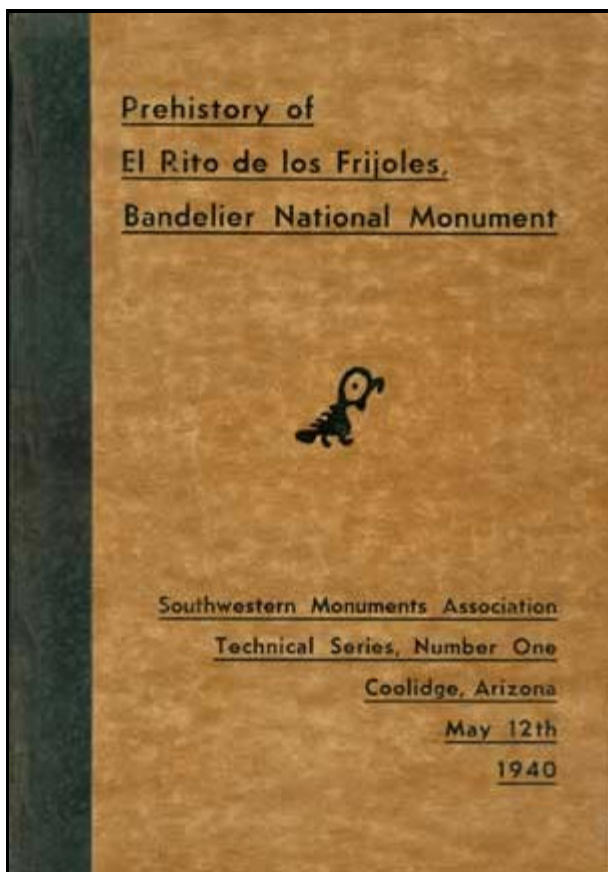


BANDELIER

Prehistory of El Rito de los Frijoles,
Bandelier National Monument



PREHISTORY OF EL RITO DE LOS FRIJOLES Bandelier National Monument

By
J. W. Hendron

May 12, 1940

SOUTHWESTERN MONUMENTS
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DALE S. KING, *executive secretary and editor*, Coolidge, Arizona

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HUGH M. MILLER, *superintendent*, Coolidge, Arizona

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FOREWORD

The word cliff-dweller or cave-dweller immediately brings to mind primitive man of great antiquity. This is more or less correct for the Old World, but cannot be generally applied to the aboriginal Americans of this continent.

There has always been heated discussion as to the time at which the ancestors of the American Indian first reached the New World. Conservative scientists like Dr. Ales Hrdlicka and Dr. Herbert Spinden contend that about 5,000 years ago would be the maximum, while most others triple or quadruple this figure on the basis of lithic material (projectile points, etc.) found with extinct types of animals or in geological strata of considerable age.

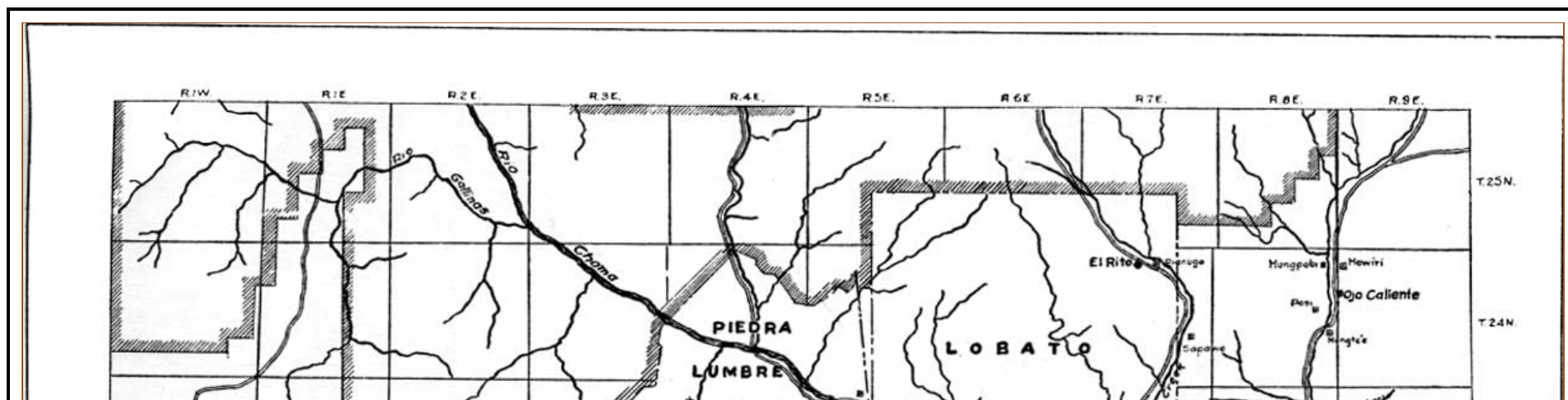
It is generally agreed, however, that these first Americans came in from Asia, by way of Bering Strait. Hundreds or even thousands of years passed while various groups of people were spreading out over the North American continent, down the river valleys, plains and coasts into whatever lands seemed the most conducive to successful life. The famous Folsom points represent one early people, bison hunters on the plains, who did not come into the Southwest to any great extent.

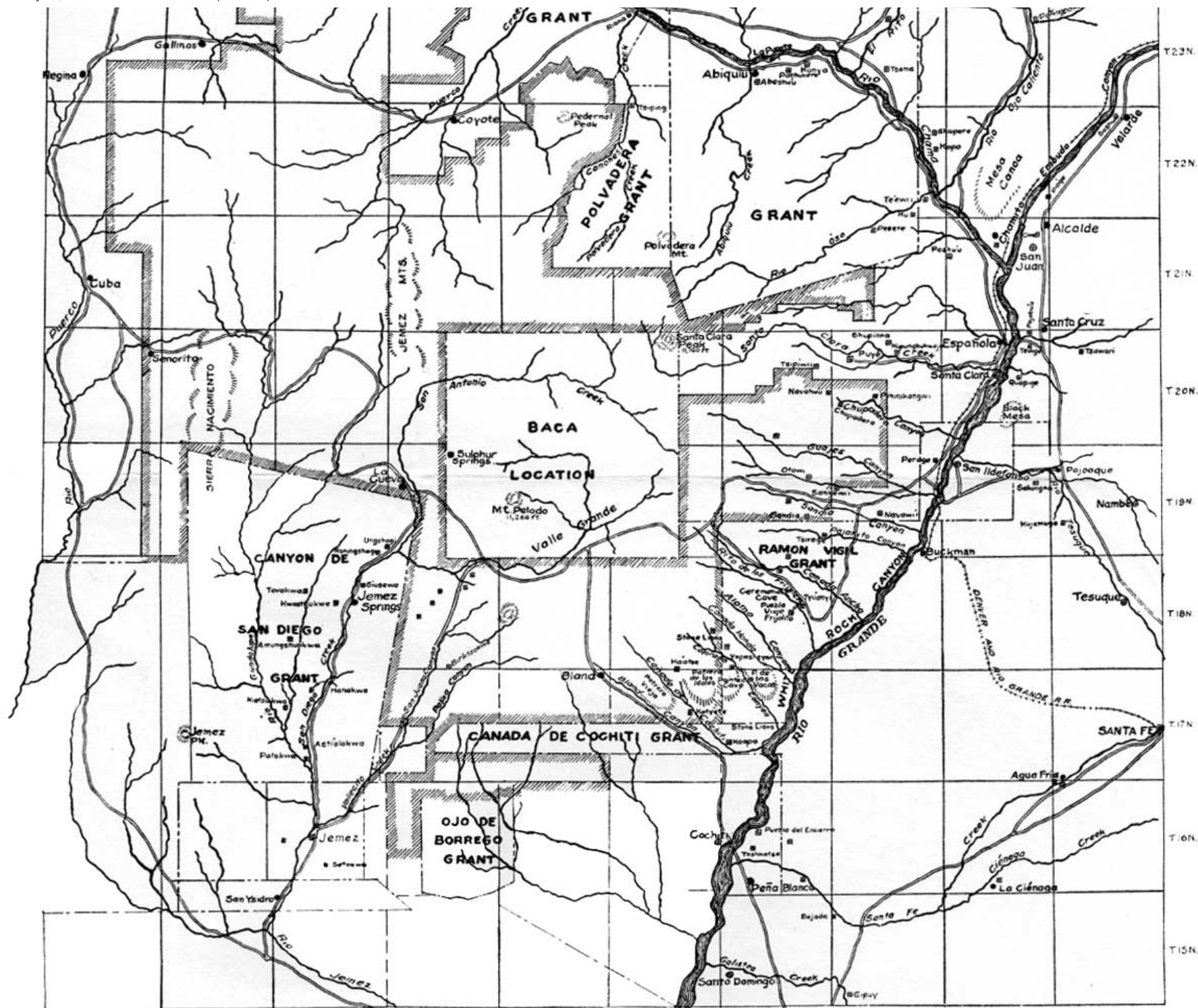
It is difficult to say exactly just when the Southwest was first settled, but the study of tree-rings has enabled the archaeologist to learn when most of the later settlements, and some of the early sites, were occupied. Two thousand years would approximate a rough estimate of the age of the earliest known sites.

About 1500 years ago the technique of making pottery was learned or discovered by the primitive people of the northern Southwest, and as the years passed various ceramic methods and designs were developed, along with changes in building styles, types of weapons and dress, and other traits until great communities of sedentary people were developed, like Mesa Verde in southwestern Colorado, Aztec in northwestern New Mexico, and Pueblo Bonito and the other ruins of the Chaco Canyon. It is known from tree-ring dates that these great towns were occupied mainly in the twelfth and thirteenth centuries.

Drought seems to have always been one of the main controlling factors in the migration of southwestern people. Dendrochronologists (tree ring students) know that one of the worst dry spells was from 1276 to 1299, which approximates the time when evacuation of the Mesa Verde cliff-dwellings occurred. People left magnificent homes in search of more suitable living conditions, stopping at various places, probably building crude shelter homes and using the local clays along the river and arroyo banks for the development of new pottery styles with new and different designs. They pushed southward and eastward, crossing desert wastes, rivers, mountains, braving hardships and struggles with the fierce nomadic Indians as well as with other Pueblo groups striving for existence. I sometimes think of these cultural developments and regressions as "crippled cultures" because of the degeneration seen in so many culture traits when compared with the preceding cultures.

During these migrations which lasted for nearly 400 years some of these people stopped on the Pajarito Plateau, some 20 miles west of the present city of Santa Fe, in their journeys which finally resulted in the modern Rio Grande settlements. The Pajarito Plateau extends from the Rio Chama on the north to the Canada de Cochiti on the south, and from the Jemez Mountains on the west to the Rio Grande on the east (Fig. 1).





MAP OF PAJARITO PLATEAU AND VICINITY

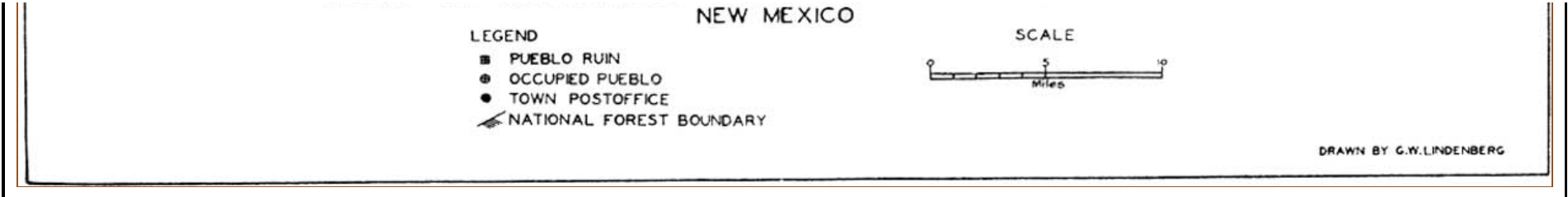


FIG. 1. MAP OF PAJARITO PLATEAU AND VICINITY. (Courtesy Museum of New Mexico) (click on image for an enlargement in a new window)

Archaeologists attempting to distinguish various culture groups and the elements involved in the study of Southwestern archaeology, have divided it into two groups,¹ the plateau group and the desert dwellers, or the Basket Maker-Pueblo (or Anasazi, Navajo meaning "Old People") and the Hohokam respectively. The subject matter of this report is confined to the plateau group or the Basket Maker-Pueblo (Anasazi) classification and is not directly concerned with the Hohokam culture which, mostly in southern Arizona, extends south and west from the pueblo area.

1. Ed. note: Designation of two additional basic cultures, discussion of which lies beyond the scope of this paper, was recently proposed.

For description of the "Mogollon" in southern New Mexico see E. W. Haury "The Mogollon Culture of Southwestern New Mexico". Medallion Papers, No. XX. Gila Pueblo Globe, Arizona. 1936.

The "Patayan" in western Arizona is discussed in R. S. Colton "Names of the Four Culture Roots in the Southwest". Science, June 17, 1918. Vol. 87, No. 2268, pp. 551-112, and in subsequent publications by the Museum of Northern Arizona.

The Pecos conference of 1920 segregated periods of development of Pueblo cultures in the plateau, each period representing various definite developments in architectural styles, pottery types, footwear, weapons, etc. They are: Basket Maker I, Basket Maker II, Basket Maker III, followed by Pueblo I, Pueblo II, Pueblo III, Pueblo IV and Pueblo V. The Basket Maker periods refer to a group of long-headed non-Mongoloid peoples who occupied the northern Southwest from some very early time, the Pueblo periods to broad-headed people of Mongoloid type who entered the Southwest around 700 A.D. and mixed with the earlier occupants; hence the term Basket-Maker-Pueblo. Cultural changes during Basket Maker III include gradual replacement of the atlatl (throwing stick) by the bow and arrow, development of various types of pottery, advance in agriculture, and development of the semi-subterranean lodge, or pit-house. The earlier Basket Makers (period II) had no pottery and no permanent houses. In Basket Maker I, agriculture had not yet been learned. The apparently peaceful fusion of the two peoples resulted in a preponderantly round-headed type for the Pueblo Indians of later generations, but the arrival of the broad-headed Mongoloids apparently entailed no immediate important cultural changes or increments except possibly the introduction of cotton cloth. Development continued through four Pueblo periods, and on into the fifth which embraces the culture of the modern Pueblo Indian.

Dr. Frank H. H. Roberts, Jr., in an attempt to attain simplicity, offered the following classification modifying Kidder's Basket Maker-Pueblo sequence. Basket Maker, Modified Basket-Maker, Developmental Pueblo, Great Pueblo, Regressive Pueblo and Historic Pueblo approximate the same time limits as the Pecos classification, Developmental Pueblo combining Pueblo I and Pueblo II. Basket Maker I is more or less postulated, little known from actual evidence. Modified Basket-Maker might well have begun as early as 450 A.D., and was followed by the Developmental Pueblo Period of about 700 to 1000 A.D. Developmental Pueblo was somewhat evolutionary but with the coming in of Great Pueblo there were definite changes in architectural styles and pottery manufacture. The family house idea was abandoned and the pueblo people took to great multi-storied communal houses. Pottery acquired various new designs and forms through both local and outside influences. New paints came into existence and designs became detailed and elaborate. Regressive Pueblo, which began about 1300 A.D., was a continuance of Great Pueblo but showed a degeneration in some traits of culture. It was in this period when the Spanish first entered the Southwest. The use of metals and firearms came to the Pueblo Indian during this period along with sheep, the horse, and the cow. Christianity was also introduced with some degree of success as is evidenced by the many mission churches in the Southwest which had their beginnings in the seventeenth century.

Historic Pueblo began about 1700 A.D., following the Pueblo Rebellion of 1680 against the Spanish. The ceramic art degenerated. Migrations took place and there was a general upheaval in Pueblo culture. The early eighteenth century brought more peaceful changes and a settling down of the modern pueblos. Low houses were constructed of mud, now with very few second story rooms. Screen doors, glass windows, sewing machines, and radios were added along with other modern conveniences and the Pueblo Indian again became a peaceful farmer.

Scientists fully realize that those individuals who have not had opportunity to study carefully the various archeological classifications have much difficulty appreciating their significance. As a comparison, our own American history and culture and its development might break down into the time classifications, including in each time limit the development of certain items of culture and historical facts which were important to the period. To each an arbitrary name could be given which was characteristic of the age. It might well go like this:

1930-1940 DEPRESSIVE 30's.	Jitterbugs, swing music, bank holiday, CCC, more football, WPA, FERA, NRA, repeal of prohibition, depression.
1915-1930 THE ROARING 20's.	Charleston and black-bottom, boyish bobs, short skirts, talkies, football, high powered autos, gang wars, booze, jazz, speakeasies.
1890-1915 THE GAY 90's.	Baseball, first automobiles, skyscrapers, vaudeville, celluloid collars, derby hats, hour glass figures, fire engines with big white horses.
1780-1890 PERIOD OF INVENTION.	Prince Albert coats, mustaches, hourglass figures, wire nails, telephones, bustles, concrete, hoop skirts, telegraph, six-shooters, steam engines, cotton gins, invention of electricity.
1620-1780 DEVELOPMENT	Grandmother's spindle beds, colonial architecture, knee breeches, shoes with buckles, English architecture, iron kettles, Pilgrims land at Plymouth Rock,

PERIOD.	muskets and log houses.
1492-1620 PERIOD OF EXPLORATION.	Columbus discovers America. European explorations; colonies at St. Augustine and Jamestown.

In this same manner the evolution and development of Southwestern culture traits extending over a much longer period of time have been classified.

J. W. H.

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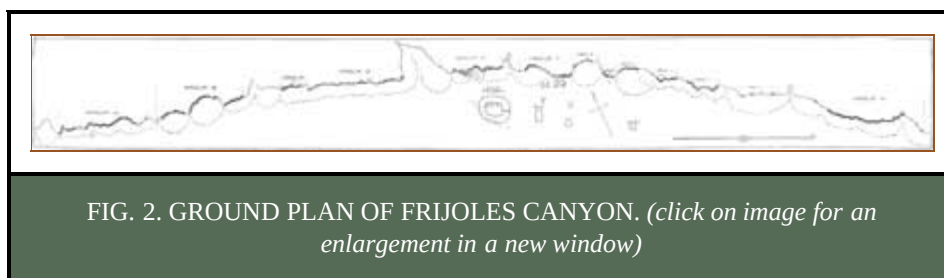
INTRODUCTION

The Pajarito Plateau is interesting for it remains one of the most fertile areas for archaeological study in the southwestern United States. In this area are hundreds of deserted Indian village sites constructed of small blocks of soft volcanic ash: some large communal villages and others small family houses.

The Pajarito Plateau was built up by successive periods of volcanic activity. Tremendous deposits of basaltic lava and of volcanic ash (tuff) were formed during the Pliocene and Pleistocene periods.² Deep canyons have been cut through these formations by streams and running arroyos, the sides of whose canyons are sheer cliffs several hundred feet high. As erosion continued, as portions of cliffs fell, and as the soil washed from the mesa tops, talus slopes were built up forming steep declivities at cliff bases. It was here the talus dwellers of New Mexico hollowed out their homes in the soft rock, and built terraced houses in front of the caves for great distances along the bases of the cliffs, years before the first Spanish expedition to the New World.

2. Bryan, Kirk, 1988, p. 204.

The region was such that game was abundant, and mesa tops and valleys were covered with pines and thick growths of juniper, pinyon and oak. Wild plants afforded sources of food, basket materials, and primitive medicines. Soil was suitable for raising of corn, pumpkins, and beans. Various clay deposits facilitated pottery making. And cotton, not common to the region, was traded in from pueblos farther south.



Within this region is Bandelier National Monument, which comprises 26,026.20 acres, set aside in 1916 by the National Park Service and named in memory of Adolphe Francis Alphonse Bandelier, the famous Swiss ethnologist who so highly prized the beautiful canyon of El Rito de Los Frijoles, today an integral part of the monument. Bandelier lived here in the Canyon, sporadically, in some of the cave dwellings for several years in the 1880's. Here and in adjacent areas he carried on research work which resulted in several volumes, the most popular one being "The Delight Makers", an ethnological and archaeological study written in the guise of fiction in order to hold the interest of the reading public.

No organized archaeological work was done until 1908, when under the direction of Dr.

Edgar Lee Hewett the School of American Archaeology began excavation in some of the cliff and valley ruins of El Rito de Los Frijoles.



FIG. 3. NORTHERN WALL OF RITO DE LOS FRIJOLES. *(click on image for an enlargement in a new window)*

Some repair, cleanup and survey work was done by the National Park Service in 1934 under the C.W.A. program and various workers in the field have added bits of information concerning the Canyon and adjacent districts.

The writer has been more or less familiar with the area since 1935, and since that time has made a continued study of the ruined sites in the Rito and surrounding country. In 1937 a ruins stabilization program under the auspices of the National Park Service using CCC labor and funds was begun to preserve some of the previously excavated and restored sites which had for years been subjected to the destruction of the elements. During the course of this work it was found necessary to carry on some incidental excavation and research in connection with the stabilization. Considerable archaeological information previously unknown was thereby brought out.



FIG. 4. TO EAST FROM GREAT SPUR. Courtesy Museum of New Mexico.

A repair job was done on a reconstructed group of talus houses belonging to the "Sun House" group.³ No specific archaeological information was gained so no further report is deemed necessary.

3. Hendron, J. W., 1937a, pp. 478-485.

Our accomplishments were somewhat limited because of lack of time, but finds which were made create the necessity for this group of reports. Methods of construction of the ancient dwellings will be discussed, along with an analysis of the pottery which helps to clear up the long-disputed question of the time of occupation of this area.

In the spring of 1939 the National Park Service again with CCC cooperation resumed repair work on the ruins with special attention given to the house sites along the talus slope commonly known as the Long House. This was done under the direction of Mr. Robert Lister. An analysis of the considerable amount of pottery found at Long House will be given in this series of reports, with kind consent of Mr. Lister, and an attempt made to correlate types with the balance of material previously found in the canyon.



FIG. 5. CLIFF HOUSE ON FLAT, FRIJOLE CANYON. Courtesy Museum of New Mexico.

For assistance in the preparation of these reports I am greatly indebted to Dr. H. P. Mera, Mr. Kenneth M. Chapman, Mr. W. S. Stallings, jr., and Mr. Stanley Stubbs of the Laboratory of Anthropology; to Dr. Edgar Lee Hewett, director of the School of American Research; to Mrs. Margaret Tichy, curator of Southwestern Archaeology at the Museum of New Mexico; and to Mr. Erik K. Reed, region archaeologist, National Park Service, Region III, Santa Fe, New Mexico.

During the ruins repair program at Bandelier National Monument a great deal of practical assistance, for which I am very grateful, was given by Mr. H. B. Chase, superintendent of the Bandelier CCC camp. Appreciation is also due to Custodian C. A. Thomas of Bandelier National Monument for allowing me to use the collection of pottery types from Long House; to Mr. Robert Lister for his assistance in that part of the analysis; to Mr. Volney Jones of the University of Michigan who identified plant material; to the Historic American Buildings Survey, Public Works Administration Program directed by the National Park Service, Department of the Interior, for permission to use the originals of their excellent sheets; and to the late Superintendent Frank Pinkley and his staff, under whose general direction the work was done.

4. ED. NOTE: Southwestern Monuments Association policy provides for reading of all manuscripts by members of the Advisory Council concerned. Due to desirability of publication of this report for distribution during summer months of the Bandelier Centennial and Coronado Cuarto Centennial year this usual step was necessarily omitted.

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THE LARGE KIVA

In the Rito de Los Frijoles ceremonial rooms or kivas are found in three situations: in conjunction with pueblos in the valley bottom, sunk in the talus in front of the cliff-villages, and excavated in the walls of the cliff, as pointed out by Hewett.⁵ There is one kiva in the Rito de Los Frijoles, now known to have been destroyed by fire sometime after 1513, distinguished from all the rest by its relatively great size. (Fig. 6.). It lies a few hundred feet east of Tyuonyi (the great community house) on the floor of the canyon at one of the widest points. It seems to be removed from major ruined sites, and lies in the vicinity of several other kivas located up a steep declivity, being overlooked by the smoke-blackened caves in the cliffs a hundred or more feet above the canyon floor at this particular point.

5. Hewett, Edgar L., 1900, pp. 445-446.



FIG. 6. LARGE KIVA BEFORE STABILIZATION. NOTICE UNEXCAVATED
WEST ENTRANCE IN WALL.

The first investigator to make any report of the ruined sites of this vicinity was Adolphe Bandelier under the auspices of the Archaeological Institute of America in the 1880's. He refers to the structure as a circular tank 15 meters (49 ft.) across and states that there is some doubt in regard to its antiquity.⁶ In reality, it varies from 41-1/2 to 42 feet in diameter and is more than 130 feet in circumference. More than 60 individuals could have been comfortably accommodated.

6. Bandelier, A. F., 1092, p. 144.

There is no definite evidence to prove that two moieties ever existed in prehistoric social organization in the Rito de Los Frijoles, but Hewett⁷ states that a circular platform a few hundred yards to the east, constructed of tuff blocks laid in concentric form, appealed most strongly to him as being the remains of the other tribal kiva, built above ground. There is no evidence to disprove this statement, but I have been informed indirectly, however, that this platform was used by Mexican occupants as a bean threshing floor during the last century. I have examined this feature many times and no signs of great antiquity were noticed but I am in no position to argue its age. Excavation of this platform may bring to light facts concerning its function.

