 @, @ 920 m ) in Shoshone National Forest .

At its mouth , the cave is approximately 150 feet ( 46 m ) wide , and it extends approximately 40 feet ( 12 m ) into a volcanic cliff above the North Fork . It lies along the left bank of the river , next to the mouth of a small stream and opposite from the mouth of Blackwater Creek . The largest known cave along the North Fork , it is believed to have been carved by the river 's flow ; the reason for its diversion away from the alcove is unknown .

Mummy Cave was occupied between 7280 BC and AD 1580 . Discovered by Cody resident Gene Smith in 1957 , it was first studied in 1962 and excavated by the Buffalo Bill Historical Center . The site includes unusual amounts of perishable materials such as hide , feathers and wood , as well as the buried and mummified remains of an inhabitant , named by researchers " Mummy Joe , " and dated to about AD 800 . The cave is notable for the depth of its cultural deposits , extending over 28 feet ( 8 @. @ 5 m ) in depth , and in particular for the continuity of those deposits . The deposits have been classified into 38 occupation levels that represent at least seasonal use of the site on an annual basis , extending from the Paleoindian period to the late Prehistoric period .

## = = Geology = =

Although it is referred to as a " cave " , Mummy Cave is actually a broad , shallow alcove in a vertical cliff . It owes its depth to its overall size and the stability of the parent rock . The alcove 's roof is about 50 feet ( 15 m ) above the river , with the rock floor of the alcove at about 4 feet ( 1 @. @ 2 m ) above the river . By the time it was discovered , the alcove had been almost entirely filled with alluvium . The cliff is composed of Tertiary period volcanic ash mixed with larger rock fragments of volcanic origin . A similar alcove is being cut by the Shoshone at the mouth of Clocktower Creek . The cave fill has accumulated for at least 10 @, @ 000 years and appears to have originated from nearby debris fans formed where weathered material has flowed down channels in neighboring cliffs .

Apart from the depth and consistent nature of the alluvium , Mummy Cave is also characterized by extreme dryness . The pointed shape of the cliff above prevents rain and meltwater from percolating through the rock to the cave , and there are no vertical joints in the rock above .

## = = Archeological investigation = =

The investigation of Mummy Cave was led by Robert Edgar from 1963 to 1965 . The alcove was marked out into a 5 @- @ foot ( 1 @. @ 5 m ) grid , with a permanent reference mark for elevation marked on the wall . Initial investigation focused on establishing stratigraphy . Once the layers of alluvium in the cave floor were established , the excavation proceeded layer by layer . The excavations terraced the cave floor into 4 @- @ to @- @ 6 @- @ foot ( 1 @. @ 2 to 1 @. @ 8 m ) levels , following the established reference grid . Digging was done with hand trowels in the artifact @- @ bearing layers while layers devoid of artifacts were excavated with shovels . Spoils were disposed of down the embankment .

The site had previously been disturbed by relic hunters , who had dug a 2 @. @ 5 feet ( 0 @. @ 76 m ) deep pit in what turned out to be the most productive zone of the excavation . The relic hunters appear to have stopped when they encountered a rock cairn that covered what proved to be a human burial site .

By the end of 1963 a portion of the site had been excavated to a depth of 20 feet ( 6 @. @ 1 m ) and shored with timbers , while the upper three cultural zones ( layers 36 ? 38 ) were removed across the site . During the 1964 season layers 29 ? 35 were removed and some zones were excavated much more deeply . In 1965 layers 24 ? 28 were removed from the central area of the

alcove . By this time it was clear that excavation would proceed for the full depth of the site , and that the disposal of a considerable quantity of excavated debris would need to be addressed . A bulldozer was brought in to remove sections of fill beyond the drip line of the shelter . The 1966 season was directed by Wilfred M. Husted . Results of the Mummy Cave investigations were published in Science in 1968 .

## = = Results = =

The excavation of Mummy Cave yielded a nearly continuous succession of artifacts , which span a period of over 9000 years . The artifacts were disposed in a manner that permitted dating in both relative terms through stratigraphy , as well as through radiocarbon dating to establish an absolute scale . This continuum has proved to be invaluable in relating and dating other excavations in the Rocky Mountain region . In particular , the stone projectile points found at Mummy Cave have been used to set the standard for classifying stone arrowheads and spear heads in the region . The point typology has been extrapolated to define cultural and commercial relationships between peoples throughout the American West . Stratigraphy and carbon dating indicate that Mummy Cave was first occupied near the end of the Pinedale glaciation . Later occupancy spanned the Altithermal , followed by a cooler climate from about 1000 BC .

The earliest layers at Mummy Cave yielded a few prismatic stone blades dating to about 7300 BC . Several layers contained no artifacts and were defined by soot layers . By layer 6 the first parallel @-@ oblique points appeared . By Layer 8 , roughly corresponding to 6500 BC , the cultural evidence became continuous . Layers 8 , 9 , 10 and 12 produced lanceolate or leaf @-@ shaped projectile points which have been interpreted as corresponding to Angostura @-@ style points . This implies that the inhabitants of Mummy Cave during this era were big @-@ game hunters from the Great Plains who adapted to the mountain environment . In layer 16 , radiocarbon dated to 5630 BC , a new type of point appeared . These Blackwater side @-@ notched points implied the arrival of a group from eastern Nebraska or western Iowa , replacing the previous group which may have moved to the north . The presence of such points suggests a connection with the Simonsen Site in northeastern Iowa , which has been dated to the Early Archaic period . This transition coincided with the climatic shift to the Altithermal . Side @-@ notched points recovered from layers 21 , 24 and 28 imply a return of the previous inhabitants ; the easterners had moved on to the central Columbian Plateau .

Layer 30 was dated to  $2470 \pm 150$  BC . Layer 32 was dated to  $870 \pm 135$  BC . It is hypothesized that layers 32 ? 38 represent the presence of people of the Shoshonean culture , with increasingly definitive Shoshonean artifacts present from layer 36 onward , including cordage and basketwork . Layer 38 yielded gray flat @-@ bottomed pottery of Shoshonean manufacture . Layer 36 is notable as the source of the " mummy . " The desiccated body of an adult male covered by a sheepskin garment with fur and feather ornament was recovered from this layer and dated to about AD 770 by radiocarbon dating .

Several thousand animal bones were discovered in Mummy Cave . While the large majority of the bones could not be identified , researchers at the University of Texas at El Paso ( UTEP ) were able to determine the biological origins of over two thousand bones . As at many other archeological sites in the region , significant numbers of Bighorn Sheep ( *Ovis canadensis* ) and deer from the genus *Odocoileus* were identified . Of particular interest to biologists was the much larger number of sheep than deer : eighty @-@ eight sheep and fifteen deer were identified . Such a prevalence of sheep over deer is highly unusual for archeological sites in the region , because deer are equally or more plentiful in areas such as the one in which Mummy Cave is located . This anomaly has led researchers at UTEP to propose that the site was used as a home base for hunters to operate at higher altitudes .

The wide range of artifacts discovered at the site has caused Mummy Cave to be seen as a highly significant site for the study of Rocky Mountain archeology . The cave 's significance was recognized by the National Park Service with its placement on the National Register of Historic Places in 1981 .