7. Hewett, Edgar L., 1909, pp. 446-447.

During the ruins stabilization program in 1937 the large kiva was the first site to be worked upon. Reports on the stabilization itself have already been submitted,⁸ but a few statements as to the condition of the kiva might well be given at this time in addition to the technical report on our discoveries.

8. Hendron, J. W., September-October, 1937.

Since excavation of this structure was not completed, apparently, by the School of American Archaeology, because of the lack of facilities and time, it seemed that re-excavation was the only course to consider, to consider, inasmuch as the entire kiva was to be stabilized to such a degree that it would not disintegrate noticeably for some years to come.

Hewett's description⁹ is adequate from a general standpoint but since the time of his work the structure had deteriorated almost past identification. The inside wall had disintegrated badly, leaving a sort of a bench two to five feet high leaning against the outside wall. Almost all of the mortar had washed from between the building stones, and the remainder was disappearing rapidly with each additional rain. The excavated fill apparently had been thrown to the outside, forming mounds which drained a great deal of rain water down the walls.

9. Hewett, Edgar L., 1909. pp. 444-446.

It had long been suspected that these great mounds of earth around the outside were unnatural deposits and that they had not even been placed there by the original builders of the kiva. Curiosity was satisfied by running a trench from the south side of the mound, beginning at the floor of the canyon, taking it in a northeasterly direction toward the inside wall. Huge chunks of tuff and black basalt were encountered at the bottom. This retarded the digging but from this experience grew the idea that all of this solid material at the bottom was part of the original structure itself. The trench was discontinued for fear of weakening the wall. Several feet of soft fill on top were removed, down to the more or less solid base of tuff and basalt chunks which was a part of the main wall. From this fill came several thousand broken pieces of pottery, which throw some light upon the chronological position of this important site. The pottery will be discussed later.

The fill was cleared from around the disintegrated ventilator shaft, which is described by Hewett¹⁰ as follows: "In the wall adjacent to the fire-pit is a horizontal tunnel forming a passageway from the kiva to a vertical shaft a short distance outside the kiva walls (Fig. 7). In the large kiva here described two such entrances exist, one on the eastern and one on the western side. In no other kiva has more than one such entrance been found. The function of

this feature of the subterranean ceremonial rooms cannot be regarded as finally determined. It is a feature common to all ancient kivas, both in the Rio Grande and the San Juan valley, but does not exist in the kivas of the modern Pueblo towns. It is what Dr. J. Walter Fewkes, in his report on the excavation of Spruce Tree House in Colorado, describes as a device for the ventilation of the kiva. It is recognized as the latter by most Southwestern archaeologists today. This was re-excavated and we found a hard plastered floor, much harder than the remaining mortar in the torn-down inside wall. The mortar had been mixed with small chunks of charcoal, suggesting that mud might have been mixed with burned wood to make it more stable.¹¹

10. Hewett, Edgar L., 1909, pp. 441-446.

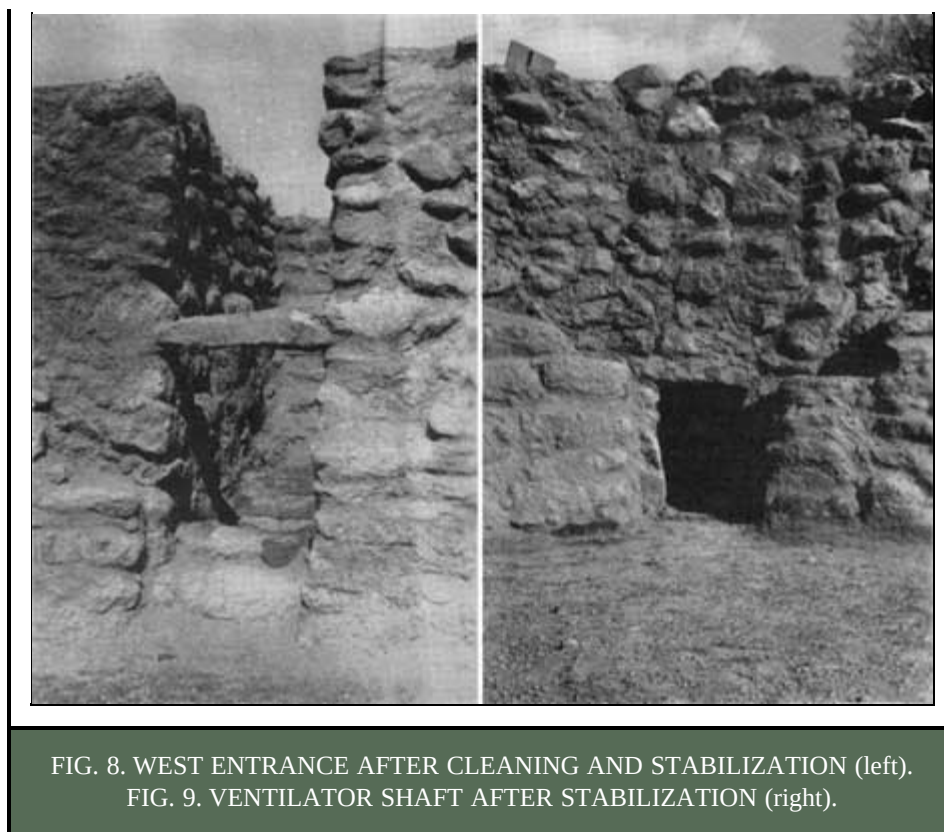
11. This statement is problematical, inasmuch as any material scattered about might have been scooped up and thrown in the mix. Oftentimes potsherds are found buried in between building blocks and this would be possible if dump material was used for making mortar. However, the writer has seen and examined many sites in which charcoal and ashes have been used. Castaneda's Narrative of the Coronado Expedition in 1540-1542 (Winship, G. P., 1896, p. 520) says, speaking of the Province of Tiguex (Tiguex) and its neighborhood: "They have no lime, but they make a mixture of ashes, coals, and dirt which is almost as good as mortar, for when the house is to have four stories, they do not make the walls more than half a yard thick. They gather a great pile of twigs of thyme and sedge grass and set it afire, and when it is half coals and ashes they throw a quantity of dirt and water on it and mix it all together. They make round balls of this, which they use instead of stones after they are dry, fixing them with the same mixture, which comes to be like a stiff clay."



FIG. 7. VENTILATOR SHAFT AFTER CLEANING AND A SECTION OF DOUBLE WALL.

The depth of the shaft from the base of the dump clearance to the floor was six feet, nine inches. At the point where the shaft leaves the kiva wall it is two feet wide; it widens to three feet three inches, when it reaches the wall of the vertical shaft seven feet to the southeast. The floor rises one foot, two inches, from the point where it leaves the main structure until it reaches the vertical shaft. A center point in the kiva was established and the center of the vertical wall of the shaft was located 54°35' east of south (Fig. 9).





It has been mentioned previously that another entrance existed on the west side (Fig. 9). Although not previously excavated, it showed evidence of having fallen in in years past, being so completely disintegrated that excavation was made difficult. The fill was cleared from around the outside but blocks of tuff, which were later decided to be the side walls, were left in place, although loose.

Paralleling somewhat the style of the ventilator, the floor began at the same level and continued up-grade for four feet, nine inches, until an almost square slab floor was reached, which was nine inches thick at the extreme west end and 44 inches wide. Across the tunnel on the floor, and even with the main wall of the kiva, was a slab of tuff 26 inches long, 12 inches wide, and nine inches thick, laid flat and extending from one side of the opening to the other. It reminded me of a stepping stone but I am at a loss to describe its purpose.¹²

12. The fact that this slab was laid even with the outside wall has often puzzled me. Why did they not lay it even with the inside wall which separated the horizontal tunnel from the kiva proper? It is only theory, however, to suppose that the inside wall was of later construction. Remains of a broken lintel of tuff were found set in the face of the outside wall which would have extended the width of the opening had the lintel not been broken.

The length of the entire horizontal shaft was ten feet, and the depth from top to bottom at the widest point was four feet.¹³ The tunnel had been roofed with slabs of tuff and short lengths of ponderosa pine or other conifers. Pieces of charred wood were found imbedded in the walls in such positions that, intact, they would have extended to the other side. This charred juniper and pinyon extended back only as far as the front of the square slab floor, indicating a vertical opening at the west end.

13. Note comparison in the height of the wall near the ventilator shaft, which is 6'9". Height of the wall should have been uniform at all points up to the time of abandonment under normal conditions if it were repaired when necessity arose. A difference of almost three feet possibly suggests

unimportance of the west entrance and, theorizing further, that its use was discontinued.

The size of the ventilator shaft on the opposite side of the kiva would not permit passage by human beings, but this west entrance would. I crawled through with ease on my hands and knees and cleared the 30-inch height by several inches. A smaller person, size of the average Pueblo Indian, could easily stoop and walk through. As a matter of comparison with the ventilator shaft, the west entrance is located 52° 30' west of north from the center of the kiva (Fig. 8).

The fill here consisted of ashes and small bits of charred wood from the roofing, together with the soft pulverized tuff. Several rats' nests were found, so there is good chance that the few potsherds found are of very little value inasmuch as they could have worked through the burrows. At the point where small poles were set in the walls to form the covering of the horizontal tunnel and where the vertical shaft began, several pieces of charred pine were found, but only one was datable by the tree-ring method. This one piece showed that it had been cut in 1513.¹⁴ It had been a part of a timber at least six or eight inches in diameter, which immediately suggested that it formed one of the east-west vigas close to the center of the structure, with the end resting near the wall of the west entrance. When the roof was fired sometime after the cutting date (1513) it would have collapsed and this one end worked into the entrance, until the small poles making up the roof of the horizontal tunnel had burned and fallen in. The big end probably then fell into the passage, to be later covered over with wind-blown debris and the loose building stones. On the other hand, this viga might possibly have served as a support under a heavy stone lintel where the horizontal tunnel turns upward to form a vertical shaft.¹⁵

14. Stallings, W. S., jr., 1937, p. 5 (included under Tyuonyi).

15. During excavation and reconstruction of a small kiva north of the south mound at Pecos, the writer found evidence that this type of construction had been employed in building of a ventilator shaft. In this instance a heavy pine lintel was placed over the stone lintel so that the ends would set well over the vertical walls. Pecos people probably knew that tremendous weight in the walls of the vertical shaft could not be held for long by brittle sandstone.

From the balance of the wood material found around the walls of the kiva the dates are as follows: 1412 plus x, 1417 plus x, 1423 plus x, 1428 plus x, 1481 plus x, 1486 plus x, 1500 plus x, and 1505 plus x.¹⁶

16. Stallings, W. S., jr., 1937, p. 5. The outside ring dates of individual specimens are taken from the original work sheets. Published as 1423 plus x 1513, and as from Tyuonyi. Note that all these dates fall comparatively close together. It appears entirely possible that they might belong to the same period of cutting as the charred piece found in the west entrance. Outside rings could have been missing to a one or two inch thickness because of having been burned off or through natural disintegration and rotting caused by moisture, pressure, insects, etc.

The year 1513 appears to represent a date close to the time when the structure was completed. Allowing sufficient years for the natural disintegration of a heavy roof structure made of poles, branches, grass and mud placed over the heavy vigas, the abandonment of this kiva approximately corresponds with the final dates of evacuation of the Pajaritan villages. This is thought to have taken place as late as the latter part of the sixteenth century (see ceramic correlation chart I). Castaneda¹⁷ in his Narrative of the Coronado Expedition states that during the summer of 1541 Captain Francisco de Barrionuevo was sent with some men up the river to the north where he saw two provinces, one called Hemes and the other

Yuqueyunque. The people of Yuqueyunque, while the camp was being established, abandoned their two handsome pueblos, the river between them, and removed to the mountains where they had four very strong villages in a very rugged country and inaccessible on horseback. Bandelier¹⁸ points out that Yuqueyunque is at the site of the present town of Chamita and that the people the Spaniards met were the Tewas, the other village across the river being the present San Juan. He does not suggest any identification of the four villages mentioned as situated in inaccessible parts of the mountains.

17. Winship, G. P., 1896, pp. 510-511.

18. Bandelier, A. F., and Hewett, Edgar L., 1937, p. 187.

The four villages in the rugged country mentioned above could have been the Tewa villages of the Pajarito Plateau. It is known from tree-rings that Tshirege (Tsirege) and Puye¹⁹ were inhabited for some years after 1541. Other inaccessible villages could have been Sankawi (Sankewi'i) and Otowi, which were inhabited at about the same time. This is only a suggestion but such a supposition seems logical.

19. Stallings, W. S., jr., 1937, p. 5. Tshirege, 1480 plus or minus 10-1581 plus or minus 1; Puye, 1507-1565 plus or minus 3.

Heavy timbers for the understructure of the roof, which rested approximately seven feet above the floor, were at least a foot in diameter at the butt ends, and they were well protected by the poles, grass and mud, which rested above, and extended well over the walls of the kiva (See Large Kiva sections-B). In all probability greater part of the disintegration took place with firing and during the years which immediately followed. We cannot very well use as a criterion old timbers now intact in sites at Mesa Verde, the Aztec ruins or Chaco, because of the differences in climatic conditions and the fact that some of those sites were much better protected than those of the Rito de Los Frijoles. The writer has seen and examined timbers in some old dwellings of Spanish-Americans near the Rio Grande at villages of El Rancho, Jacona, and Jacanita, which are said by the natives to be very old. A cross section was taken from one of the old beams and it dated 1847.²⁰ Ignacio Aguilar, cacique at the Indian Pueblo of San Ildefonso, once took me into the old round kiva there and pointed out that old vigas supporting the roof were hewn with stone axes.

20. This date of 1847 was later checked by Mr. W. S. Stallings, jr. at the Laboratory of Anthropology, though the date has not been published. This timber was almost 100 years old and was still firm.

Since the three main vigas of yellow pine were laid from north to south, any timbers placed over these main vigas would have been laid from east to west, and would have been elevated several inches. The fact that one possible east-west viga was charred²¹ and that pieces of the main vigas were found showing no charring makes it appear likely that the roof was not totally burned.

21. Dated 1513.

Under one of the main vigas on the north side²² was found a small piece of Sankawi Black-on-Cream pottery. It was well back under the viga, imbedded in hard mortar in which the timber was set, with very little chance for it to have worked itself into this position. Sankawi

Black-on-Cream apparently developed sometime in the sixteenth century during a time commensurate with late Group E Glaze pottery and extended into Glaze F times. It is found in such large quantities at Sankawi, Tshirege, and Puye, that it is believed to have originated and largely developed in the villages of the northern Pajarito Plateau.²³ The Rito de Los Frijoles is a part of the Pajarito Plateau, but a little too far south to be included in the closely adjacent area in which the Sankawi type was principally produced. The ware appears in moderately high percentages here but low when compared with the Bandelier Black-on-Gray²⁴ which probably preceded it, suggesting an almost complete abandonment of the site shortly after this period (see ceramic correlation chart I). The sherd mentioned above is an unusually early occurrence of Sankawi Black-on-Cream.

22. Dated 1417 plus x, 1423 plus x, and 1428 plus x. Outside rings missing. Possibly cut in 1513?

23. Mera, H. P., 1934. p. 14.

24. Present designation of the type formerly called Biscuit B. See Ridder and Shepard, 1936, xxx.

During their original placement the main vigas were evidently held by stones set broadside against the vigas, or by posts driven down a sufficient distance to keep them from rolling slabs were driven down in an upright position against the butt ends to keep the vigas from shifting in that direction. This method was particularly noticed at the south, which, under normal conditions, would suggest that the roof drained to the south. This would correspond within the slope at the foot of the north cliff.

After the stabilization crew removed the dump materials from around the outside, the hard solid base of basalt and ash²⁵ blocks encountered was obviously unnatural, and a test trench on the north side was dug to a depth of six and one-half feet until river wash and conglomerates were struck.

25. Ash is used to designate rhyolitic tuff.

On the basis of the foregoing I am inclined to believe that deeper excavation was required for the north side of the floor than for the south side, since the cliff slope extended beyond it. The Indians then began the construction of a wall approximately five feet thick with chunks of ash and basalt, the faces laid to the inside forming the almost vertical but flared wall.²⁶ Some of these chunks were long and flat and were keyed into the large chunks to the outside, which were laid to a widths of over 15 feet on the southwest and covered with tons of fill. Around the very edge of this artificial build-up extremely large chunks were found, apparently to hold the wall in place, some of them weighing several hundred pounds. It is presumed that this type of construction was used to conform to the subterranean chamber concept which was widespread through out the Anasazi area.

26. From personal observation flared walls seem to be common in prehistoric kivas of the Rio Grande valley, especially the ones with walls of masonry. This feature was affected during initial construction, so that any outside pressure from fill would not cause the wall to fall to the inside.

As far as I know the varying successive courses of the Rito (little river) have never been determined. Pits have been dug at various points on the canyon floor and river wash was found at depths not more than 18 inches in some places. It may be that the southwest portion of this outside wall was laid so as to turn away any possible rise in the stream.²⁷

27. A similar situation exists on the floor just off the southwest tiers of rooms at Tyuonyi. River wash here is struck at 18 inches and large boulders have been placed at the foot of the six to nine-foot drop to hold the slope (Fig. 32).

The bottom of the kiva is on approximately the same level as the floor of the canyon surrounding the structure, and this heavy outside retaining wall was laid directly over the top soil. Very little excavation if any was done on the south side before the first stones were laid; most of the excavation took place on the upgrade or north side.

Hewett speaks of the structure being lined with a double wall of blocks²⁸ far superior in workmanship to the outside wall, with the exception of one poorly constructed section on the north approximately halfway between the ventilator and the west entrance. This was substantiated by our findings. The method here parallels that of the outside wall, in that building stones were haphazardly laid for an approximate ten-foot length of the inside wall. This establishes the fact that trouble was experienced within the inside wall and that at least the top four feet had fallen down leaving the outside wall exposed. It is well to point out that the inside wall was carefully laid for the most part, all blocks running in the same direction and more or less uniform in size. The more uneven building blocks were set in mud and the gap was taken up by forcing in small chunks, thus making a steady wall when the mud dried.²⁹ Most blocks had the appearance of having been worked, but I noticed one place in one wall where construction was not so perfect. The builders had missed the covering of some vertical joints and left one section exposed for the entire height of the wall, giving the appearance of a sealed door which led no place. The outside wall was built up of chunks weighing less than a pound and ranging up to several hundred pounds. The masonry of the west entrance was much cruder than that of the inside wall, which is strange inasmuch as it was exposed and the outside wall, of which it was a part, was covered by the inside wall. It seems that a little lining of the stones here might have been in order, but instead they were laid around the inside of the kiva only, and squared off when the horizontal tunnel was reached. This neglect could have been because of the lack of space in the shaft; a lining as thick as the inside wall of the kiva would have prohibited its use by human beings.

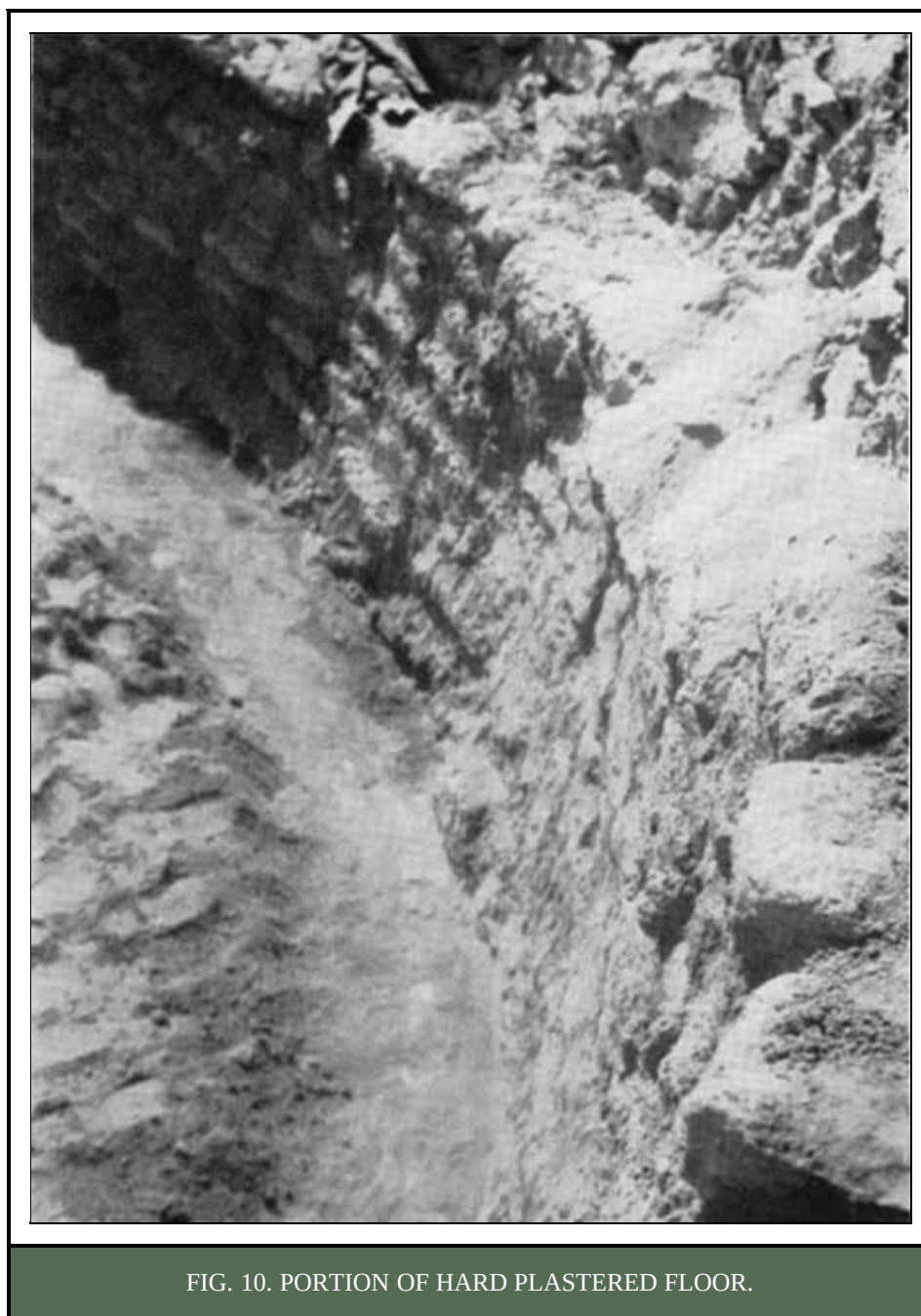
28. Hewett, Edgar L., 1909. p. 444.

29. Chinking of walls was employed throughout the Pajarito Plateau and seems to have been a standard procedure.

The workmanship in the ventilator shaft or east tunnel was also crude, much more primitive looking than the inside wall. In fact, the corners were laid in with extremely large chunks. While we were preparing to stabilize it some of the corner stones of the inside wall fell, leaving the outside wall exposed from top to bottom. Loose dirt was scraped away and a shallow trench was dug, which showed that the outside wall at this point extended about eight inches below the inside wall. The stones of the inside wall were set in mud apparently of the same material or mortar used in building up the wall. An estimate of the thickness of this base mud would be difficult because the first course of building stone was so unevenly laid. Patches of what appeared to have been plaster were found in the narrow space between the inside and outside walls, suggesting that the inside wall was laid in at some later date than the initial building period. As a matter of fact, there was no pressure placed on the inside wall by the weight of the roof structure. The main vigas rested on the outside and it is logical to assume that the inside wall was constructed at some undetermined later date.

Probably because heavy brush and even trees were growing inside the kiva prior to original excavation, and too, because of recent exposure to the elements, evidence of a plastered floor

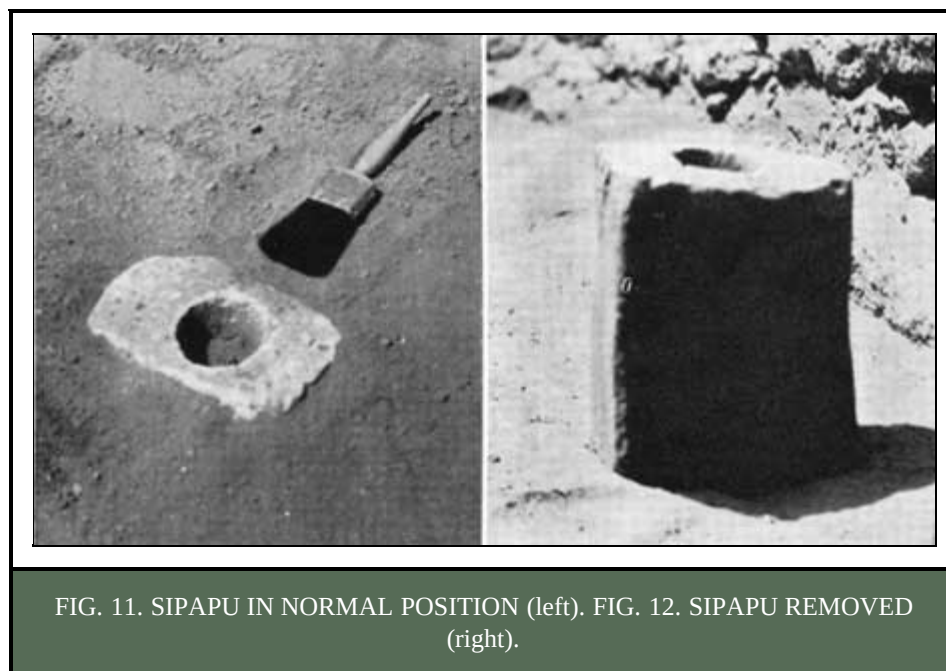
was found only on the north side of the kiva. Three definite layers of this feature were located, no more than one-half inch thick altogether (Fig. 10). Underneath this was undisturbed soil of the canyon floor, large chunks of tuff mixed with river wash. These three plastered floor layers showed blackening in spots. They began at the bottom of the first course of building stone of the inside wall where still in place. The remainder of the floor could not be traced.



Six postholes for the roof supports were located, three on the north and three on the south. I refer to them from east to west as No. 1n, No. 2n, No. 3n (the ones on the north), and No. 1s, No. 2s, and No. 3s. (See Large Kiva Plan A). Posthole 1s had a flat smooth stone in the bottom, while 2s and 3s narrowed down to a point at the bottom. It appeared that posts were cut to fit these earth cones, and that stones surrounded the actual set to steady the posts. All of these holes correspond with the position of the viga sets found in the outside wall and indicate that there were three main vigas placed from north to south which supported the roof.

A rectangular slab of tuff in which a hole was drilled appeared to represent the sipapu or

ceremonial entrance from the underworld (Figs. 11 and 12). (See Large Kiva sections B). It was found two feet six inches north of the center, buried in the dirt. At the top it was eight inches long, six inches wide; at the bottom, eight and one-half inches long and five and one-half inches wide. It was ten inches long on one side and 11-1/2 inches long on the other. The sipapu hole cut into the rock was three inches in diameter and seven inches deep, narrowing down to an approximately two-inch diameter at the bottom. Two inches from the top end and on the inside was a boring three-quarter inches in diameter and extending upward to the outside in a westerly direction when the stone was in normal position. Just above this boring and on the outside was another boring which did not extend quite through to the vertical hole as was the case of the former.



On the floor near the eastern side of the room was said to have been a fire-pit called by the Tewa Indians the sipapu,³⁰ but this feature was not found in 1937.

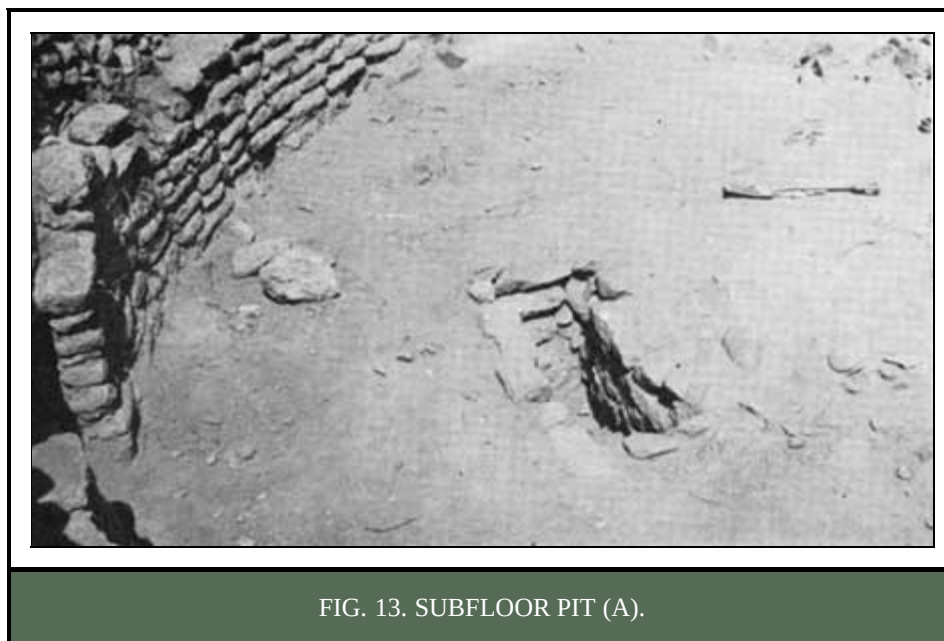
30. Hewett, Edgar L., 1909. p. 444. (The apparent confusion was explained to me by Dr. Hewett with the statement that a fire-pit was known to the Tewa Indian workmen as the sipapu).

Lying beneath the probable floor level, deposits of stone were encountered, apparently deliberately placed there for some unknown reason. They were definitely below the floor level (that is, if the remaining fragmentary portion of the floor layers around the northeast part of the wall was a true indication of the old floor). Portions of what appeared to have been little walls came to light, but could not be traced as in any way continuous. A few potsherds were found which will be discussed later.

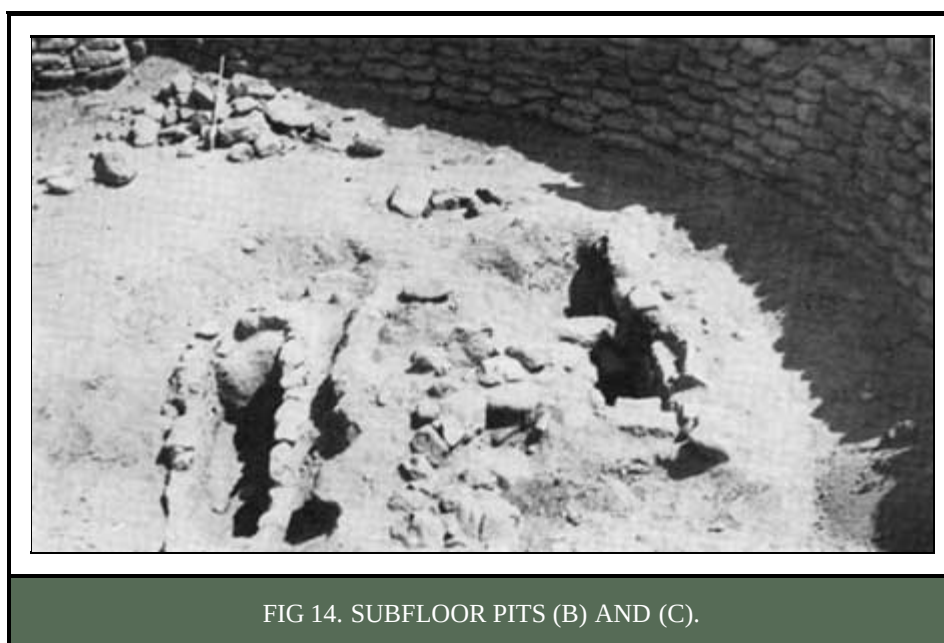
The entire bottom of the structure was tested, and peculiar outcroppings of stone were found to the west side; when excavated they proved to be parts of a rectangular pit. Similar features were found on the three remaining sides.

These are identified as follows: (A) the feature a few feet from the west entrance (Fig. 13). It was in the form of a pit and the inside measurements were: length, 62 inches; width, 19 inches to 21 inches. It was walled up with chunks of tuff and basalt approximately nine inches wide, although the stones were very irregularly laid. There was the appearance of a slight cave-in at one side. Its greatest depth was 44 inches at the south end, where a small hole four inches in diameter was found, evidently dug through a very crudely plastered floor.

The depth at the north end was 35 inches. At this point was a crude wall 14 inches high above the floor level and extending to the north for about three and one-half feet, forming a step. No use for such a pit was discovered. Bits of pottery were found and also the upper part of a human femur and an unbroken late type of mano formed from basalt. The pottery will be discussed later.



(B). This was found five feet southwest of the center of the kiva (Fig. 14). Its form was the same as (A) and the walls were laid up in the same manner. It was seven and one-half feet long, 19 inches wide at the east end, and 17 inches wide at the west end (inside measurements). Its greatest depth was 30 inches, at the west end. It was only 17 inches deep at the west end, since a stone in the bottom formed a slight terrace on the west. The stone seemed too large to have been used merely to fill the pit. The pit had a crudely plastered floor curving up at the edges. At the east end was a huge chunk of basalt weighing several hundred pounds which appeared to have been an original part of the structure.



(C). Six and one-half feet southwest of (B) was another pit, also with a plastered floor

curving up at the edges (Fig. 14). It was 34 inches long and 16 inches wide inside. The walls were definite but poorly constructed. It was 32 inches deep. Running to the southeast was a wall five feet long adjoining the south wall of the pit. There was only one wall. If there were others to form another enclosure they have disappeared. At the west end a definite wall of rocks adjoined the south wall of the pit and extended 35 inches to the northwest. Adjoining the north wall at the west end an array of rocks seemed to form an enclosure shaped like a question mark. It extended for 54 inches to the northwest. It seemed that these stones were set on original soil, no floor being found. In the main pit were found bits of broken pottery.

(D). Nine feet northeast of the kiva center was another sub-floor feature similar to the previous ones described, composed of two main parts, or two different enclosures, and walled up very crudely and with rather indefinite outlines. They were separated only by a single wall of stones laid in mud (Fig. 15). The one nearest the center of the kiva was about 21 inches long and 20 inches wide. It was 32 inches deep with the plastered floor curving up at the edges. The plastering was very crudely executed. A flat slab six inches thick was on the east side and extended the width of the structure.

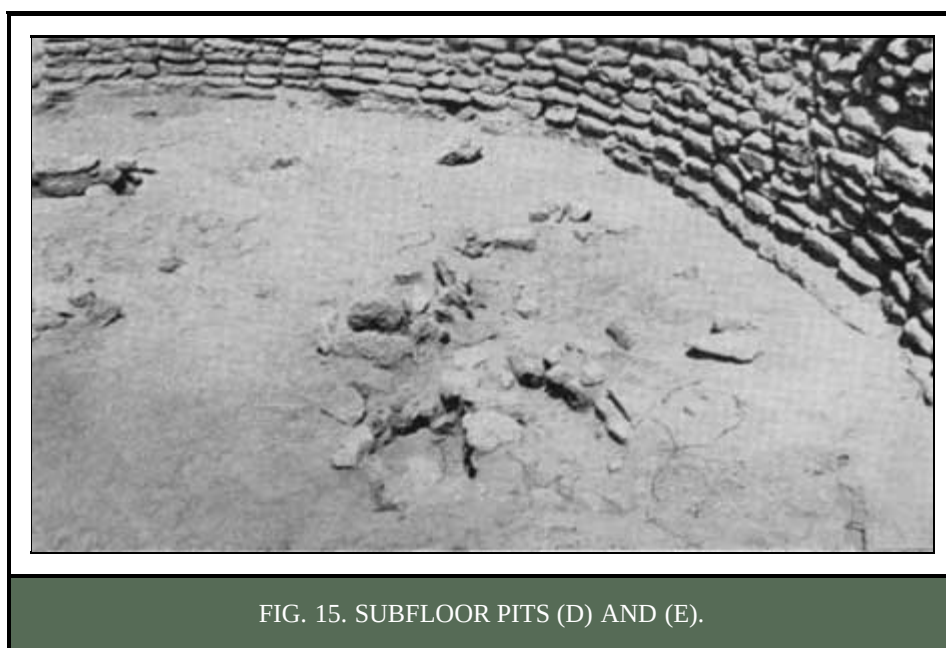


FIG. 15. SUBFLOOR PITS (D) AND (E).

(E). Adjoining this pit to the northeast was another similar feature, not as deep (Fig. 15). On the east end, which has no wall, it was 23 inches wide and on the northwest end it was 12 inches wide. It was shallow, not more than ten inches deep and big chunks of tuff composed the floor which slopes to the southwest. These chunks seem to have been naturally placed, that is, not laid by the kiva builders. The center post hole (2n) rested almost directly on top of these pits. Twelve inches to the north was an enclosure about 12 inches in diameter, which appeared to be another post hole but was out of line; that is, it did not line up with the viga-set in the north wall and the center post hole on the south side of the kiva. It probably belonged to the sub-floor feature, but in what capacity could not be ascertained.

No evidence of a fireplace was found in the position previously reported.³¹ No traces of an altar were found at this time either.³²

31. Hewett, Edgar L., 1909, p. 444.

32. Ibid.

Near the wall and to the northeast we located broken pieces of slate³³ which at one time

served as the covering of a small round pit filled in with soft dirt. When this fill was removed a small cup-like object of unbaked clay was found. (See Large Kiva sections B). It was about four inches in diameter, the depression in the center being about two inches in diameter and two inches deep. It was set in a small recess almost directly under the inside wall. Not more than six feet to the southeast and under the wall another such object was found approximately the same size. On the opposite side of the kiva another one of these objects was discovered, almost disintegrated. However, some of the red unfired clay was found, and some evidence of a hole in the center.

33. Many of the ruins of the Pajarito Plateau have slate worked into the walls as part of their construction. Frequently they are found as a covering or as a stepping stone.

To the southeast of the pit in the front of the west entrance and not more than two feet from the center of the kiva, amid a profusion of rock outcroppings, was found another chunk of this unbaked clay, rounded and with a depression in the middle. A stone slab had been placed over this, too (Fig. 16). A turkey bone whistle six inches long was found in the fill. Some of the natives from the pueblo of San Ildefonso, when I pointed out one of these unbaked clay objects, immediately agreed among themselves that these little objects were of ceremonial significance and kept the wall from falling down. I have mentioned that apparent trouble with a former slumping of the inside wall had had to be dealt with, and pointed out one place where it was repaired.



FIG. 16. UNBAKED CLAY OBJECT IN CENTER OF KIVA.

Several finds of artifacts were made. Four feet west of the ventilator shaft opening and a little to the south buried under several inches of soft fill we located a small ceremonial jar, of early Santa Fe Black-on-White, a style in vogue during the thirteenth century.³⁴ It was a narrow-necked globular vessel with small lugs near the top (Fig 17). Seven feet northwest of the center, in almost a direct line with the west entrance, buried under the soft fill, another narrow-necked globular ceremonial vessel was found. It is a good example of the last gasp of the glaze-paint series³⁵ which could have been manufactured in the seventeenth century (Fig's. 18 and 19). Near the west entrance on the north side and three inches from the wall, another small jar was located under four inches of fill (Fig. 20). It was of the Glaze E type, which was the fashion during the middle of the late sixteenth century.³⁶

34. Mera, H. P., 1931, pp. 11-12.

35. Mera, H. P., 1933, p. 9.

36. Mera, H. P., 1933, pp. 6-7.

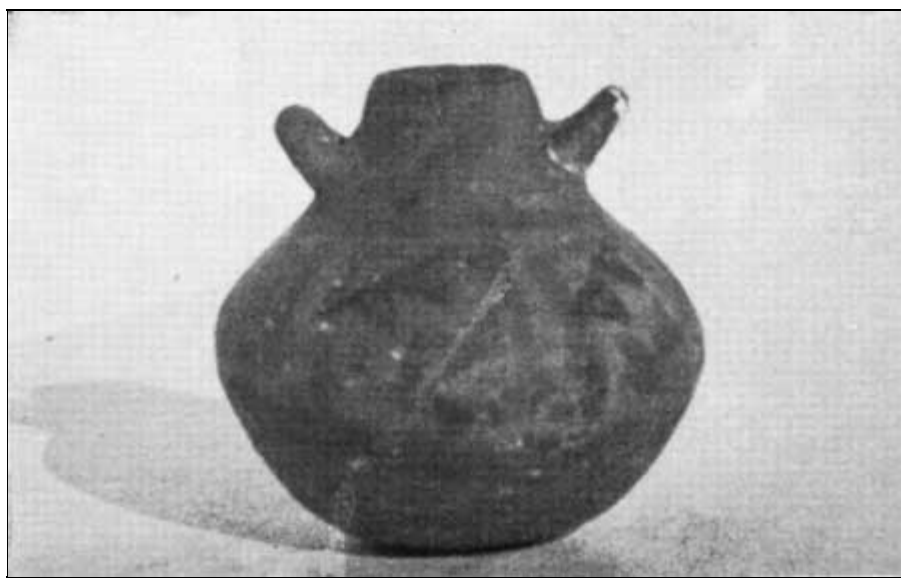


FIG. 17. SANTA FE BLACK-ON-WHITE JAR BURIED NEAR VENTILATOR SHAFT.

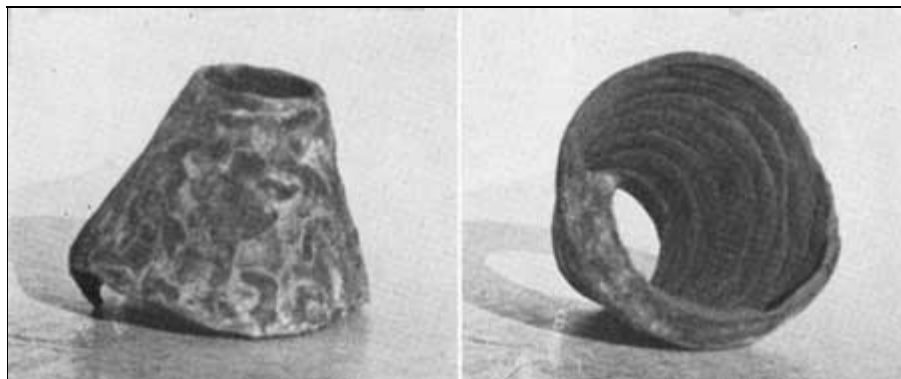


FIG. 18. NARROW NECKED JAR OF THE LATE GLAZE-PAINT SERIES (left).
FIG. 19. NARROW NECKED JAR SHOWING COILED EFFECT (right).

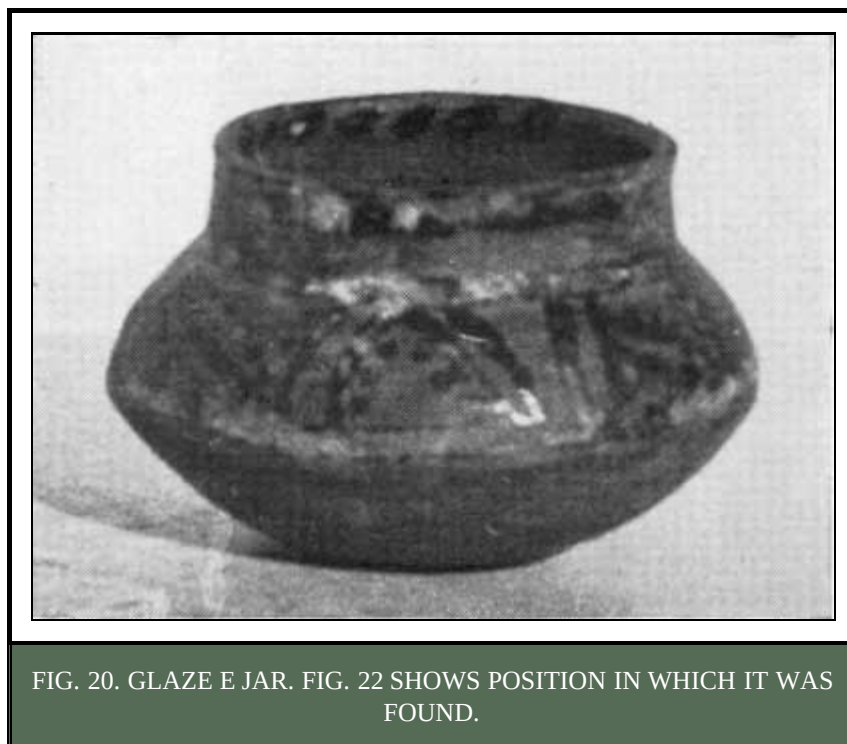


FIG. 20. GLAZE E JAR. FIG. 22 SHOWS POSITION IN WHICH IT WAS FOUND.

In conversation with Dr. Hewett I was informed that the three small ollas which we found buried may have been used ceremonially and that it was customary to bury such vessels when a site was abandoned. The San Ildefonso (Tewas) in recent years, it seems, used such vessels in connection with the rainbow altar ceremony. The pots were suspended from a frame over the altar, each containing water from the four directions. Into a fifth vessel was poured some of the water from each of the other four. Harrington, in his study of the Tewa Indians³⁷ states that the cardinal sacred water lakes have been learned for San Ildefonso only. When medicine water, *wopo*, is prepared in connections with certain ceremonies, small quantities of water are collected from the following four places, all situated near San Ildefonso pueblo. North, west, south, east, these places are also sometimes called, respectively, 'north lake'. The medicine water from the above is rainwater; that from below is obtained by digging a hole in the ground where water can be reached. The water from the six sources is mixed in a *woposai'i* 'medicine-water bowl' and used ceremonially.

37. Harrington, J. P., 1916, pp. 44-45.

The sub-floor features of the kiva appeared to have been of earlier date than the structure proper, because of the crudeness of construction. A discussion of the potsherds in these and other features will now be given, in an effort to place them in the proper period of development.

The west entrance cannot easily be placed in an earlier period than the kiva itself. The bulk of the pottery belonged to the late black-on-gray types ("biscuit ware"), which were so prevalent during the period of greatest activity. Two sherds of a late glaze-decorated type were found giving more proof that the pit was late. Two sherds of a black-on-white type related to Wiyo Black-on-White were found, which probably belonged to the period of growth. (See ceramic correlation chart I). One piece of early utility ware was found here, but this spells nothing. It has been pointed out before that these wares could have worked down in the fill, so that from a standpoint of ceramics no great age is shown.

Subfloor pit (A), the feature six and one-half feet southeast of the west entrance produced only late culinary ware and late glaze ware, some unidentifiable Biscuit ware and one sherd of Potsui'i incised, all of which could have been manufactured during the sixteenth century.

In pit (C), six and one-half feet southeast of (B), the bulk of the sherds were of late culinary types, and the late black-on-grays and late glaze sherds were prominent. One piece of Santa Fe Black-on-White was found.



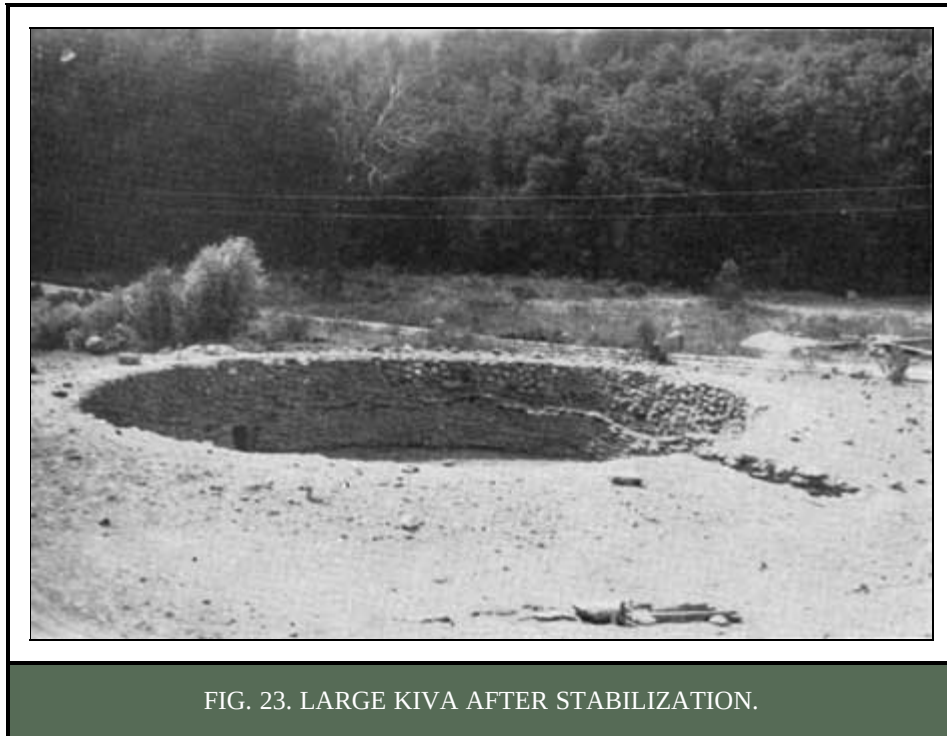
FIG. 21. NARROW NECKED JAR OF THE LATE GLAZE-PAINT SERIES AS FOUND.



FIG. 22. GLAZE E JAR. THIS WAS APPARENTLY IN VOGUE DURING THE MIDDLE AND LATE SIXTEENTH CENTURY.

In the test trench which was run to the north of the structure the sherds were all comparatively late, showing a preponderance of glaze ware. The glaze was unidentifiable as to type, but would probably fall largely in Glaze D and Glaze E groups.

Another test trench was run from a supposed floor level on the north side of the structure, the nature of which has been previously described. It produced 24 sherds. Twenty-one were of the culinary type which could have been made in early black-on-white times, but which probably lasted until the decline somewhere near the end of the sixteenth century. Three pieces of early culinary ware were found which were made contemporaneously with the Chaco-Kwahe'e complex.



Sherds were also found in the vicinity of the rounded clay object almost in the center of the kiva, of the late black culinary type.

In the fill around the small glaze ceremonial olla found six feet to the northwest from the center, 15 sherds of Santa Fe Black-on-White were recovered. Santa Fe Black-on-White ware is of much earlier date than the glaze olla. It follows the Kwahe'e wares of very early black-on-white times, while the glaze piece was probably not made before the decline of the Rito de Los Frijoles, as is clearly suggested by the poor execution of the design.

The pit in front of the west entrance also produced late pottery. A great many miscellaneous glaze bowl sherds were found, along with one Biscuit sherd and one Potsui'i incised sherd, while the balance of the sherd material belonged to the late utility wares and late glazes. Also buried in this fill was the upper part of a human femur.

From the foregoing discussion of pottery types it would be very difficult to place an early age on these sub-floor features. There is always the possibility, however, that they were of earlier date than other parts of the kiva structure, and were filled in at a later date after late styles in pottery development had come into use. This is only theory, with no definite evidence, but so

many peculiar things have come to light that it is very difficult to say just what did happen here as regards sequences in architectural types. It is best to leave the discussion of the pits in abeyance until further evidence is at hand.

In the disturbed fill around the outside of the kiva more than 11,000 potsherds were recovered which will be discussed in detail in the conclusion of this series.

In concluding the kiva report a short discussion will be given. The sub-floor features have already been mentioned, the conclusion being that they showed signs of earlier origin than the kiva walls, using as a basis the inferior type of masonry employed, but that there was no evidence in ceramic styles to back up this supposition.

The bulk of the sherd material came from the fill around the outside of the structure and the analysis may reflect the history of ceramics for the entire area. In this one site, which might have been a catch-all for discarded pottery, is shown an early development of Pueblo II Black-on-White styles. With the coming in of the glaze wares the black-on-whites were apparently put on the sidelines; and the glazes, which barely got a foothold in the earlier part of the period, steadily came into prominence showing an unbroken sequence from early to late times, becoming really common late in their history.

From early Pueblo III times the black-on-whites lagged, and the transitional types were not prominent until about the middle of Pueblo IV. At this time there was a definite spurt in the late black-on-grays, at a time when the glazes were prominent. About this same time a degenerate type of ware is sparsely represented; seven sherds of Potsui'i Incised,³⁸ which according to Mera, came in sometime after the beginning of Biscuit B, reaching its greatest development on the Pajarito Plateau and in adjacent sections, and decreasing in popularity away from this center, especially to the south and east.³⁹

38. Mera, H. P., 1933, p. 17.

39. The Rito de Los Frijoles is some miles south of the main area of development of Potsui'i incised ware.

Following this period there was an apparent decline or shortage of later pottery styles, which would suggest an abandonment of the site. Inasmuch as these finds were made only in one excavation, they cannot very well be assumed to reflect conditions at the rest of the sites in the canyon until a comparative study is made, which will be presented at the end of this series of reports.

Several sherds of foreign origin were found. They included two sherds of Jemez Black-on-White,⁴⁰ which grew out of a basic form, Santa Fe Black-on-White, incorporated with Mesa Verde Black-on-White styles, and a possible influence from Galisteo Black-on-White;⁴¹ one piece of an unnamed black-on-white,⁴² which was a variant of Galisteo Black-on-White in the localized area around Santa Fe, New Mexico; one sherd of Rowe Black-on-White.⁴³ a local variant of Galisteo Black-on-White in the Pecos area. Three sherds of a type of red ware were found showing Little Colorado characteristics.

40. Kidder, A. V., 1931, p. 154.

41. Mera, H. P., 1935, p. 23.

42. Unpublished type designated by Stallings and Stubbs as Poge Black-on-White.

43. Kidder and Shepard, 1936, p. 467.

To sum up, the large kiva in El Rito de Los Frijoles, Bandelier National Monument, which was re-excavated and stabilized in the summer and fall of 1937, yielded tree-ring dates of 1412 plus x to 1513 A. D., and yielded pottery of the twelfth to the seventeenth centuries, the greatest portion belonging to the sixteenth. The evidence at hand suggests that one building period of the kiva was in 1513 and abandonment probably took place late in the same century. The "plus x" is believed to be pretty large in apparently early fifteenth century tree-ring specimens, and the earlier pottery can be explained as belonging to a period of development, trade, sporadic occupation, or as even being carried in and dropped. A variety of interesting and unusual architectural features, notably an entrance-passage on the west opposite the ventilator, a ground-stone sipapu, and several floor pits were found and studied, the conclusion being that evidence was not sufficient to place them in a period earlier than the main part of the kiva. Clear evidence of the general method of roof construction was found.

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BANDELIER

Prehistory of El Rito de los Frijoles, Bandelier
National Monument



THE CEREMONIAL CAVE

About three quarters of a mile up the canyon from the large kiva, and at the upper end of the cliff and talus dwellings, in the north cliff 150 feet above the canyon floor, is situated the great "Ceremonial Cave", more than 80 feet from northwest to southeast.

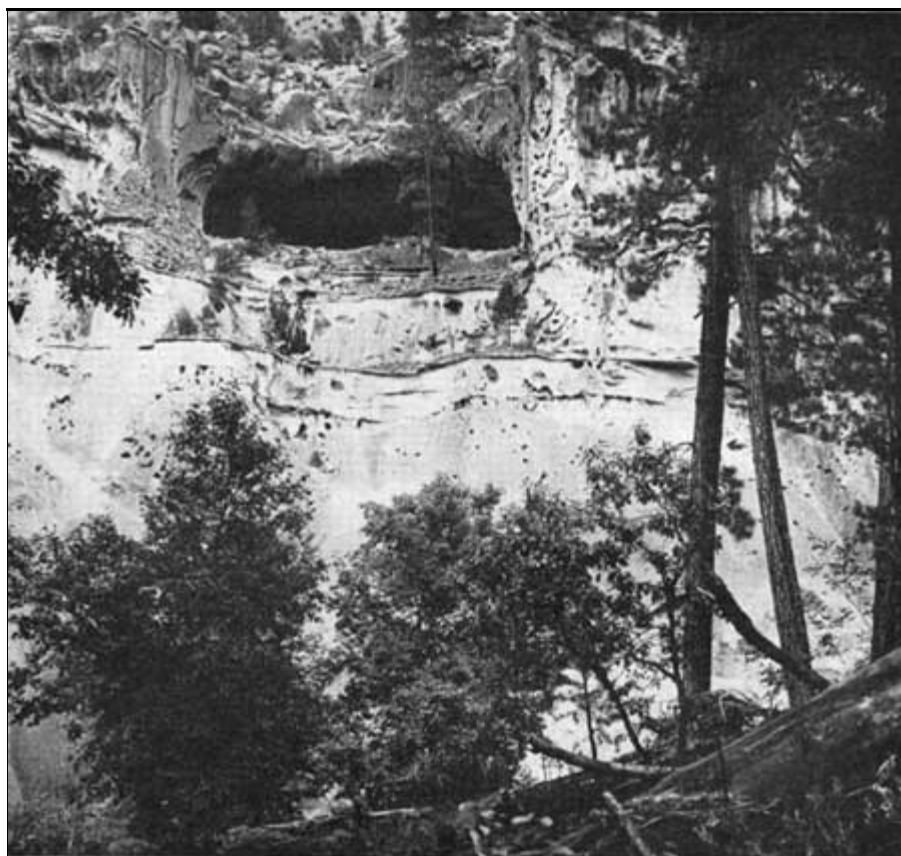


FIG. 24. THE CEREMONIAL CAVE. Courtesy Museum of New Mexico

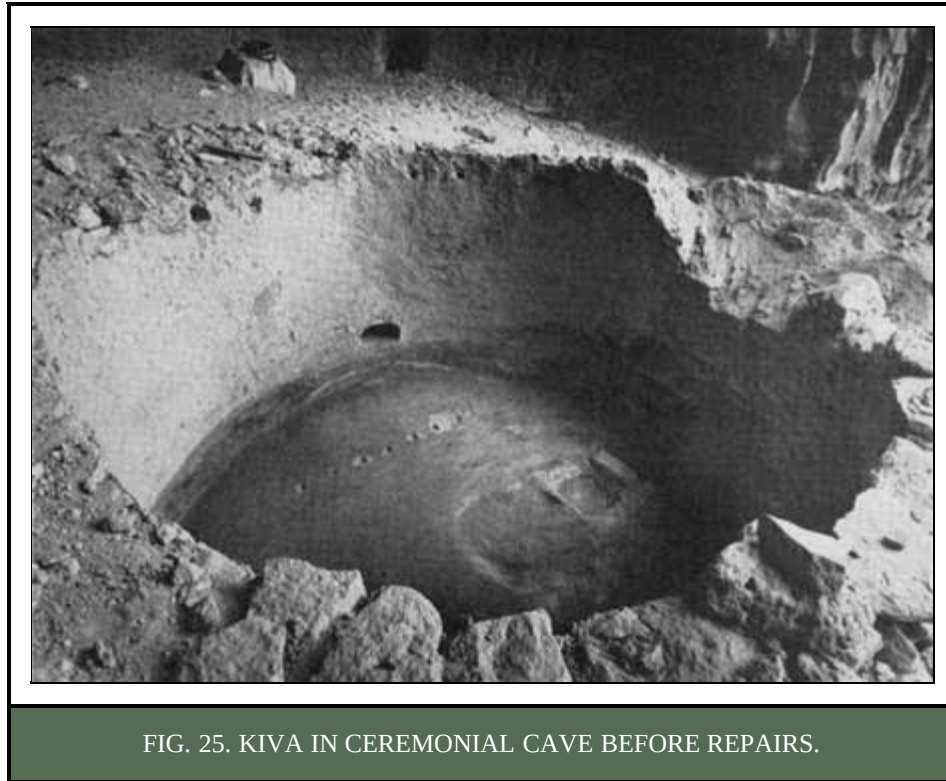
The original entrance has entirely disappeared with the natural erosion of the soft cliff, as have the rooms built against the back wall. (See Ceremonial Cave Section B). Fragmentary portions of the hard plastered floor remain, showing that 20 or more rooms were present during its occupancy: 17 first-story, several second-story, and three cave rooms.⁴⁴ The second story rooms had as a roof the natural ceiling of the front part of the cave, which sloped to the back so abruptly that most of the back rooms were of only one story. Patches of mud mortar can still be noticed adhering to the rough ceiling where the stone walls met the top. The mud gave a clear outline of the walls, and the size of the rooms could be fairly accurately determined by the remains of the soot clinging between the wall outlines.

44. Hewett, Edgar L., 1909a, pp. 666-667. See Mr. Chapman's plan and reconstruction drawing, loc. cit., showing 13 first story rooms, seven second story, and three cave rooms.

To the front of the cave is a small kiva⁴⁵ which was reconstructed in 1910 by Mr. Jesse L. Nusbaum, now senior archaeologist, National Park Service, who was a member at the time of the staff of the School of American Archaeology.⁴⁶

45. Hewett, Edgar L., 1909a, p. 660.

46. _____. Organic Acts and Administrative Reports, p. 93.



By 1937, when the National Park Service launched its stabilization program, the kiva had disintegrated badly and was somewhat dangerous for individuals walking on its roof. A plan for its reconstruction, which appeared in a previous report,⁴⁷ was immediately worked out (Fig. 25).

47. Hendron, J. W., 1938, pp. 70-74.

The kiva varied in diameter, at the floor, from a little more than 12 feet one inch to a little less than 13 feet. At the top of the walls the diameter was slightly greater.⁴⁸ The floor of the structure was made of hard blackened plaster,⁴⁹ which extended up the walls like a dado for more than a foot around the entire circumference with the exception of a small portion in the southwest which had fallen. In the center of the floor the plaster had been kicked up, probably because of the position of the ladder through the hatchway in the roof permitted the scraping of feet. (See Ceremonial Cave Plan A).

48. Note the flaring of walls, carried out here as in the large kiva described in the preceding paper of this group.

49. Mr. Kenneth Chapman informed me that hard blackened plaster was used by the Cochitenos and Santo Domingo Indians a few years ago. Blood was saved from a slaughter and mixed with water. The liquid was mixed with a fine clay and soot from the fireplaces. The floors were previously plastered and worked down so that there were no cracks and then a thin coat of the blood mix was mopped over. When almost dry it was polished with a smooth hand stone. Evidently this type of floor was not too satisfactory, Mr. Chapman remembers that the Indians took great care to observe the shoes of visitors to see whether or not they wore hob-nail boots or the like. One gallon of the mix covered approximately 500 square feet of floor.

The ventilator shaft in the southwest portion of the wall was a little more than one and one-half feet wide, and one foot, eight and one-half inches high from the floor to the lintel (Fig. 26). From the inside of the kiva wall to the back of the vertical shaft it measured one foot, three and one-half inches. The floor had no rise from the front to the back as did the big kiva. Probably because of the limited space for building in the front of the cave, there was hardly any horizontal tunnel at all, its length being no more than the width of the stone lintel, which was nine inches. The vertical shaft, which was badly disintegrated, began at that point, and extended three feet above the ground level on the outside. I hesitate to estimate its original height but presume that it extended upward at least as far as the roof of the kiva.⁵⁰

50. The lower the mouth of the vent, the more downward draft created, as in the principle applied to a house chimney. If the chimney is high and above all obstructions, then a better upward pull is created. During a kiva reconstruction at Pecos the writer found that when the opening of the vent was high above the kiva roof the down draft was increased. When the hatchway was covered smoke emerged from the vent like a chimney and would not reverse when the cover was removed. Apparently there was no standard procedure in vent construction. Some are larger than others and take on various proportions and forms. It appears likely that no vent would be entirely satisfactory on a windy day. The principle involved is that the cold air in the bottom of the kiva rises as it is warmed and passes out through the hatchway. The warm air is replaced by cold air which is sucked in through the vent causing a constant circulation. In the event deflectors are present, it appears likely that the inside opening of the horizontal tunnel will extend a few inches above the top for correct distribution of air currents. The writer offers these principles only as suggestions, because as yet no standardized explanation has been worked out for kiva vents.

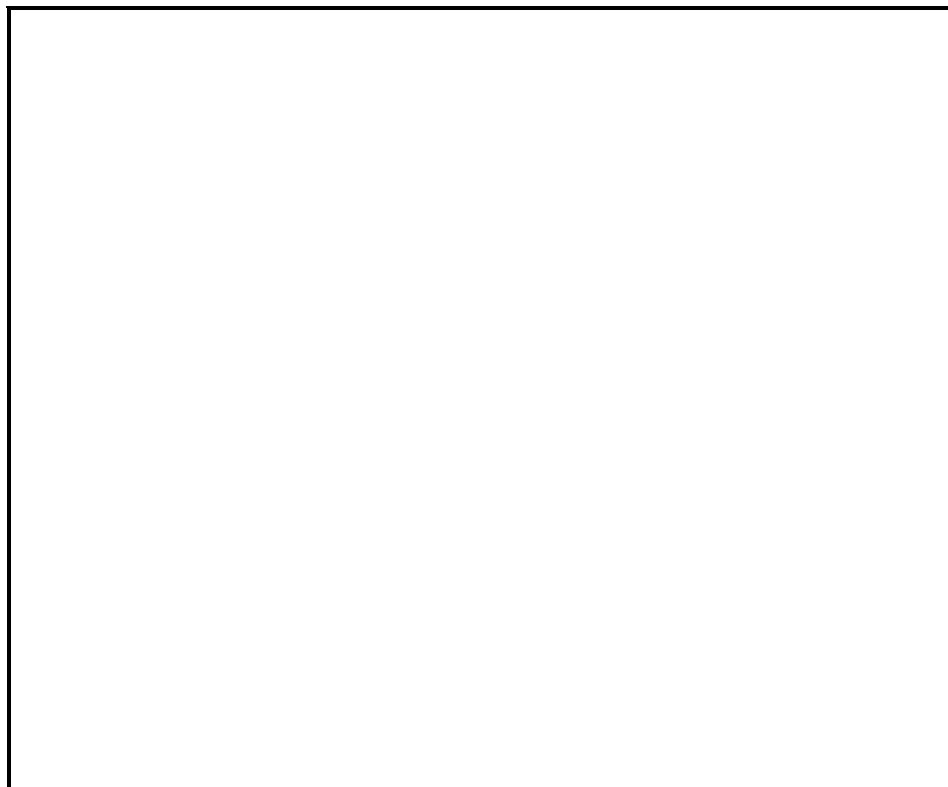




FIG. 26. STABILIZED VENTILATOR SHAFT OPENING IN CEREMONIAL CAVE KIVA.

Two feet from the opening of the ventilator shaft was the fire-pit. It was almost one foot, two and one-half inches wide, and very irregular in form. The greatest depth of the pit was about nine inches. Some vestiges of a possible deflector were seen on the floor in front of the pit. It appeared to be about four inches thick. Its width is unknown.

On the northeast side in the floor are still to be seen a series of six holes, with loops of reed or willow still intact in three of them. The holes were approximately seven inches apart. The entire group extended for a little over three feet. On the southeast side was another series of these holes, seven in all, a little more than ten inches apart.⁵¹ There were holes in the wall suggesting loom supports.⁵²

51. Mr. Chapman shows only six, I suspect that this seventh hole was gouged out by vandals as it appeared somewhat different than the others, (Hewett, Edgar L., 1909a, p. 666-677).

52. Mr. Nusham informed me that these holes were in the wall while he was working there.

In front of the southeast series of holes and three feet, two and one-half inches from the wall, was a depression almost four inches in diameter which appeared to have been enlarged by constant scraping. This was all that could be found that would even be suggestive of the sipapu, and even this was doubtful.⁵³

53. Mr. Chapman recorded this in his ground plan. (Hewett, Edgar L., 1909a, p. 666-667).

There were two recesses or niches in the wall; one on the south side and one on the northwest side. The one on the south was a little more than a foot above the floor, almost eight and one-half inches deep. The one on the northwest was almost three feet from the floor; the opening almost ten inches high, a little better than one foot, three and one-half inches wide, and slightly over one foot, three and one-half inches deep. Their use is unknown.

Directly under the lintel of the ventilator shaft were two small pits on the floor, with narrow slabs of tuff forming a dividing wall. The one toward the inside of the tunnel was one foot long and a little more than three and one-half inches wide. The one inside the kiva was almost one foot, two and one-half inches long and almost five inches wide. Their depth was only a few inches below the floor of the kiva.⁵⁴

54. The writer offers the suggestion that pits of this sort and in these positions were used to catch any water that might have run in through the ventilator. I have experimented with pits of this type and have found that during a rainy season they catch most of the rain water which would ordinarily flood the chamber.

Wall construction here paralleled somewhat construction of the large kiva on the floor of the canyon, but here there was only a single wall. Stones or building blocks were selected and smoother parts laid to the inside, and as the wall was laid up a retaining wall was laid on the outside. The mortar here excelled any other that I have seen in the ruined sites in Frijoles Canyon, being smoother and much harder.

It cannot be said definitely that the retaining wall was built to protect the kiva from flood-water, but there probably was the problem of water dripping from the overhanging ceiling of the cave.⁵⁵ At the time this structure was built the floor of the cave may have extended several feet further to the front; it has been cut back by erosion.⁵⁶ The retaining wall was laid only to the front of the cave, since the northwest wall had the protection of the cave floor and volcanic fill underneath. The cave floor evidently came up to a point almost even with the roof of the kiva but the southwest side was subject to weakness of the talus slope more than was the northeast, protected by the ceiling of the cave.

55. The annual run-off from the ledge above the overhanging ceiling has not been checked, but portions of the tuff cliffs have hardened on the outside, forming a crust which would probably retard the rate of erosion of the cliff surface itself.

56. I estimate 15 feet in the last 30 years for the cutting back of the floor.

When this second reconstruction of the kiva was completed the floor of the entire cave was cleaned out and brushed. All remaining fragmentary floor portions were in extremely bad shape. After the floor extending around the north wall was completed we worked on the east side of the cave. The rooms extended up to one side of the kiva, and from there on we found nothing but refuse. It appears likely that this side was used as a catch-all for refuse thrown

from the rooms. Here we found potsherds, and heavy deposits of what appeared to be turkey droppings compacted to a thickness of about three inches in places, suggesting a long-time occupation of the Ceremonial Cave. Possible bits of human feces was also found. Corncobs and shucks were found in quantity, along with some of the original red and yellow kernels.

Beans were recovered also. One small string of fur and feather cloth was unearthed. Fur and feathers were wrapped on a long strand of fiber (perhaps yucca). Fragments of pumpkin rinds were other finds.

I am of the opinion that turkeys were penned here, as indicated by heavy deposits of feathers and manure.

This material has been identified by Mr. Volney Jones at the University of Michigan as follows:

The cobs were somewhat below average size but not particularly different from the present day Pueblo corns. The kernels found are of a type of corn still grown in the Rio Grande pueblos, and is intermediate between, and probably a mixture of flint and flour corn.

The rinds are from a pumpkin (*Cucurbita* sp.) and are so similar to the rinds of *Cucurbita pepo* that it might be assumed that this is the species and type represented.

Heavy deposits of what appeared to have been turkey droppings apparently formed layers of manure-like material composed of finely broken (partly digested?) plant substances mostly too fragmentary for identification. Seed coats of corn kernels made up a fairly large proportion of this and small down-feathers were common in it. The deposits suggested those which might accumulate on the floor of a turkey corral and apparently consisted of turkey droppings, rodent droppings, and possibly of human feces. It was so broken up that little was identifiable, and so packed that the form of most of the droppings could not be determined.

One of the beans was identified as a single large kidney bean (*Phaseolus vulgaris*) of the type commonly known as "pinto beans" throughout the Southwest. This same type has been found in a number of sites in the Southwest and its cultivation has continued to the present by the Pueblos.

A worked piece of oak ten inches long, one and one-half inches wide and seven-eighths inches thick was found to the outside of the kiva. If it were not so wide and thick it might be taken for a bow. A mental reconstruction would produce a massive weapon, the pull being so great that it could not have been used by an ordinary human being. Prehistoric bows now in existence are not nearly so massive as the specimen under discussion.

The roof construction here has been previously published,⁵⁷ but a few comments might be made concerning the method. I would like to point out that in doing a reconstruction the archeologist has very little direct evidence with which to work so he must take advice from modern Indians in the Pueblos along with scant bits of data gathered from many sites of a similar nature. Most of all he should just use common sense. He should take into consideration inaccessibility of the site in question, native timbers growing in the vicinity, and which species would be the easiest to cut with crude stone implements. Not only timber should he consider, but all other materials such as building stone, brush, and available clay deposits for the making of mortar.

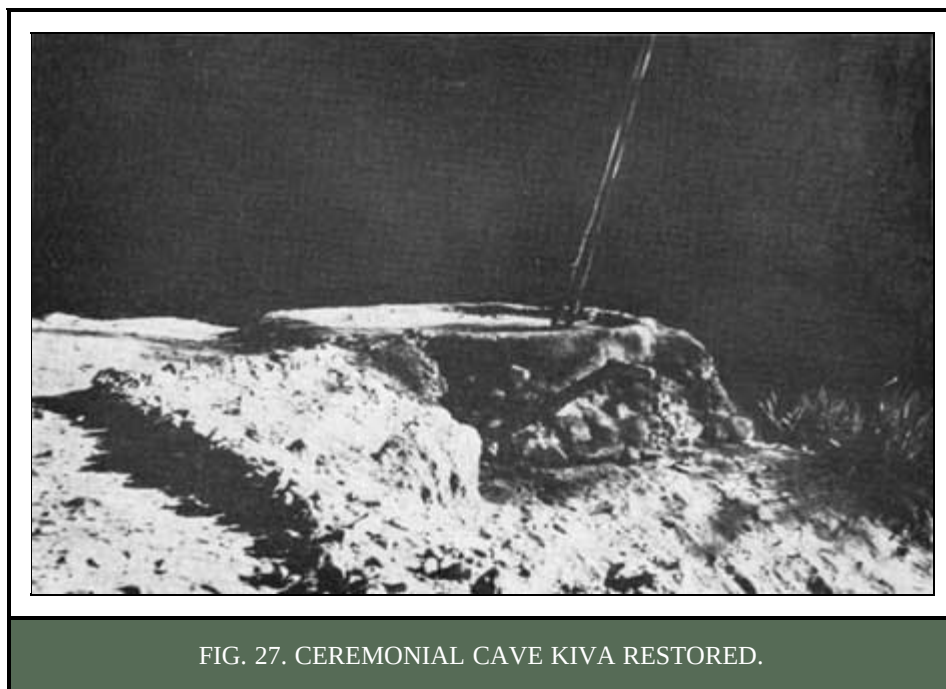
57. Hendron. J. W., 1938, pp. 70-74.

In building the kiva in the cave the natives undertook a tedious task; that of transporting material from the floor of the canyon, 150 feet below. However, some brush and building

stone could have been taken from the dangerous cliff ledges. At any rate, a great deal of the material had to be transported up crude hand holds cut in the cliff or up ladders. Since the kiva would be protected by the overhanging cave ceiling, I dare say that when finished the roof was not elaborate or too strong.

The poles or vigas were probably not laid too close together, and then small poles were placed over the top. Green foliage might then have been put down so that very little light could be seen from the inside and then sufficient amounts of grass and mud placed over the top as a seal coat. This would have been tremendously heavy and in all probability would not have lasted for any considerable length of time. But in a site so well protected it is logical to assume that a great deal of constant repair was not needed.

I even doubt that small poles were always peeled. When large vigas were placed over the walls the spaces between them were probably built up to the tops of the timbers and then smaller poles laid over. Brush or foliage was put over the top so that it would hang down over the sides, and then thick mud coats over the top would come down over the sides and reach the fill around the outside.



It would have been easy to remove all mud, brush, and poles when weakened or rotted. If drainage were not carefully arranged, water would have collected in depressions and seeped through in a very short time. Of course, a great deal of rain probably did not come into the cave unless it was from the south or southeast, and if this is true then so much repairing need not have been necessary here. I cannot help but feel that no great amount of time and energy was expended on this type of construction.

A total of 131 potsherds were recovered from the fill in the Ceremonial Cave and it appears likely that none of these sherds worked their way in at a later date, judging from compactness of debris and refuse. None of these pieces could have washed from the overhanging ledge because of its forward extension. Pottery probably was not manufactured in the cave, because of its difficulty of access; I am inclined to believe that pottery in use was brought up from below.

From a general point of view pottery here presents somewhat the same picture as sherds from the large kiva, although the total number of sherds is very small as compared to the kiva

material. (See ceramic correlation chart II). Largest percentage belongs to the utility class, numbering about 70, and this pottery was probably manufactured contemporaneously within Glaze ware and Biscuit ware. Two pieces of early corrugated utility ware, contemporaneous with the Chaco-Kwahe'e complex, were found. Early black-on-white wares were hardly represented, and this line of ceramic development showed no rise until Bandelier Black-on-Gray (Biscuit B) came into prominence in the sixteenth century. At that time there was a sudden decline, paralleling the situation shown by the kiva pottery analysis. Glaze wares were few here, and B and D types were entirely absent. Two pieces of late Glaze E, Puaray Glaze Polychrome, were found, and just one piece of each of the other types, A, C, and F.

Miscellaneous glaze bowl sherds were found in sufficient numbers to boost the general usage of glaze wares up a bit. One piece of a pottery type of foreign origin was found, Mesa Verde Black-on-White, which probably drifted into the area sometime during the early part of the fourteenth century and found its way into the cave.

The name Ceremonial Cave, applied long ago, is misleading and immediately brings to mind the supposition that the cave had been of some ceremonial importance. Such a designation was probably never used until Anglos occupied the canyon during the early part of the twentieth century, and it is not an accurate definitive term for the cave.

It appears that this was just another protected, almost inaccessible, habitation site; the make-up of the fill suggests all the human activities of a daily cycle in the scheme of living. Turkeys were probably penned here for convenience and they probably ate the grains of corn which were thrown to them and picked the cobs. Even broken pottery was thrown here, and discarded fragments of the scant clothing worn by the natives. Pumpkin rinds were pecked down to time hard portion.

Here existed a little pueblo in itself, overlooking the canyon to the south and a small rectangular pueblo on a knoll on the other side of the Rito de Los Frijoles. Rooms built against the north wall of the cave and a few chambers hewn out of the cliffs, with a small kiva to the front of the cave, and a turkey corral and dumping ground around the other half of the back wall, afforded an ideal set-up for a small group to exist peacefully. It may well have been just a separate kinship group, as the conditions were ideal for such a group in architectural arrangement of dwellings and presence of a kiva. Whatever took place here must have paralleled other cultural and historical developments in the canyon.

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BANDELIER

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TYUONYI (THE BIG COMMUNITY HOUSE)

One of the most interesting features, and by far the largest ruined site, in the Rito de Los Frijoles, is Tyuonyi,⁵⁸ the biggest community house. (Approximate pronunciation: CHON-ye). This structure was excavated in part by the School of American Archaeology during the summer seasons of 1909, 1910, 1911, and 1912.⁵⁹

58. Tyuonyi is generally applied to the big community house but probably refers to all the dwellings in the Canyon.

59. _____. Organic Acts and Administrative Reports, 1907-1917, p. 34, 84, 99, 119-120.

By 1937 the walls of the 242 excavated rooms were in a deplorable condition (Fig. 29). This was the biggest job of stabilization work to be done. Although a detailed report⁶⁰ of the work has already been published along with the general discussion of the architectural features, the material will be reviewed here along with a discussion of the 3,800 pot sherds found.

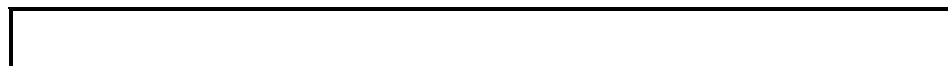
60. Hendron, J. W., 1938a, pp. 178-181.

Tyuonyi is a word having, according to Bandelier a significance akin to that of treaty or contract. It was so applied because of a treaty said to have been made here at some remote period, by which certain of the pueblo tribes, probably the Queres (Keres), the Tehuas (Tewas), and just possibly the Jemez also, agreed that certain loosely defined ranges should belong in the future to each of them exclusively.⁶¹

61. Bandelier, A. F., 1892, p. 145.

The entire structure was almost 250 feet in diameter from northeast to southwest, and from the top of the north cliff, which is at least 300 feet above the canyon floor, it appears as an oval flattened on the southwest side. Curvature in the walls was flattened out to some extent, appearing as if the rooms in this particular section had been pushed toward the plaza or inner court.

On all sides there are at least six tiers of rooms excavated and I think it is safe to say that on the north there are three or four additional tiers of rooms which have not been excavated, judging from the appearance of the mound on that side. But in the southwest portion, where a fourth angle or bend would have been, the rooms were no more than four tiers, and in some places only three. Portions of walls were found, however, extending almost to the edge of an embankment on the southwest. (Fig. 28).



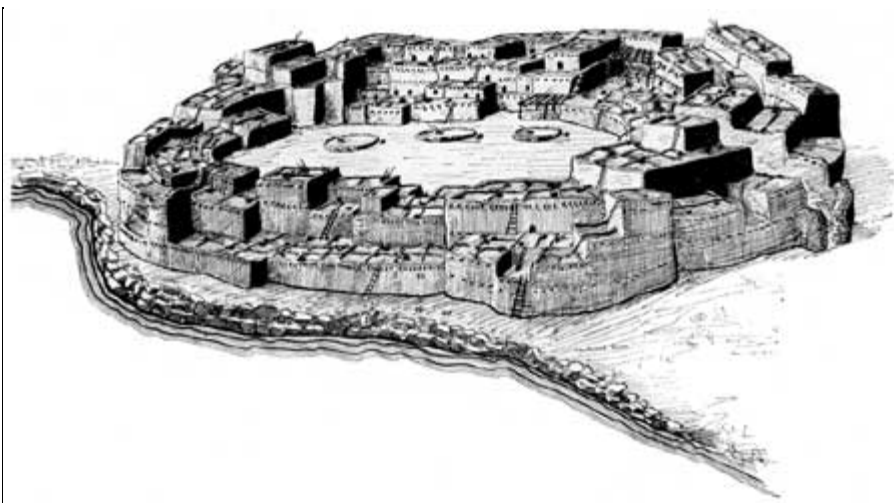


FIG. 28. CONJECTURAL RESTORATION OF TYUONYI, AERIAL VIEW.



FIG. 29. TYUONYI. BEFORE STABILIZATION.

As has been previously pointed out the former courses of the Rito de Los Frijoles have never been determined. River wash was located about 18 inches below the surface at the foot of the steep embankment which varies from six to nine feet high. At its foot are huge chunks of volcanic tuff weighing several hundred pounds. The presence of these suggested that there were deliberately placed there for a definite purpose, to keep waters of the little river from cutting under the embankment and eventually threatening the narrow section of southwestern rooms. Hewett⁶² has mentioned the flattening in the roughly circular plan of the structure, due to the nearness of the creek.

62. Hewett, Edgar L., 1909. pp. 442-444.

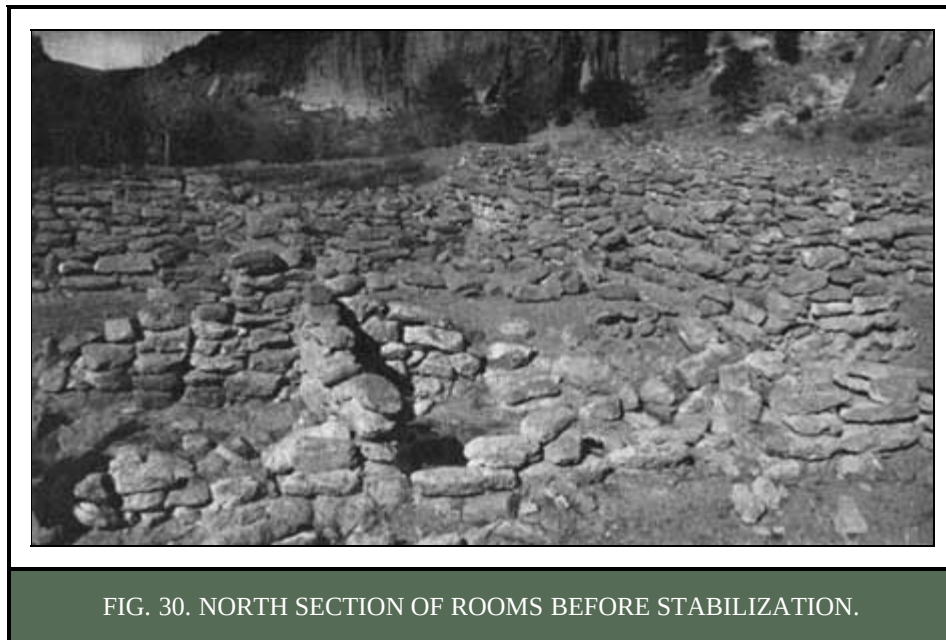
It is true that several walls of the rooms were slightly curved,⁶³ but there were more positive curves in the walls of some of the rooms where they definitely form the corners of the structure. So distinct is this that walls of rooms to the inside facing the court were small and, instead of forming almost perfect rectangles as the other rooms did, the walls nearest the inner court were concentric with the general curve of the building.

63. Hewett, Edgar L., 1909, p. 441.

The rooms were mainly rectangular, however. To get around the corners and still retain the shape of the rooms, some were built with their axes at right angles to the long narrow rooms, apparently so that a curve would not be necessary. This consistent use of straight walls facilitated the roofing problem, and in some ways they were stronger than curved walls.

Throughout the entire pueblo the rooms to the outside were larger than the rooms to the inside, and some of the outside walls did show a decided curvature, greatly exaggerated at the two excavated corners and probably true of the unexcavated north corner.

The house was built on a slope to the southwest, and I cannot say which part of the structure was built first. The fact may be pointed out, however, that sherds of Santa Fe Black-on-White, Abiquiu Black-on-Gray, Bandelier Black-on-Gray, and Glazes A, B, and C were found imbedded in the mortar in the walls of the north and northeast rooms (Fig. 30). In the walls of the southeast rooms later pottery was found, including the Glaze E type, late Bandelier Black-on-Gray and a few pieces of Sankawi Black-on-Cream. A great deal of importance cannot be attached to such meager findings because here, again, earlier wares may have been scooped up and thrown in the mud mix. However, the northeast and east rooms were of a superior type of construction. The building blocks had been more evenly worked and laid more precisely (Fig. 35).



After the excavation by the School of American Archaeology, mortar washed from most joints and walls fell, more completely in the south and southwest portions of the pueblo, simply because they were not balanced like those on the north and northeast (Fig. 36). These remained standing for some years because of a thick encasement of plaster which held the little rocks which had been chinked in. In other words, the walls, when completed, were almost monoliths but when the mortar was gone they lost their stability and toppled over. This was not as applicable to east and northeast rooms. In some instances there was as much as an inch of plaster on walls and in one place we found some of the original whitewash finish.⁶⁴

64. Similar methods of whitewashing are employed today by the Spanish-Americans. It is called

yeso, cal, or gaspe, depending on the idiom of the locality.

This also suggests an inferior type of mortar was used in the south and southwest parts, if all mortar has washed from the joints in one part of the village but remained intact in other parts.

Mortar having washed away from the joints, many rooms and sections of rooms were noticed which had been joined on to the main section. Where a single wall is joined to another wall this was done by laying the ends of the building blocks flush with the side of another wall. After mortar had washed away we could see this very plainly. It seems clear that complete sections of rooms were built up alongside of already existing sections, and it may be that these breaks might run entirely through from the outside rooms to the inside.

This was the type of house recognized and described by the Coronado Expedition in 1540.⁶⁵ One charred piece of a possible viga was found in one of the rooms which dated 1460 plus or minus 15 years,⁶⁶ but this date is less usable because exact location is not known. It is obvious that this one date would not reflect the building of the entire structure which was probably occupied over a period of several hundred years.

65. Winship. G. P., 1896. pp. 519-22, 558-560. 569-570, 575.

66. Stallings, W. S. jr., 1933, p. 805.

Spanish archives tell us of multi-storied community houses and of thick mud walls⁶⁷ built up with "balls of mud", but the walls of Tyuonyi were constructed with blocks of volcanic ash or tuff not more than eight inches wide which were bedded in a heavy course of mud mortar upon another course of building blocks. After re-setting a great many and stabilizing the walls of 242 rooms of this structure I hesitate to say that there were more than two stories all together, and then it seems likely that they were built upon middle tiers of first story rooms so that weight might be distributed. Their second story rooms would have probably been on the better constructed sections of first story rooms to the north and northeast.

67. Winship. G. P., 1896, p. 520.

The ceiling of each room might have been little better than six feet above the floor if we use as a criterion the height of holes gouged out of the soft cliff for the construction of the talus houses. The floors of rooms in Tyuonyi are found at various levels and in some cases they are elevated almost four feet above an adjoining room, especially on the side of the rise of the slope. Now it is logical to assume that roof lines terraced since there are so many floor levels; it seems likely that second story rooms would be built directly over the first story rooms with the lower floor levels. The lower parts of walls of second story rooms would have butted against walls of first story rooms with elevated floor levels. A plan of this sort may have been carried out in connection with better constructed rooms to the north and northeast and occasionally there may have been a third story room. I fail to see, however, how second story rooms could be built over first story rooms to the southwest. On this side there may not have been need for height since there was the embankment with the height of at least one story. This offered protection itself. The rooms on the southwest may have been added to complete the general irregular circular form of building for the protective purposes.

The idea of protection is borne out by narrowness of the exterior opening to the passageway on the eastern side⁶⁸ varying from six to seven feet in width, and 60 feet long extending entirely through the ruin to the inner court (Fig. 31).

68. Hewett, Edgar L., 1909, p. 444.



FIG. 31. ENTRANCE PASSAGE. LOOKING FROM THE PLAZA.

On the eastern side at the beginning of this narrow entrance are remains of a circular barricade⁶⁹ almost five feet thick (Fig. 32). The base was laid up with huge chunks of tuff and as it gained height size of the chunks probably decreased. I am uncertain as to the height of this feature when it was being used, but it appears likely that it was higher than a man's head or it would have afforded little protection. In conversation with Tewa Indians who had worked at the site during the early excavations I was informed that a narrow doorway had been left in the circular wall and that on the inside was a huge chunk of tuff which could be rolled into position, closing the passage. I was also told of a fireplace just to the side of the door with the logical explanation that it was for the use of the sentry. In the middle of the hallway, almost even with the point where the two ends of the barricade join the structure, was a slab of compact tuff approximately two inches thick and two feet long buried edgewise in the ground. It is probable that at one time the unbroken top part extended above the ground to such a height that traffic would be obliged to go around the slab on one of two sides after going through the barricade and before passing into the hallway.

69. Hewett, Edgar L., 1909, p. 443.





FIG. 32. ENTRANCE PASSAGE SHOWING CIRCULAR BARRICADE.

Posts were planted across the passage at short intervals.⁷⁰ At a point approximately midway between the barricade and the inner court I noticed walls extending out from the side rooms which again suggested closing of the passage or creating another doorway through which only one person could pass at a time. By careful examination we found that these little walls were tied into the main building. A bonding of building blocks after walls were in position would have been almost an impossibility. It is interesting to note that the long hallway is just wide enough and long enough to have once composed seven rooms of comparable size with rooms on either side of them. That is, room walls on both sides extending at right angles to the passage match up perfectly and side walls of the passage are so irregularly constructed that it appears possible that one row of rooms was taken out to form the hallway after this entire section was built and after the village took its complete circular form. On the other hand, this section may have fallen into disuse as dwellings and been converted into a passage. Removed building stones may have been used for the barricade.

70. Hewett, Edgar L., 1909, p. 443.

Assuming that the interior court was completely walled in by buildings, it would appear that anyone entering would first be obliged to pass through the hallway to the inner court and then ascend to roofs of homes by means of ladders and then down inside through hatchways.

Throughout the entire structure are vestiges of doorways connecting two or three rooms, suggesting that individuals who occupied one of these rooms would have had access to several others.

It would be difficult to estimate the population of the village because some of the rooms may have been abandoned while others were still in use. Three or four hundred persons may have been all that ever lived here at any one time.

The inner court or plaza, which was enclosed by the circular formation of rooms, was approximately 140 feet in diameter. It sloped from northeast to southwest, dropping about five feet in elevation from one side to the other.

Three kivas were located by Hewett⁷¹ within the court near the northeast section of rooms, and one of these was excavated by him. (Fig. 33). It was a circular structure varying from about 20 feet, nine inches, to a little more than 23 feet, four inches, in diameter at the top of the wall. Here there was a decided flaring of the wall, greater than in the big kiva or in the Ceremonial Cave kiva. The situation here was somewhat different, however, in that fill around the outside was soft, exerting more pressure on walls.

71. Hewett, Edgar L., 1909. p. 444.



FIG. 33. EXCAVATED KIVA AT TYUONYI.

In stabilizing this kiva, several feet of fill were removed from the outside, and potsherds of various types were found as far down as we dug. We found that outside fill had been made up of many stones and dump material mixed with great quantities of earths. The wall of the kiva here also was laid very crudely and some of the building blocks were keyed into the fill.

The roofing scheme here probably was not elaborate, due to the small size. The same scheme might apply here which was described for the kiva in the Ceremonial Cave.

On the southeast side was a ventilator shaft which we were obliged to restore because of its bad condition (Fig. 34). It was of the same style as those in the other two kivas. The lintel which was still intact over the opening was almost two feet, ten inches above the floor. Roof of the horizontal tunnel was made up of only two slabs of tuff before the vertical shaft was reached. From the place where the vent leaves the main wall of the kiva the distance to the

back of the vertical shaft was a little better than four feet, eight inches. From the surface to the floor of the vertical shaft the distance was a little more than seven feet, eight inches. The three kivas may have been used by three different social groups of, probably, esoteric character.

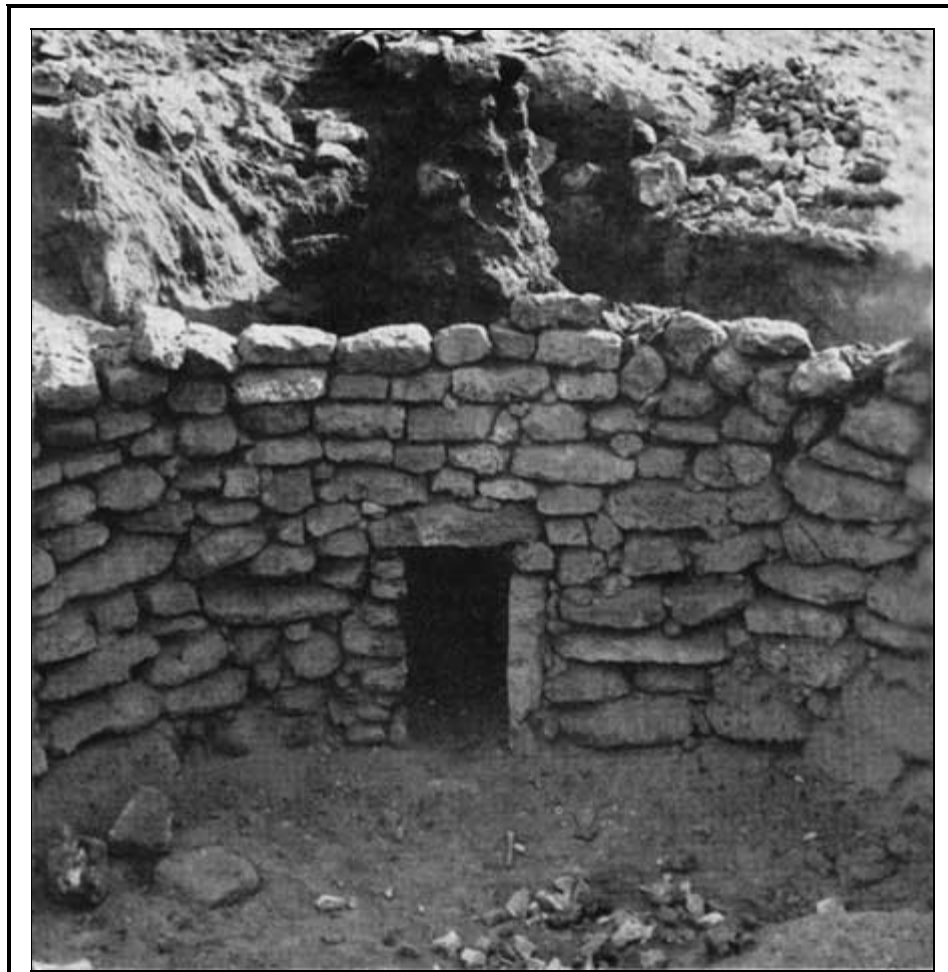


FIG. 34. STABILIZATION AND RESTORATION OF THE VENTILATOR.

Just how long the community house was occupied is uncertain, nor do we know whether there are earlier structures underneath the present plaza and rooms. Latest surface of the plaza was certainly built up of much refuse. Many potsherds were saved which may give us a few general hints as to the time involved. Some sherds were found in the 242 rooms, but they are of very little importance in that they probably were accidentally scattered about in a number of ways. They can be taken into consideration as having belonged to the site. A total of 79 sherds were recovered from the rooms, while 3,804 sherds were cleaned from the plaza and from the fill around the kiva.

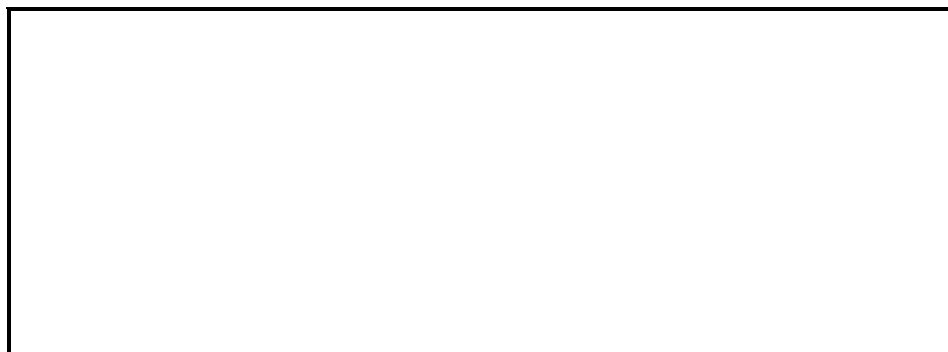




FIG. 35. NORTH SECTION OF ROOMS AND EXCAVATED KIVA AFTER STABILIZATION.



FIG. 36. NORTH AND EAST SECTIONS OF ROOMS AFTER STABILIZATION.

Ceramic complex of the community house gives about the same general picture as that of the large kiva and the Ceremonial Cave. There were, however, slight variances in the individual styles. (See pottery correlation chart III).

The black-on-white ware, it seems, arrived with the earliest inhabitants somewhere around the thirteenth century and continued steadily on up through Abiquiu Black-on-Gray times. The use of glaze-paint styles by that time had found its way into the Rito de Los Frijoles, and continued throughout the life of the pueblo. A sudden increase in the amount of black-on-gray while Glaze D was in vogue may be explained in one of two ways. Either the new pottery was adopted by original inhabitants, or else a considerable number of people possessing this pottery type were incorporated into the village. The glazes were not as prominent as at the large kiva, but late black-on-grays were sufficient in number to parallel the same sudden spurt.





FIG. 37. TYUONYI. LOOKING ACROSS TO THE EAST.



FIG. 38. TYUONYI AFTER STABILIZATION.

A few pieces of Sankawi Black-on-Cream, which perhaps was in vogue as early as the beginning of the sixteenth century, were found. Two pieces of Galisteo Black-on-White⁷² were noticed, which probably drifted in through trade about the time of the late black-on-grays or during the sixteenth century. Potsui'i Incised,⁷³ which originated in the villages to the north, came in sometime during the late period of occupancy.

72. Mera, H. P., 1935, p. 22.

73. Mera, H. P., 1934, p. 17.

The only artifacts other than potsherds found in course of work on the community house were a few very crude chipped stone axes, with two notches for hafting instead of a groove, somewhat suggestive of the Gallina type of axe.⁷⁴

74. Mera, H. P., 1938, p. 243 and Fig. 5.

The community house was occupied, it seems, for a period of almost 400 years. Only a few rooms were constructed originally, probably, temporary shelters thrown up near the creek; as necessity presented itself additional rooms were built on. Perhaps a series of rooms may have been in process of construction at one time. There are some vertical breaks in the corners of rooms which suggest where one series ends and another series of rooms joins on.

Just when the last buildings were added to entirely enclose the plaza cannot be worked out on the evidence now available; there is some evidence that the long narrow hallway was cut through about the time of the completion of the building in its final form.

When construction began here also is difficult to tell. One piece of charred wood⁷⁵ from one of the rooms was dated at 1460 plus or minus 15 years, but this signifies very little, other than part of the structure was in process of construction at that time; no one knows how many additional rooms were added after that time. The presence of very late pottery types indicates an occupation until approximately the end of the sixteenth century, perhaps only by some few stragglers who may have hung on for a number of years.

75. Stallings, W. S. jr., 1913, p. 805.

The rooms here were not all occupied at the same time, probably. Groups may have evacuated to move elsewhere to more desirable locations. Another group may have moved in when the group before had gone. Parts of rooms may have fallen in and been abandoned. It may have been easier to build new ones rather than patch up the old. Some rooms may have been used for storage and others as turkey pens. Any number of incidents could have taken place here and it would be impossible to lay down any hard and fast rules which would be applicable. I have presented the material just as it was found and have only suggested what seemed logical and workable.

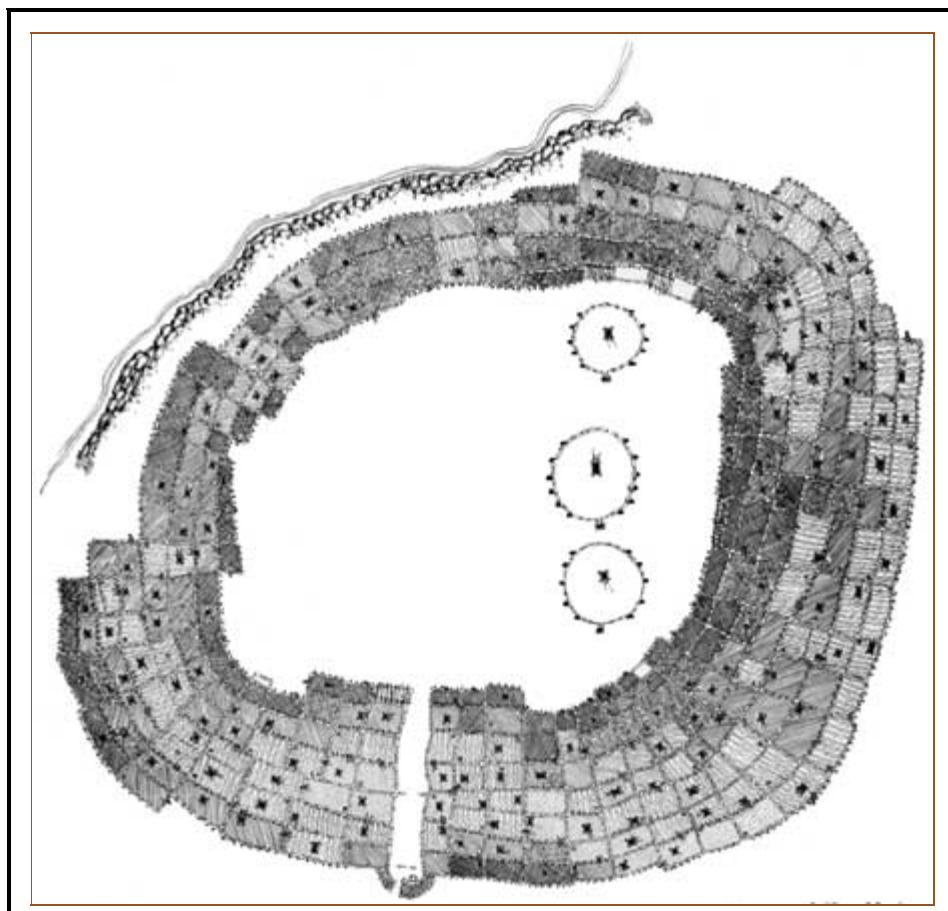


FIG. 39. ARTIST'S RESTORATION OF TYUONYI. Drawing by J. R. Terken,
Federal Art Project-National Park Service. Cut courtesy Museum of New Mexico.
(click on image for an enlargement in a new window)

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BANDELIER

Prehistory of El Rito de los Frijoles, Bandelier
National Monument



THE LONG HOUSE

The Rito de Los Frijoles is approximately 13 miles long, but only part of the lower end was suitable for aboriginal dwellings. The canyon was deep enough and wide enough here for erection of pueblo sites on the floor, and vertical bare cliffs of volcanic ash on the north side were excellent shelters themselves.

For approximately a mile and a quarter along the talus slope the dwellers of the Frijoles built small houses of tuff blocks and over 300 cave rooms in the soft cliff, in some cases adjoining the houses in front of them. Hewett⁷⁶ points out that some of the excavated rooms have been used as domiciles independently of any construction upon the talus slope against the cliff, but that through the entire Pajarito region the excavated rooms were not generally used as independent domiciles. They served more often as back rooms of houses built upon the sloping talus against the cliff wall. In the Rito houses comprise from two to four terraces.

76. Hewett, Edgar L., 1909, p. 438.

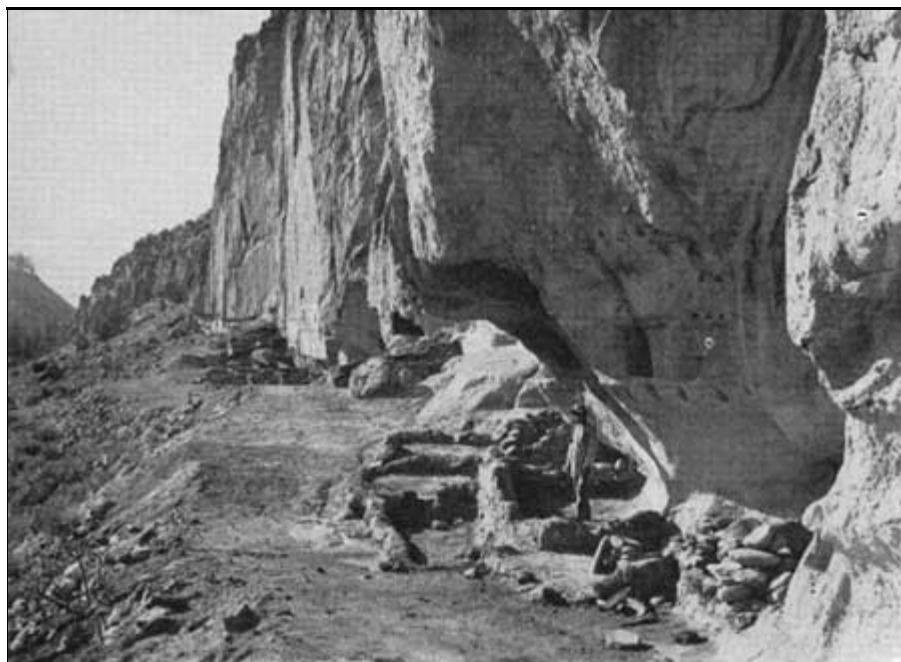


FIG. 40. PART OF ORIGINAL LONG HOUSE EXCAVATION. Courtesy Museum of New Mexico



FIG. 41. VIEW OF NORTH CLIFF SHOWING RECONSTRUCTION OF TALUS HOUSE.



FIG. 42. RECONSTRUCTED TALUS HOUSE.

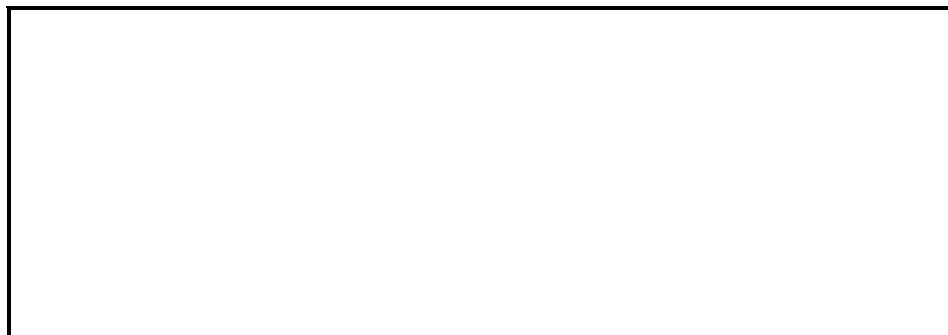


FIG. 43. JULIAN AT LONG HOUSE. Courtesy Museum of New Mexico

It seems likely that above the highest of the terraced talus rooms were built ramadas or small porches. The writer has noticed holes gouged out of the cliff of insufficient size to accommodate vigas strong enough to support the weight of a brush and mud roof. In some cases excavated rooms were found behind possible porch sites.

In the case of excavated rooms used independently of the constructed houses, the writer found fragments of matting covered with mud plaster inside rooms at corners of doors which suggested that openings were sometimes covered in this manner, but this principle may not have applied to all of the caves.

During the repair program carried on in 1937 and 1938 some miscellaneous work was done on the caves in the cliffs such as plastering and re-smoking to obliterate marks of vandalism. All of the caves in the Frijoles which have had fires in them still have heavy coats of soot on the ceilings and walls. Inhabitants were undoubtedly conscious of the fact that cave rooms would be filthy places in which to live unless some method was devised to control the level to which the smoke from the fireplace hovered. I have noticed that the smoke line matches approximately the height of the doorways even though chimneys have been cut in some of the cave rooms. If the smoke remained at this level then aborigines would have had little trouble breathing below it. Walls of most of the caves were plastered up to this height with a very fine mud smeared over the wall. In some cases as many as fourteen plaster coats have been counted on some of the walls. Smoke would tend to reach below the door level, blackening the plaster.



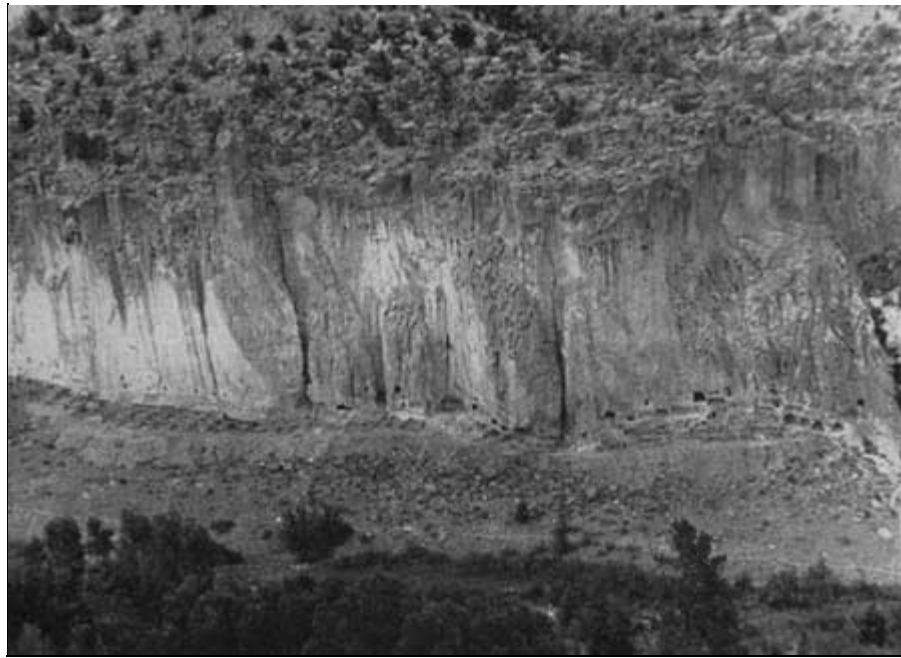


FIG. 44. LONG HOUSE AFTER EXCAVATION.

Large fires were probably never used while caves were being occupied; rooms were kept warm, apparently, by small fires of twigs or even charcoal.

There are 13 groups of talus villages in the Frijoles,⁷⁷ the largest being Hewett's Group D,⁷⁸ which has approximately 216 first story rooms. It appears to have been the more accessible of the cliff homes when compared to other cliff sites in the Canyon. The cliff wall still has the viga holes in it delineating a continuous group of houses from one to four stories in height extending along the cliff for 700 feet.⁷⁹ (Figs. 40 and 44).

77. Hewett, Edgar L., 1909, p. 438.

78. Hewett, Edgar L., 1909, p. 440.

79. Hewett, Edgar L., 1909, p. 440.

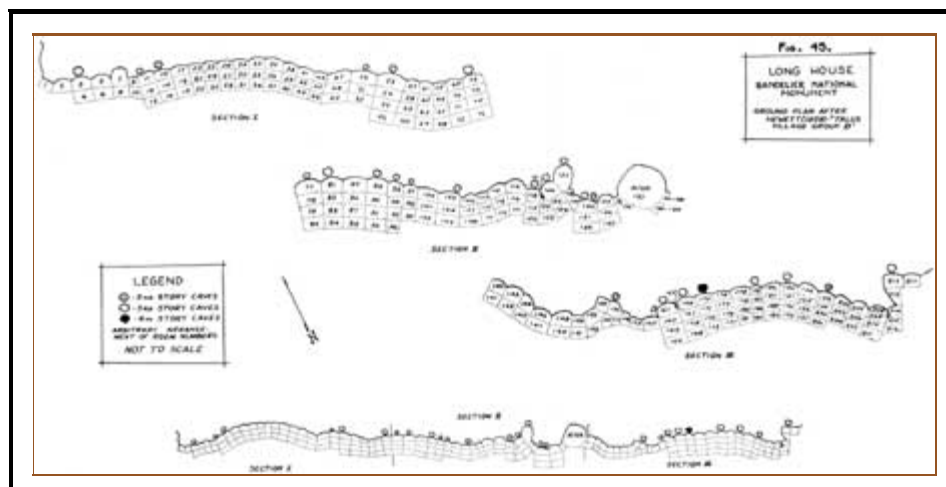
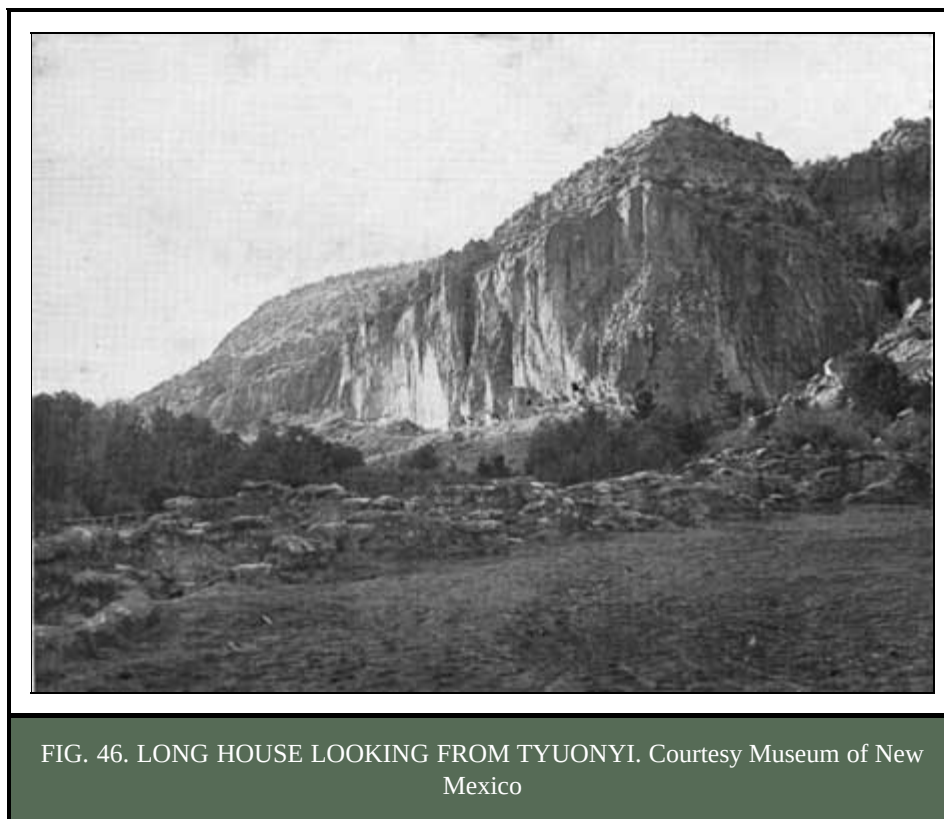


FIG. 45. LONG HOUSE, BANDELIER NATIONAL MONUMENT. GROUND PLAN AFTER HEWETT (1908) = "TALUS VILLAGE GROUP D" ([click on image for an enlargement in a new window](#))



As yet no definite relationship has been worked out between people who lived in cliff homes and people living in houses on the floor of the canyon, but it is likely that both types of dwellings were occupied contemporaneously. This is borne out by study of the pottery. There may have been a constant shifting from pueblos to the cliffs and vice versa. The amount of broken pottery in the dumps over the talus slope where discarded vessels were probably thrown seemingly is scarce. The deficiency may support the idea that activity here was not great, but on the other hand contact with valley sites might explain disposition of the pottery.

There is one section of the cliff dwellings which has been completely covered by a slide of ash and basalt. Just when this slide took place is difficult to say, but I have always thought the cliffs a most dangerous place in which to live. If anything of this sort had taken place during the cliff occupation then evacuation of certain of the more poorly located dwellings is understandable.

During the spring of 1939 Southwestern National Monuments, National Park Service, continued stabilization work under direction of Mr. Robert Lister. Group D,⁸⁰ of the talus villages was the site selected, because of its state of disrepair. Over 2,000 potsherds were recovered from the rooms and they give approximately the same results as the rest of the sites examined.

80. Hewett, Edgar L., 1909, p. 440.

Sporadic occupation seems to have taken place sometime in Pueblo II times, as evidenced by a few pieces of Kwahe'e Black-on-White ware, and the settlement continued in a small way until Wiyo times, somewhere in the fifteenth century. Glaze paint wares had come in by this time a little stronger than black-on-whites, and maintained themselves in an unbroken sequence until abandonment of the site. There seemed to be a slowing-up in Glaze B and C times, but late black-on-grays had come into prominence with the same decided spurt as in

the canyon floor sites. Glaze D and E also became more prominent but slowed up during Glaze E times; Bandelier Black-on-gray and Sankawi Black-on-Cream, which were probably manufactured more or less contemporaneously, numbered approximately one-third of all the decorated wares. Population apparently was decreasing during the latter part of the sixteenth century, to be completely extinguished about the close of that century.

Apparently the cliff homes were not too popular until late black-on gray times, and this period of popularity evidently lasted about a half century. Sudden spurt of the black-on-grays and late glazes does show a sudden stepping up in cultural activity, a sudden adherence to a style which had developed very slowly in these immediate sites. This again suggests a very definite trade or influx of population. Since previous activity here seems to have been so slow, suggestion might be offered that newcomers may have taken over the cliffs for their homes.

A great deal cannot be learned from such a disturbed site. Impressions and suggestions can be gotten from a pottery analysis in the aggregate. (See ceramic correlation chart IV).

A considerable portion of Long House was not excavated by the School of American Archaeology. Its proper scientific study sometime in the future will bring much new evidence on the cultural history of this interesting group.

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BANDELIER

Prehistory of El Rito de los Frijoles, Bandelier
National Monument



CONCLUSIONS

It has been mentioned previously that during course of stabilization work in the Rito de Los Frijoles a great number of potsherds were found, totaling well over 17,000. At the large kiva site, more than 11,000 pot-sherds were found; in the Ceremonial Cave, 131; almost 4,000 at Tyuonyi; and over 2,000 at the Long House.

Since pottery is one of the most useful tools of the archaeologist in determining age, periods of activity, and cultural stage of the remains of a given area, an analysis of these potsherds will be used as a basis in approximate determination of occupation of ruined sites on the floor of Frijoles Canyon. (See ceramic correlation charts I, II, III, IV). It is well to point out that most of this material has been disturbed in the past, and only a small part of it was found *in situ*. It was accumulated over a period of approximately 600 years, being cast away by Indian women as it broke, It was used as fill, it may have been scattered and worked into the thick mud coats on the roofs of structures, or into the walls or even the turkey pens. Erosion of the talus slopes may have washed some of it into place, and part may have been distributed by vandals. In any case, all that can be done is to classify it and place it in its chronological position as learned from the excavation of other sites by various workers in the field. In this may certain generalities can be reached.

Earliest known pottery type found in the central and upper Rio Grande region is a kind manufactured in the first period of pottery-making in the northern Southwest, the Modified Basket Maker or Basket Maker III period. It has been suggested by Mera that this early pottery represented the scattered vanguard of an eastern drift from a posited center of origin in western New Mexico, a movement which is seen to have taken place more definitely a little later.⁸¹

81. Mera, H. P., 1935, p. 2.

The next type to drift into the Rio Grande was Chaco I Black-on-White (Robert's classification), and, although found in fewer sites than the Basket Maker III, it extends over a somewhat greater range.⁸²

82. Mera, H. P., 1935, p. 3.

The Chaco II styles came next with the beginning of a great wave or territorial expansion, which, when ended, marked the farthest extent of Chaco influence and which exceeded the limit set by any other later Pueblo areal fluctuation.⁸³ Chaco II Black-on-White is the earliest type so far found in the Rito. Two small pieces hardly constitute much evidence but they do suggest influence by some early development in the general area. This pottery seems to have been made in the tenth and early eleventh centuries.

83. Mera, H. P., 1935, p. 5.

Kwahe'e Black-on-White is the first decorated ware to appear in sufficient numbers to suggest even sporadic actual occupation. Kwahe'e pottery is a local development of the Chaco II style, showing a departure from type in general coarsening and deterioration due to inferior craftsmanship. Early incised and corrugated utility wares contemporaneous with the Chaco-Kwahe'e complex were found in such numbers as to suggest fairly early occupation in the Frijoles and local manufacture of pottery.

Mera points out that locations along or near alluvial margins of streams were generally preferred for the erection of dwellings, but that at times necessity seemed to have demanded a more defensible position resulting in "colony sites" formed by individual room groups collected together on some easily defended topographical feature.⁸⁴ Such "colony sites" are found scattered over the Pajarito Plateau on the edges of mesas or on knolls overlooking the surrounding country, but the occupation of the canyon under discussion was different. No clusters of early rooms have been located. It may be, however, that they have been obliterated.

84. Mera, H. P., 1935, p. 7.

The theory has been advanced that caves in the high cliffs above the floor of the canyon were the first dwellings occupied, and from a theoretical standpoint this would be logical; but open house sites of much earlier date have been found in other localities. It is not as if these people had no knowledge of building rooms with poles to support the roof structure. They may, however, have at first hurriedly set up little lean-to's at the base of the cliff, using to advantage the north cliff as one wall of the structure and a protection against the elements. As for the caves, which for the most part were entered by going first through the little talus rooms, it may be suggested without actual proof that they were hollowed out sometime after the first rooms were constructed. Nobody knows what the first cliff houses looked like, whether they were thrown up in a hurry or whether they were carefully planned. I am inclined to believe that mere shelters were built at first, and were continually added to until a fairly sturdy structure resulted.

As an example I shall point out a series of dwellings between Santa Fe and Albuquerque, New Mexico, on the side of the road where present-day Indians from Santo Domingo gather to sell their pottery to tourists. I watched this development for about four years. At first the Indian women sat on the side of the highway in the hot sun, with their pottery spread out before them. Presently, four forked poles were placed upright in the ground and a roof of crooked junipers was put on, with a covering of green foliage. A few white-headed old men have been seen working around the site and I presume they were largely responsible for this. These were so imperfectly constructed that the juniper foliage looked as if it might fall through any minute.

There arose the need for cooked food and so a place was scooped out of the ground and three little walls of mud, and perhaps stone, were built around it. The next step was to split junipers, or bring in odd pieces of wood, and crudely cover one side of the shelter, binding the lumber on with wire, or to lay up one low wall with stone. Later on, when it rained (for water is scarce there), they sealed up all of the cracks with adobe. In a short time another wall would appear, perhaps built of timbers placed in an upright position and covered with mud. Or, they may have used adobe blocks. In a little while there were four walls to the little house and the vigas were sticking through the wall. A crude door and window were put in one of the walls. Soon there was a small chimney above the roof. I recall when there was only one such crude structure but now, four years later, there are half a dozen little huts

completed, apparently used only temporarily. Perhaps if there was water here there might be a few permanent residents.

This sort of thing is very possibly what happened in the Rito de Los Frijoles (of course without the wire and old finished lumber or doors on hinges and windows with glass). At any rate, an idea of the evolution in house types can be gained.

Analysis of potsherds recovered from perhaps the best section of the cliff-houses shows an occupation approximating the same period as that of the villages on the valley floor. It seems that population was not centered in the cliffs and that they were never as popular as the homes they overlooked. About the middle of the sixteenth century certain decorated wares suddenly became popular, but lasted only a short while, indicating a brief major occupation of the cliff homes at this time.

To return to the general historical picture: Santa Fe Black-on-White pottery is thought to have supplanted the Kwahe'e wares through a fusion of the Gallina and Kwahe'e Black-on-White types by the drifting southward of the Gallina people toward the Kwahe'e settlements on the Rio Puerco.⁸⁵ This new type at first took on sunny peculiar characteristics in the Rio Puerco, but later resulted in a readily distinguishable, quite homogeneous black-on-white pottery. This type spread southward along the highlands to a point where the valley of the Rio Puerco becomes broadly open, then deflected a little to the southeast and followed the foothills of the Jemez Mountains down to the southernmost end of that range. It kept largely to the highlands, spreading north along the Rio Grande and then eastward, supplanting the Kwahe'e type. It shows a certain amount of influence, either direct or indirect, from Mesa Verde pottery. The Mesa Verde traits seemed to gain in strength during the move down the Rio Puerco. They were confined, however, principally to design with a few attempts to actually copy.⁸⁶

85. Mera, H. P., 1931, p. 32.

86. Mera, H. P., 1935, pp. 11-12.

Santa Fe Black-on-White was present in sufficiently greater numbers than Kwahe'e Black-on-White to suggest that occupation of the Rito was well under way by this time. Mera points out that now the tendency of architectural styles on the Pajarito was toward larger sized units, in the form of parallelograms. Some of these were later grouped together, and eventually grew into compact pueblo structures built about a central court.⁸⁷ Architectural styles present in the Frijoles in Santa Fe Black-on-White times are uncertain, since no houses are known to remain of this transitional type. If there were any, which is quite probable, then they have been either incorporated into or supplanted by the large communal houses, of which there are several. Inasmuch as Santa Fe type is present here in such quantity, I suspect the presence at one time of the corresponding house type.

87. Mera, H. P., 1935, pp. 15-16.

A new type, Wiyo Black-on-White, developed in the early fourteenth century and supplanted the Santa Fe variety in the northernmost part of its range, being especially dominant in the Chama Valley. It was somewhat thicker than the preceding types, and differed in many other details. Wiyo Black-on-White was not very popular among the Indians of the Frijoles. As it was also found only sparingly in other Pajarito sites by Mera,⁸⁸ the bulk of Wiyo might perhaps be considered as a late surviving form of the Santa Fe type, although occupying the same time level as true Wiyo. Eleven pieces of another similar type thicker and coarser than Santa Fe were also found in the Frijoles. This, apparently, is a transitional type between Santa

Fe and Wiyo, and was labeled "affinis Wiyo" since it could not be classified definitely as Wiyo Black-on-White.

88. Mera, H. P., 1935, p. 18.

Biscuit A, or Abiquiu Black-on-Gray,⁸⁹ evolved directly from Wiyo Black-on-White.⁹⁰ Biscuit A, a thicker and coarser development of the black-on-whites, is well represented in the Frijoles, but is not found in very great quantity.

89. Kidder and Shepard, 1936, xxx.

90. Mera, H. P., 1933, p. 17.

Rio Grande Glaze ware,⁹¹ which originated in the Rio Grande Valley from Little Colorado influence and spread from some place below the present city of Albuquerque, made its appearance later in the same century as Wiyo Black-on-White. The glaze-decorated pottery finally spread into the Pajarito Plateau.⁹² Glazes of group A do not come in sufficient quantities in Frijoles Canyon to indicate any emphasis upon the type. Abiquiu Black-on-Gray (Biscuit A) seems to have predominated at this time, but the glazes had gained a foothold.

91. Mera, H. P., 1935, p. 31.

92. Mera, H. P., 1933, p. 17.

Biscuit B, or Bandelier Black-on-Gray, which grew directly out of Biscuit A, apparently was the most popular type of pottery in Frijoles Canyon, constituting almost five percent of the total number of sherds recovered. This percentage does not appear high until over 10,000 utility sherds are removed from the total, leaving only the decorated wares. It seems that during the development from Biscuit A, which took place sometime before 1450 on the Pajarito Plateau,⁹³ the Frijoles people came into their own. Apparently there was a gradual change of architectural styles or a development of the smaller sites into the great communal dwellings which came into existence in a comparatively short period of time, like the pottery, which showed a lag up through Biscuit A times and then a sudden spurt in Biscuit B.

93. Mera, H. P., 1933, p. 37.

Glaze totals grew slowly and steadily, lagging in the A, B and C types but then expanding during Glaze D times. They really came into prominence as a major cultural development during the latter part of the Glaze E period. This was the period of the greatest cultural expansion in the middle sixteenth century, about the time that Coronado's expedition came into the Rio Grande valley and established winter headquarters at Tiguex (near time present Bernalillo).

At all four of the sites examined in the Frijoles, the late black-on-gray ware occurred in great numbers, along with the late forms of the glaze ware. The preceding wares showed slowness of development, while suddenly cultural activity was greatly increased in the sixteenth century. It appears as though the Frijoles people had developed a new lease on life and had suddenly become active in the development of a ceramic complex, possibly because of an influx of new population.

In the kiva section of this report I mentioned that during time Coronado expedition one of the captains and several men were sent up the river in the summer of 1541, where they saw two

villages, probably Chamita and San Juan. When the Indians saw the Spaniards they abandoned their homes and removed to the mountains, where they had four very strong villages, in a very rugged country and inaccessible to men on horseback. These villages were undoubtedly on the Pajarito Plateau and their inhabitants belonged to the same linguistic stock (i.e., Tewa) as the Indians who had abandoned their homes.

That the late Biscuit type, Potsui'i Incised, and Sankawi Black-on Cream probably developed in the villages to the north of the Frijoles where it has been found in such great quantities has previously been mentioned, and this development took place near the time during this possible sudden influx of population. The number of individuals coming into the northern Pajarito villages is not known, but they probably numbered several hundred. If this is true, there might have been an immediate demand for pottery of all sorts. Surely they could not have brought a sufficient amount with them.

Stallings has pointed out that time pueblo of Tshirege was occupied as late as 1581 and Puiye as late as 1565,⁹⁴ but this evidence does not show how much longer these villages were occupied. Occupation may have hung on for many years as it did at Puye; these dates only demonstrate that timbers for buildings were cut at that time. Occupation of those sites for some years after that time can be presumed. The dates do prove, however, that building was going on after the time of time influx of people from the north.

94. Stallings, W. S., jr., 1937, p. 5.

The sudden increase in the population may be the reason why late black-on-gray pottery is found in such great numbers at Puye, Tshirege, Sankawi, and Otowi, although the migrant groups did not introduce any new types since their styles were similar to those of the latter villages.

Tree-ring studies in the Pajarito region are known to indicate a drought in the sixteenth century. This shortage of water may have caused partial evacuation of these villages, the people pushing south ward to deep canyon homes where water supply may have been more constant, and at the same time removing themselves to more isolated spots farther from the influence of the Spanish. If these people did make such a move, then the sudden spurt of Bandelier Black-on-Gray and of the late glazes can be accounted for in another way than by the sudden rise in cultural development by the Frijoles people themselves.

It has always been a Keres tradition that people in the Rito were of the Keres stock. Bandelier says, "the people of Cochite (Cochiti) told me that the caves of Rito, as well as time three pueblo ruins (situated near together on the floor of Frijoles Canyon), were the work of their ancestry, when the Queres (Keresans) all lived there together, in times much anterior to the coming of the Spaniards."⁹⁵ It is difficult to picture a union within the northern Tewa without strife of some sort, and Harrington says, "tills settlement is claimed by the Cochiti Indians as a home of their ancestors, and two old San Ildefonso Tewa informants have stated positively that it was a Tewa (Keresan) village."⁹⁶ Even though Tewas have married into Keres groups and vice versa, the outcome of an encroachment by migrant bands on foreign territory might well have been a bitter duel between the two stocks. A common purpose might possibly have been recognized, however, by the two groups and a peaceful union formed. The idea of a union of this sort perhaps ties in within Bandelier's interpretation of Tyuonyi, as a word having significance akin to "treaty" or "contract." If there had been warfare it is possible that the weaker of the two would have heft, and the stronger groups taken over. The ancient boundary between the Tewa and Keres territory is said to have been somewhat north of Frijoles Canyon.⁹⁷

95. Bandelier, A. F., 1892, p. 145.

96. Harrington, J. P., 1916, p. 412. The phrase "Tewa (Keresan)" is contradictory. Harrington probably meant Tanoan.

97. Harrington, J. P., 1916, p. 412.

The Frijoles Canyon under discussion was, according to Hewett,⁹⁸ known to the Tewas as the Cochiti Rito. They called it "*Puwhige*" and agreed to the Cochiti tradition of ownership of the Rito. Weyima, rain priest at San Ildefonso, would never admit, however, the tradition that ancestors of the Cochitenos, except for certain clans, ever lived in the Cochiti Rito. Ancho Canyon (the first canyon north of the Cochiti Rito) was the one known to the Tewas as El Rito de Los Frijoles and was the true "valley of the bean fields."

98. Hewett, Edgar L., 1909a, p. 669.

It appears likely from the information presented that the two stocks had some contact, either peaceful or warlike. If the Tewas claim Ancho Canyon as part of their territory near their south boundary, then the Tewa villages in the canyons and on the mesas must have had some contact with the people (Keresans) living in the Rito; at least trade was carried on between the two groups.

Stallings⁹⁹ gives a tree-ring date from Frijolito of 1447. Frijolito is situated almost on the edge of the south cliff just above Tyuonyi. The glaze ware here extends up through group C times, which suggests an evacuation of the site at about that time. The writer has observed the same situation with regard to the small ruined sites on mesas north of Frijoles Canyon, over as far as Water Canyon. They apparently were inhabited until Glaze C times, and suddenly abandoned. Glaze C apparently came into existence sometime during the fifteenth century; just how long it was in vogue is questionable, but it did precede and was partially contemporaneous with Bandelier Black-on-Gray. Shupinna (Shu-finne), a large Tewa village on the Pajarito Plateau north of Tshirege, was occupied iii Biscuit A times until sometime in the early part of the sixteenth century, and then abandoned. Navawi (Navawi'i), another large Tewa village, lasted to Glaze C times (late fifteenth century) when Tshirege and Puye were most probably founded.¹⁰⁰ Most of the small villages on the little mesas around the Frijoles seem to have been abandoned about this time but the reason is still questionable. This again reverts to the possibility of a drought on the higher mesas, or pressure exerted by migrant groups of people. The people of the little colony sites may have moved down into the canyon, where it is likely that water supply was more constant,—or, they may have formed a part of a big southward push toward the Rio Grande. It has been pointed out that Glazes A, B and C showed a lag at the Frijoles sites but Glaze D was more abundant. This would correspond with the occupation through Glaze C times in some of the mesa homes, and suggests an influx of mesa people into the Frijoles sites, which could have brought about the rise of the late Glaze ware.

99. Stallings, W. S. jr., 1933, p. 805.

100. Mera, H. P., 1934, p. 14.

Sankawi Black-on-Cream was the next ware to come into prominence. Its appearance seems to coincide with late Glaze E, though it was more abundant in the Pajarito during the early part of Glaze F.¹⁰¹ It has been pointed out that 1513 was the probable building date of the kiva and that one piece of early Sankawi was found imbedded in the mortar in which one of

the vigos was set. This substantiates Mera's statement¹⁰² that Sankawi Black-on-Cream apparently developed during a time commensurate with late group E glaze pottery. Such large quantities of Sankawi Black-on-Cream are found at Sankawi, Tshirege, and Puye, that it is believed that this ware originated, and was largely developed, in the large late villages of the Pajarito Plateau.

101. Mera, H. P., 1933, p. 17.

102. Mera, H. P., 1933, p. 34.

In the Frijoles this made only a small showing as compared to the late glazes of Group E or to Bandelier Black-on-Grays, and apparently it never replaced the latter. Possibly the occupants of the Frijoles, who surely were in contact with villages to the north where Sankawi Black-on-Cream was so predominant, learned the new technique but never developed it to any great extent. On the other hand, this pottery may well have been imported from the northern villages.

The reason for its apparent unpopularity is unknown but it represents the last period of occupation in the Frijoles, along with Bandelier Black-on-Gray and the late prehistoric glaze-decorated types. At this time, probably about 1600, there seems to have been a definite halting of cultural activity. (See ceramic correlation charts, I, II, III, IV). Neither Biscuit or Sankawi hang on even in degenerate form, but one of the little glaze ollas found below the apparent floor of the kiva was an excellent representation of the last development of the art of glazing. It was sloppily done; the glaze was thick and bubbled, and had run, an elongated vertical design which could not be deciphered.

A few stragglers may have held on a few years after the close of the sixteenth century, but the bulk of the population had evacuated, and it seems probable that the large kiva was burned at this time. On the other hand, however, the canyon has been occupied from time to time by Spanish-speaking people. Chapman points out that in examination of pictographs upon the walls of several hundred caves in the Pajarito it became necessary to distinguish between the pre-Spanish and the recent, as there were many drawings evidently done by casual visitors and sheep herders.¹⁰³

103. Chapman, K. M., 1938, p. 141.

It is quite possible that the Spanish expeditions during the sixteenth century had some effect upon the Frijoleros, probably indirectly. Coronado and his followers, as far as is known, never penetrated the valley of the Frijoles. This expedition up the Rio Grande in 1540 was about the time of the greatest pueblo communal activity which started on its decline shortly after the advent of the Spanish.

In the Narrative of Jaramillo (one of Coronado's officers during the expedition of 1540) the villages of the river of Tihues (Rio Grande) were described as "fifteen within a distance of about 20 leagues, all with flat roof houses of earth instead of stone, after the fashion of mud walls. There were other villages besides these on other streams which flow into this, and three of these are, for Indians, well worth seeing, especially one called Chia (Sia), another Uraba (Taos), and another Cicuique (probably Pecos)."¹⁰⁴ It is difficult to say whether or not Tyuonyi was included in the villages on other streams flowing into the Rio Grande. If so, the mention of it came through hearsay, not from any actual visit to the area. The Frijoleros were, to judge from the experience of the people of Tiguex, fortunate rather than otherwise in escaping Spanish attentions.

104. Winship, G. P., 1896, p. 387.

Chamuscado's expedition in 1582 did not explore the Pajarito either; by this time the desertion of Frijoles seems to have been well on its way.

In February, 1583, the expedition of Antonio de Espejo stopped at a place called Cachiti (presumably Cochiti) where the people were very peaceful, and people from other pueblos asked the soldiers to go with them.¹⁰⁵ Some of these people may have been from the Keres villages on the Jemez. Whether or not any of them were from the Frijoles is problematical, but entirely possible, since Tyuonyi was one of the nearest settlements to Cochiti. The Spaniards did not go to the north, so far as known, but marched southward for a league and a half (apparently close to the confluence of Jemez Creek with the Rio Grande) where they camped near a Keres village, and next day marched westward.

105. Luxan, (Hammond and Rey), pp. 82-83.

By 1598 during the campaign of Onate, a few stragglers were probably still hanging on in the Frijoles; shortly after the close of the century the sites were probably completely abandoned.

Thus, one of the largest aboriginal settlements of the upper Rio Grande, which had arisen as a result of eastward and southward movements of people from the break-up of the cultures of the upper San Juan Valley, and which had developed steadily until the first Spanish expedition into New Mexico, began to show a decline which gained momentum to such an extent that the entire population deserted in little more than 50 years. Just what factors were responsible for the break-up and abandonment are uncertain.

Spanish occupation affected other sites, and it is interesting to note that after the end of the seventeenth century—a century of Spanish rule—population of Biscuit ware territory had so shrunk that six towns were enough to shelter the survivors.¹⁰⁶ Nothing but continued harassment, epidemic disease, or serious drought could have caused the wholesale abandonment of so advantageous a country. Whatever the reason, there was a constant retirement toward the Rio Grande. This is corroborated by Indian tradition.

106. Mera, H. P., 1933, p. 20.

No evidence has been found to suggest any occupation of consequence in the Frijoles after its abandonment at the end of the sixteenth century. Five small pieces of Tewa Polychrome were, however, found in the fill around the outside of the kiva. It is difficult to know how to place these.

They may have found their way into a greatly disturbed site during a very late period of sporadic occupation. It is not at all impossible that in the troubled times at the end of the seventeenth century, during and after the period of the Pueblo Rebellion, a few Tewas may have retreated to the Frijoles, and possibly other Pajarito villages, for safety from the Spanish. Tewa Polychrome was fully developed before the end of the seventeenth century.¹⁰⁷

107. Mera, H. P., 1932, p. 12.

Dr. Edgar L. Hewett has interestingly summarized in popular form his reconstruction of the wanderings of the Cochiti people:¹⁰⁸

108. Hewett. Edgar L., 1938, pp. 57-61.

"So exceptionally complete are the links in a story which may very well go far back of William the Conqueror, that we even have legendary hints of the subdivisions of this immemorial village; and in a cave-room of the cluster which has suffered most from the erosion of the cliff, I once stumbled upon gentle Jose Hilario Montoya, the (later) Governor of new Cochiti, wrapped in his blanket and in reverie. He had stolen away from us, to dream an hour in the specific house that was of his own first grandfathers.

"We have no means of knowing just how long the strange white town of the Rito has been deserted, but it has been many, many centuries; for its hunted people built successive towns,¹⁰⁹ and farmed and fought and had a history in each of six later homes before the written history of America began. Though eternally harassed by the Navajos, the Tyu-on-yi held its own, we are told, until destroyed by its own brethren . . .

109. This fascinating story is based, not on archaeology, but on Cochiti legend. Actually, these towns were not founded in succession but were occupied mostly during the same general period.

"The survivors of the final catastrophe abandoned their ruined town in the Rito, and moving a day's march to the south, established themselves upon the table-top of the great Poterero de las Vacas. They were now seven or eight miles west of the chasm of the Rio Grande, and on the summit of the tongue-plateau between two of its principal side-cans. They were a mile from water—the sparkling brooklet which flows past the Cueva Pintada—and therefore from their farms. But feeling this inconvenience little so long as it gave safety, they reared among the contorted junipers a new town—essentially unlike the quaint combination-pueblo of the Rito, but like a more common pattern. It was the typical rectangular stone box of continuous houses, all facing in. Here on the grim mesa, amid a wilderness of appalling solitude, they worried out the tufa blocks, and builded their fortress-city, and fended off the prowling Navajo, and fought to water and home again, and slept with an arrow on the string. How many generations of bronze babies frolicked in this lap of danger; and rose to arrowy youth that loved between sieges; and to gray-heads that watched and counselled; and to still clay that cuddled to the long sleep in rooms thence forth sealed forever, there is no reckoning—nor when was the red foray, whereof their legends tell, of an unknown tribe which finished the town of the Mesa of the Cows. But when the decimated Queres left that noble site, they left, besides their fallen home, a monument of surpassing interest . . . The only example of life-size carvings, or of any alto relieve, ever found in the enormous range of the Pueblos, are the four astonishing figures which were, and are, the homotypes of the chase-gods of wandering Cochiti . . . It was reserved for the Cochitenos to invent and realize a life-size fetich—therefore, one nearer the actual divinity symbolized, and more powerful. And from that far, forgotten day to this incongruous one, the stone lions of Cochiti have never lost their potency. Worshipped continually for longer ages than Saxon history can tell its own,¹¹⁰ they are worshipped still. No important hunt would even now be undertaken by the trustful folk of Cochiti without first repairing to the stone pumas, to anoint their stolid heads with face-paint and the sacred meal, and to breathe their breath of power.

110. A slight exaggeration.

"But now the town of the lions had fallen, and a second migration was imperative. In this new move to checkmate the tireless aggressor, the Cochitenos took a sort of "knight's leap." They dropped fifteen hundred feet from the mesa's top to the canon, and thence at a right angle three miles down the brook, namely, to the Cueva Pintada. The site of this, their third known town, which they called Tse-ki-a-tan-yi, was far ahead, in safety and in picturesqueness, of the second. In both these qualities it somewhat recalls the peerless Rito. The canon is wider and not as deep, but of similar formation, and similarly wooded and watered. As always, the wanderers chose its noblest point. There the northern cliff of white pumas is five hundred feet high, and in its face is a great natural cave like a basin set on edge, fifty feet above the ground. Along the foot of this fine cliff they hewed out their cave-rooms and built their tufa masonry, and in the arch of the great natural cave itself they hollowed other chambers, attainable only by dizzy toeholes in the sheer rock. The Painted Cave seems to have had some of the uses of a shrine, and along the crescent of its inner wall may still be traced prehistoric pictographs (along with more modern ones) done in the red ochre which abounds farther up the canon. There are figures of the Ko-sha-re, the delight-makers, and of the sacred snake whose cult—once universal among the Pueblos—has still such astounding survival at Moqui;¹¹¹ and of the round, bright house of the Sun-Father and of the morning and evening stars, and many other precious symbols.

111. Obsolete term for the Hopi towns.

"At last the turn of Tse-ki-a-tan-yi, came too, and there was a day when they who had burrowed in its gray cliffs must bid it farewell. The cause of this migration is not certain. It may have been moral or military; omen of divine displeasure, or merely an overdose of Navajo—for the whole region was ceaselessly harried by this most powerful race of desert pirates. At all events, the beset Queres had finally to abandon their third town and seek a fourth. This time they moved south a short march and built Ra-tya, whose ruins are now known as San Miguel. Here again they dwelt and suffered and made history; and from here again they were at last compelled, by supernatural or hostile pressure, to move on. Their fifth stone town they built in the Canada de Cochiti, twelve miles northwest from the present pueblo, and named it Cua-pa. There was, and is, a lovely thread of a valley, just widening from the dark jaws of the canon which splits the Potrero Viejo from its giant brother to the north.

"Half-way back on the trail to the Cueva, atop the almost inaccessible Potrero de los Idolos, Bandelier—who was also the discoverer of the Rito, the Cueva Pintada, and the Potrero de las Vacas with its wonderful images—found two other stone cougars. They are life-size, but of different design from those of the northern potrero; less weathered, and evidently of later, though still prehistoric, origin. They, also, were carved in high relief from the bedrock with obsidian knives; they, likewise, faced south and were surrounded by a fence of tufa slabs. But they have not been as undisturbed . . .

"Driven in time from the Canada, as they had been driven from four previous towns, the Queres climbed the seven-hundred foot cliffs of the Potrero Viejo, which overhangs the Canada. Here was their sixth town—Ha-nut Cochiti, or Cochiti Above—and their most impregnable. Nowhere save by the three vertiginous trails is it possible to scale that aerial fortress; and we may presume that here at last they were able to defy their savage neighbors. With time, however, the difficulties of farming and watering at such long range seem to have induced them to remove to the banks of the Rio Grande, just where it emerges from its gruesome gorge to the widening vales of Pena Blanca. Here they raised their seventh pueblo, this time largely of adobe; and here they were when the history of America began. There is nothing to indicate that the Cochiti which has been known now for three hundred and fifty years, has been longer occupied than was any one of the six towns which preceded it; though of course the presumption is that it has. Here the Spanish world-openers found the town, and here the Cochitenos voluntarily became vassals of Spain and were baptized into the church of the new God. Here, too, nearly a century and a half later, they helped to brew that deadliest insurrection¹¹² which ever broke on United States soil; and on that red August 10, 1680, their warriors were of the swarthy avalanche that befell the undreaming Spaniards. They had a hand in the slaying of the three priests of their parish, who were stationed at Santo Domingo; and were among the leading spirits of all those bloody years of the Pueblo rebellion. The only fight in which they are known to have figured largely, however, was at the reconquest. When Diego de Vargas, the Reconquistador, came, they abandoned Cochiti and went back to their long-ruined citadel on the Potrero Viejo. This seventh town-moving did not save them; for in the spring of 1694 Vargas and his "army" of 150 men stormed that aboriginal Gibraltar. In the desperate but short assault only twenty-one Indians were slain. Indeed, the decimation of the Cochitenos was due not at all to the Spaniards, but to their one-sided wars with the Navajos and with other Pueblos; to epidemics, and to social centrifuge—for the legendary hints are strong that not only Cochiti but all the Queres pueblos originated in the Tyu-on-yi. If this be true, the six present Queres pueblos to the south and west of Cochiti, with their prehistoric predecessors—for each had its town-movings—were doubtless founded by early rovers from the Rito,¹¹³ until all were gone from the first nest save the later wanderers whom we have been following.

112. More deadly than the war between the States?

113. Legendarily hinted, perhaps, but archaeologically far from proven.

"After the reconquest the Cochitenos abandoned their second town on the Potrero Viejo, and moving for the eighth time, returned to their present pueblo, where they have ever since remained. It is seldom that any of them visit the old homes. Only when there is to be a ceremonial hunt do they trudge away to their ancient Chase-Fetiches to drink the mighty breath of Mokeitcha. The trails are so fearfully rough that one can go all the way to the Rito much sooner afoot than on even the tireless Indian pony; and they are lonely now, and grown very dim. The ankle-deep wee crystals of the potrero-tops outsparkle the valley of the Rocas, unscuffed by passing feet. The wild turkey drinks unscared from the Rito de los Frijoles, and blinks at its sun-bewildered walls. The tawny puma purrs in the white light beside his gray stone prototypes on the Potrero de las Vacas or the Potrero de los Idolos. And Cochiti, at rest at last, dreams on its sunward gravel bank along the swirling Rio Grande, and tills its happy fields, and goes to Christian mass, and dances unto the Trues, and forgets that ever there was war and wandering."

The information set down in this report is the result of a study carried on during the last four

years. The writer fully realizes that the work is by no means complete and may be the subject of criticism. The material has been presented simply as a result of analysis of what has been found up to the present time. Since such scant information has been available on the sites in this area, it is hoped that these reports will help to solve some of the problems of Frijoles prehistory.

In years to come investigation in this important and fertile area may be resumed, proving or disproving parts of these reports and throwing new light on the history of the ruined sites in El Rito de Los Frijoles, Bandelier National Monument.

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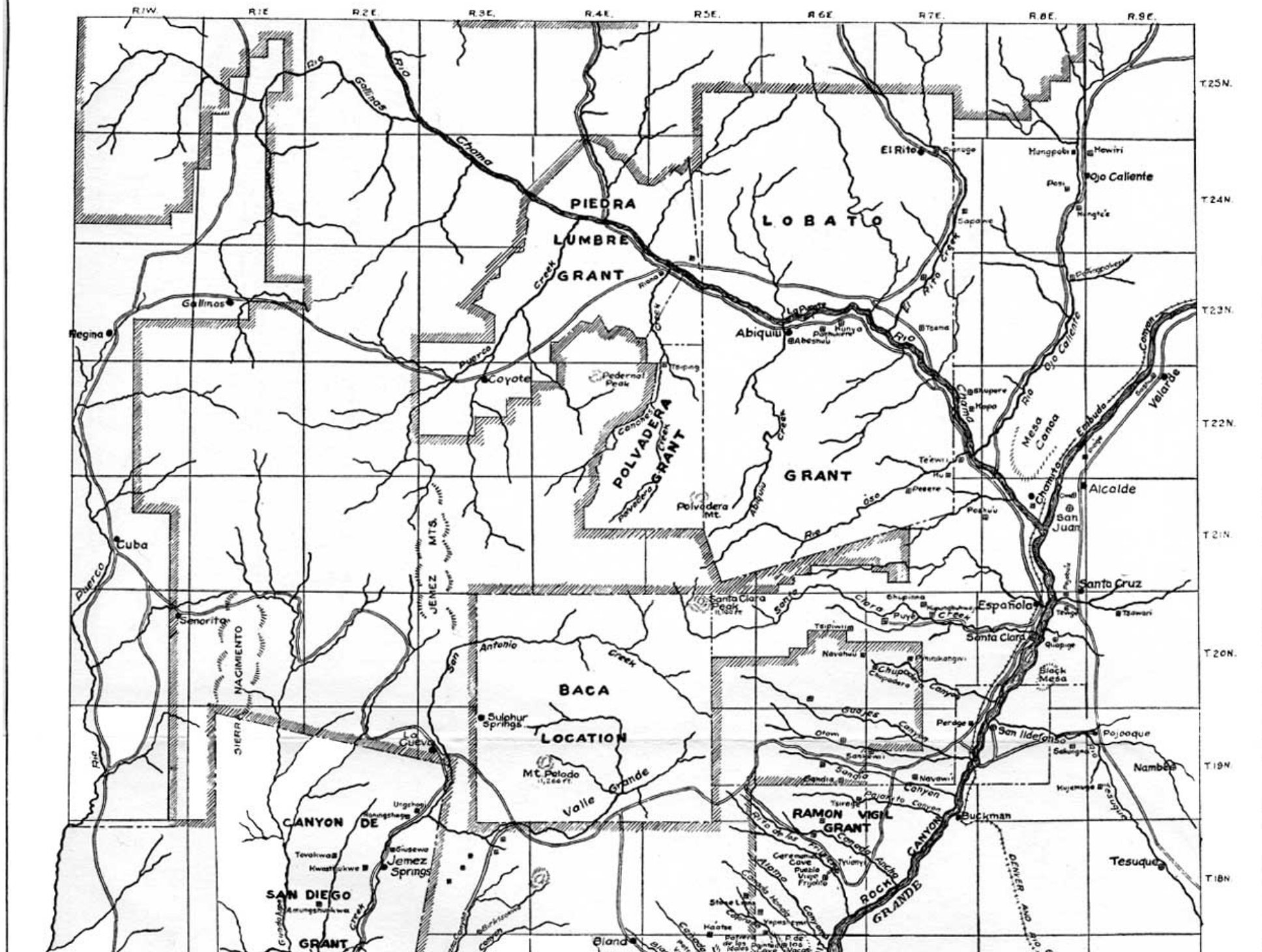
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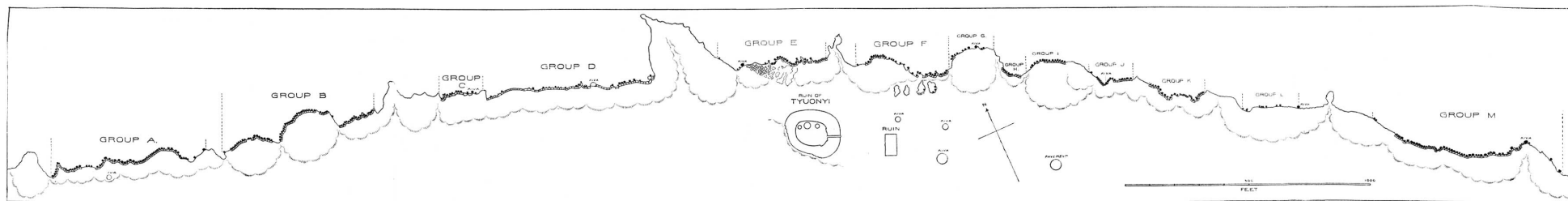
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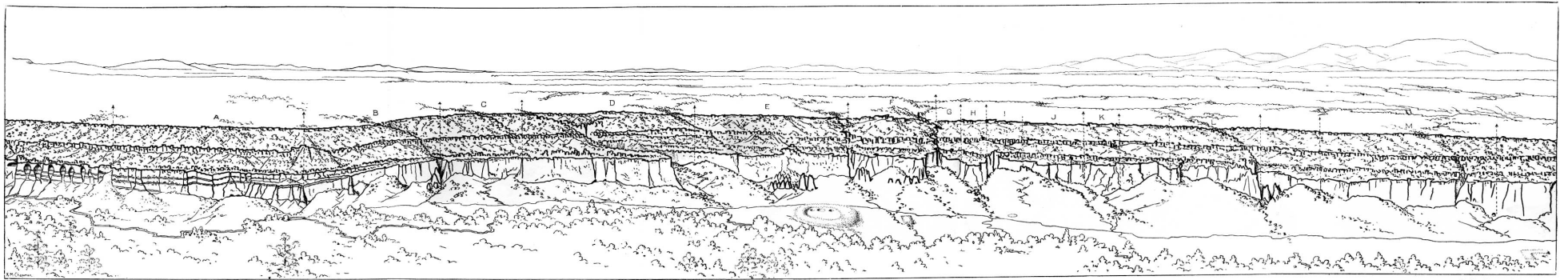
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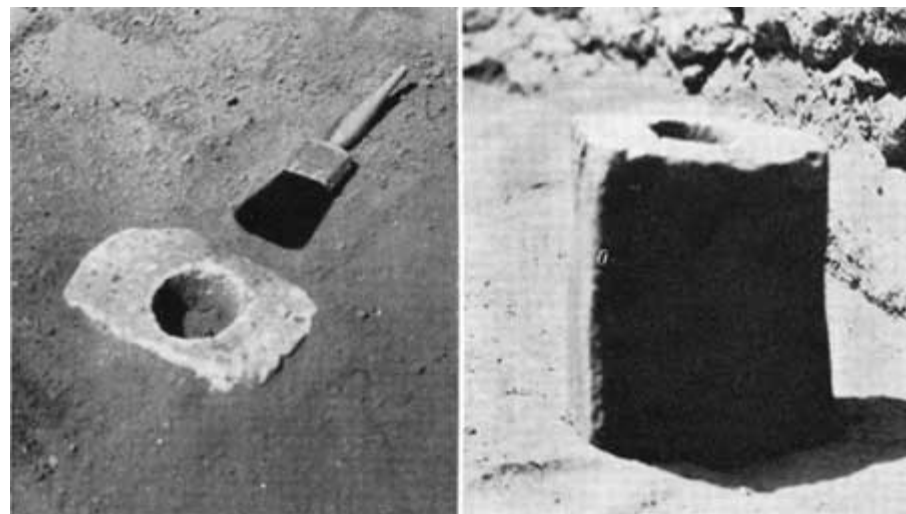


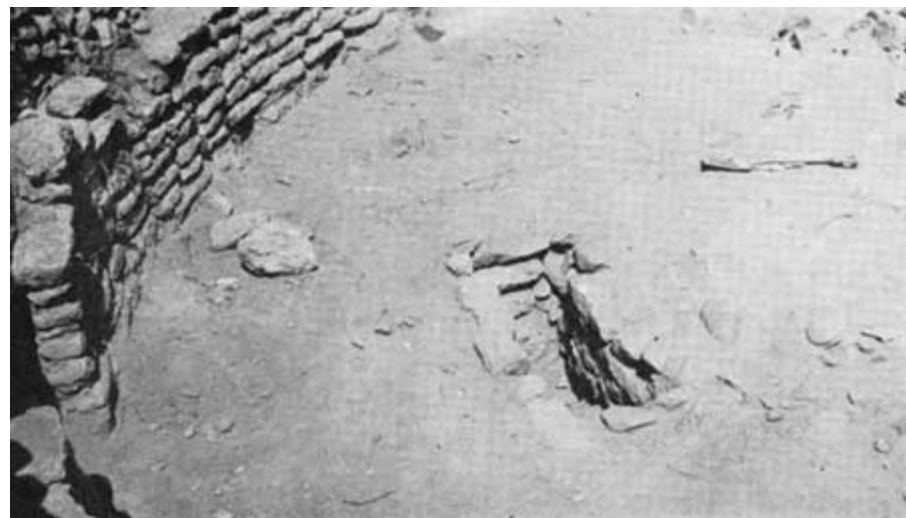










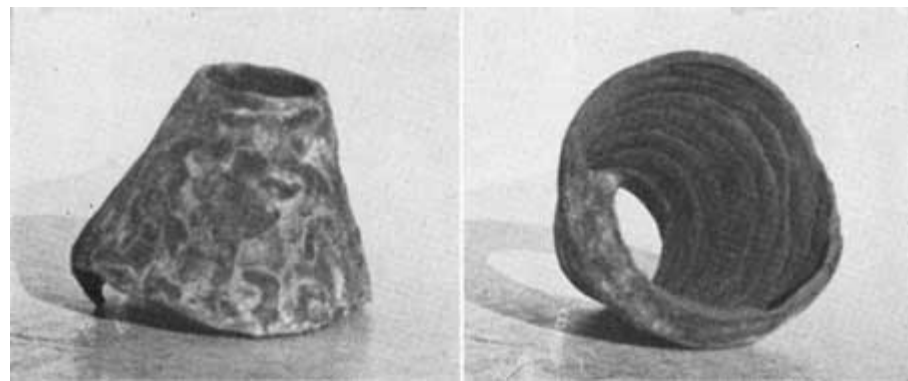










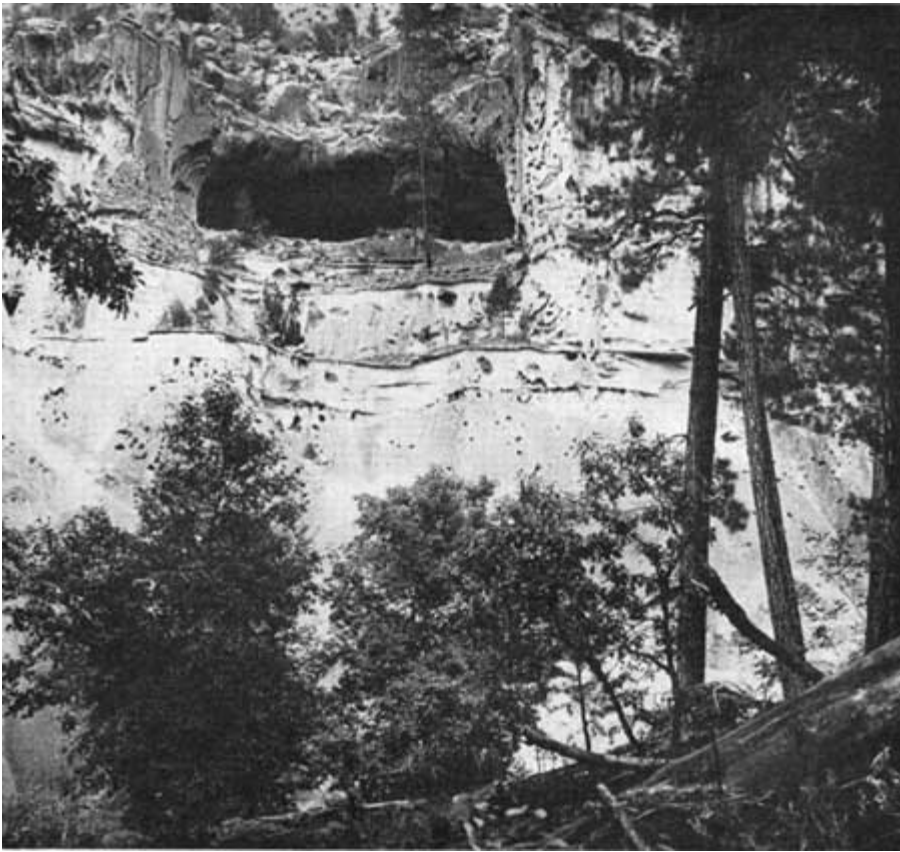






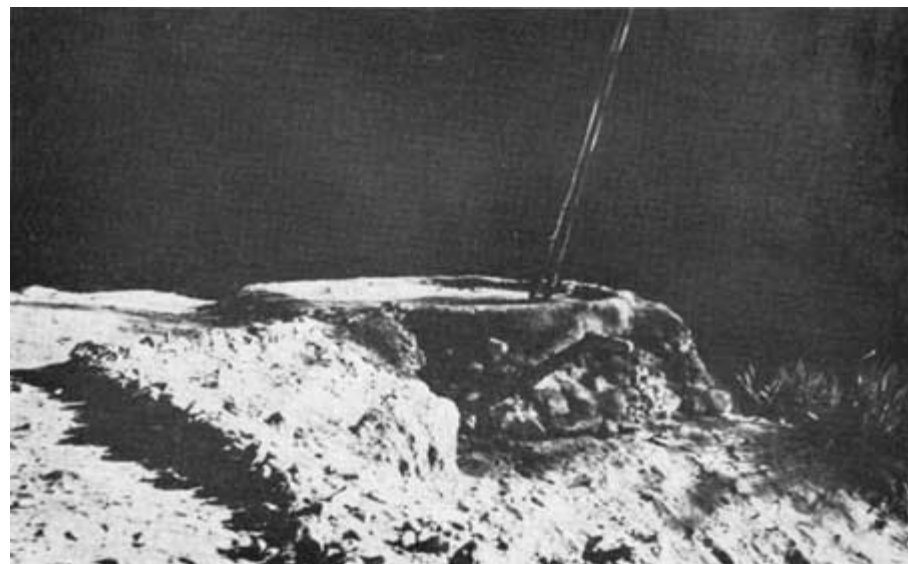


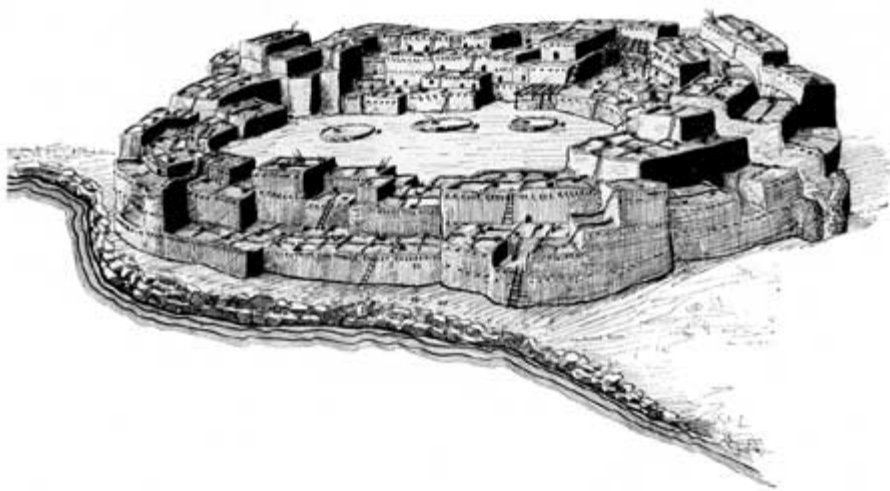












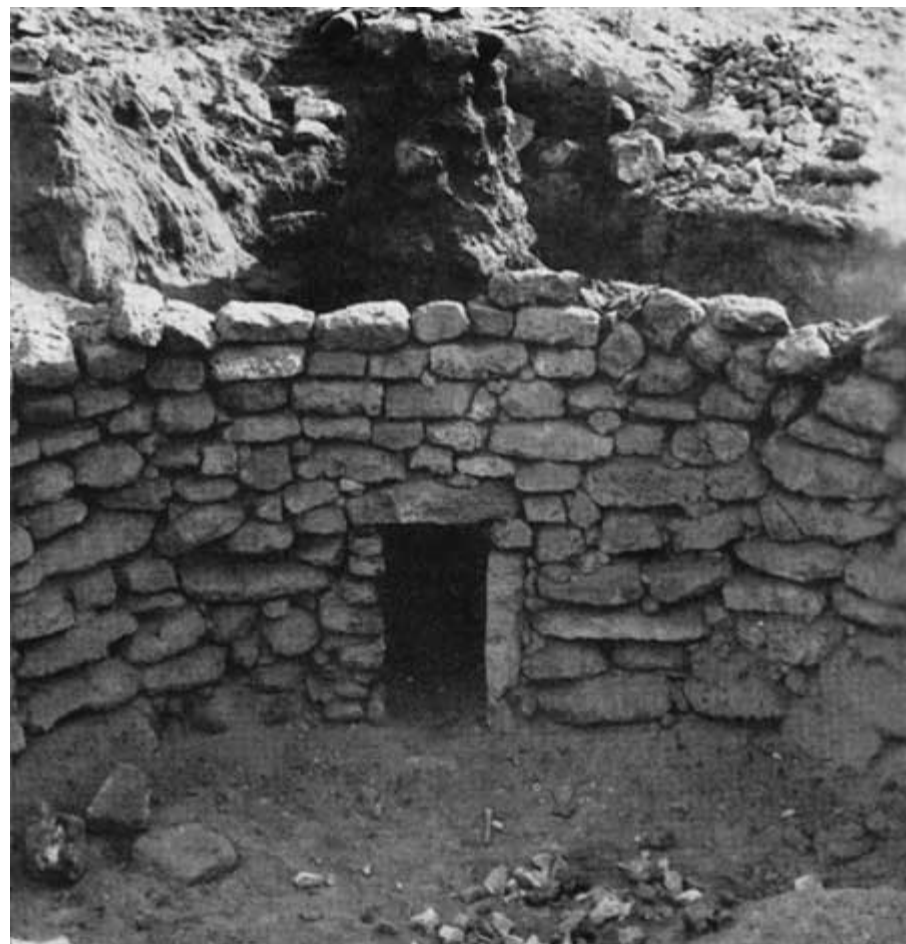










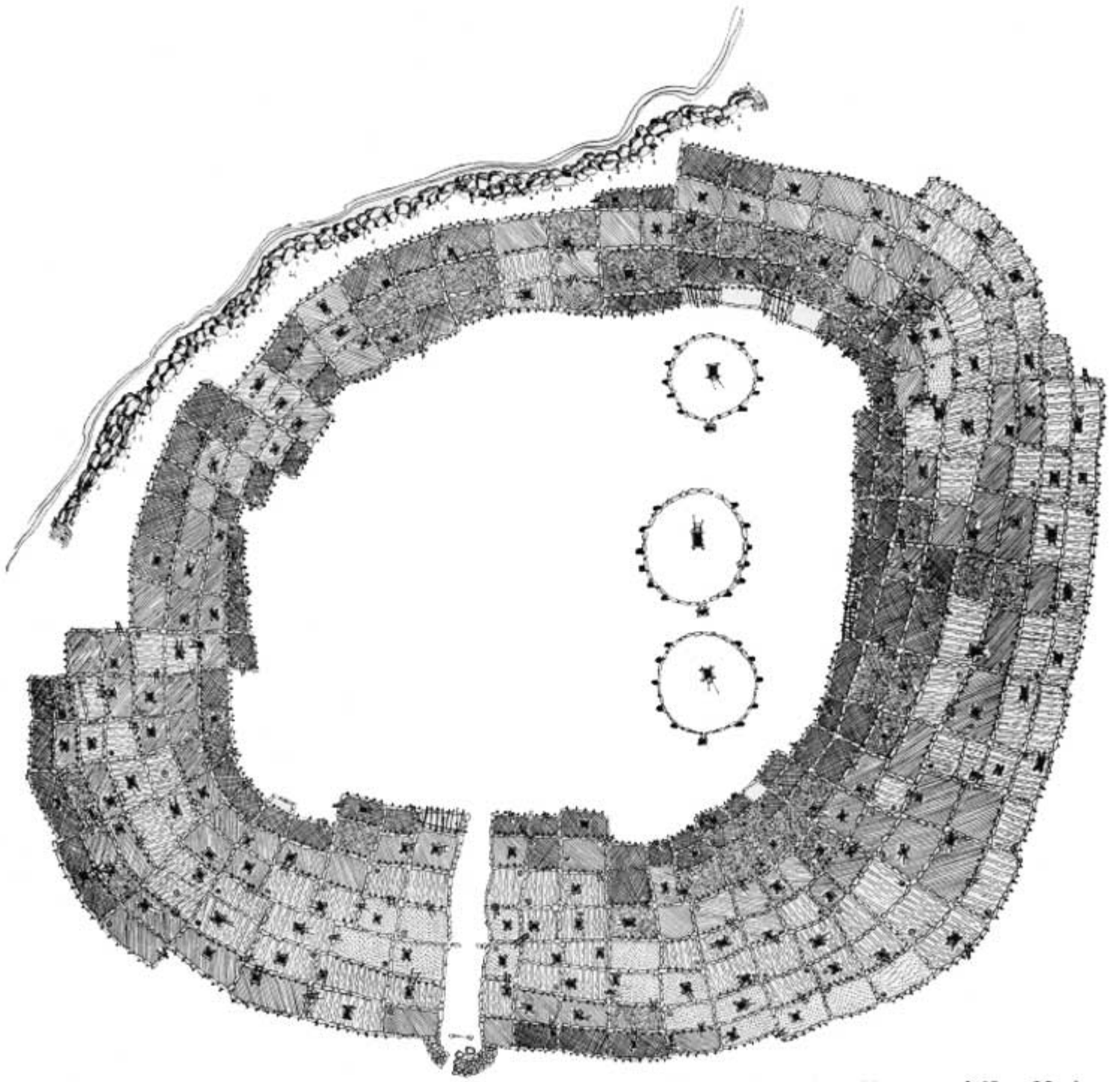


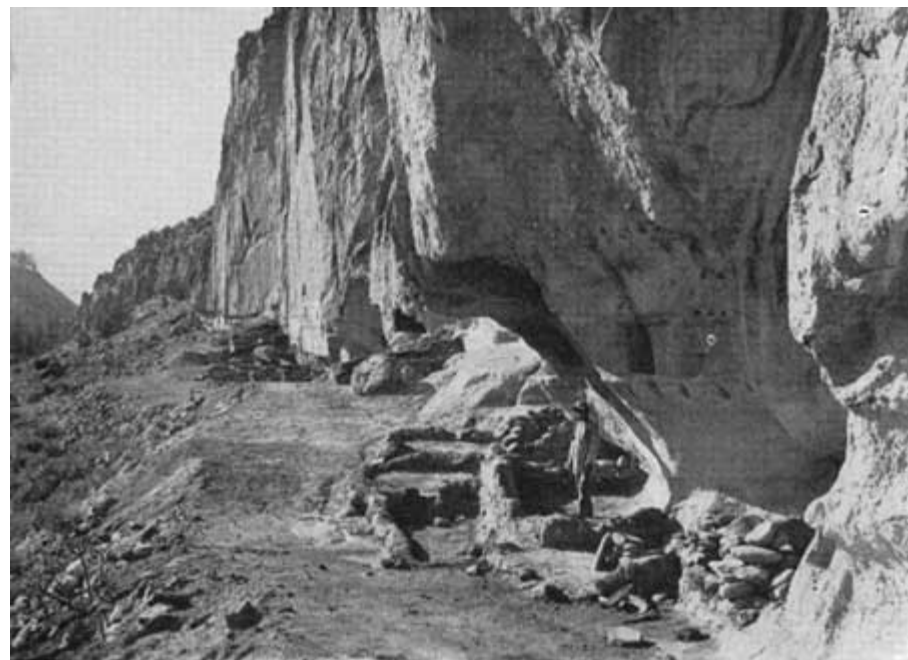








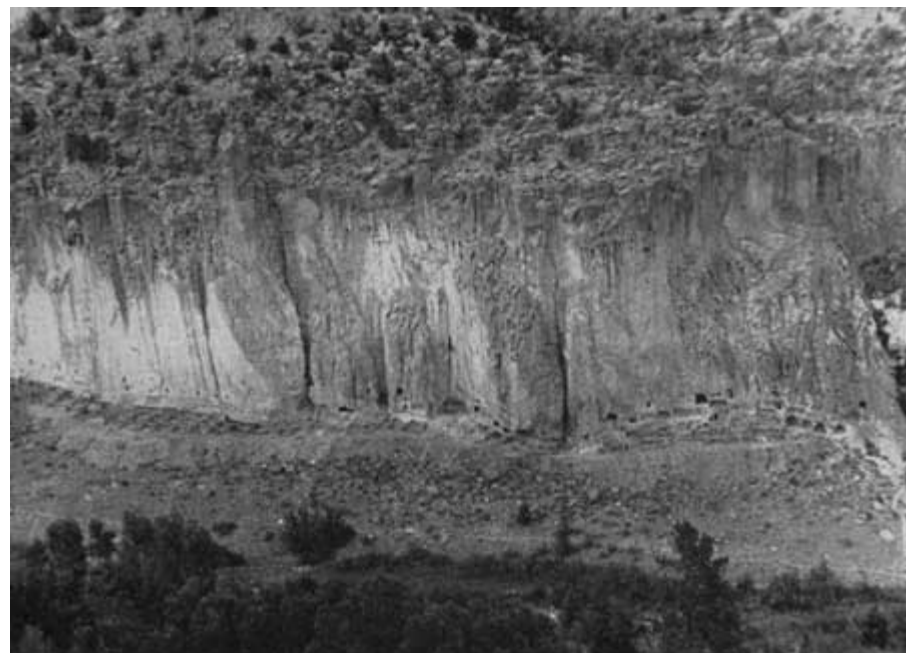












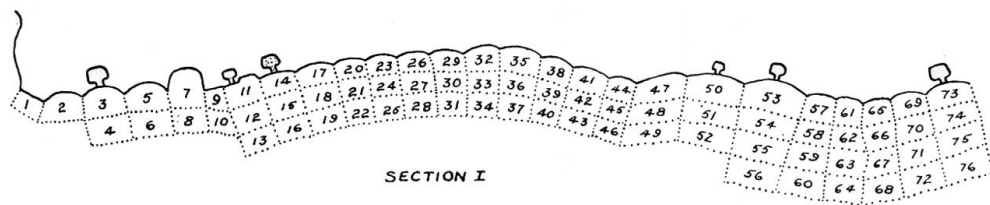
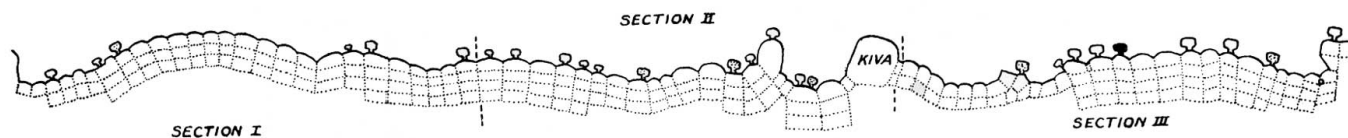
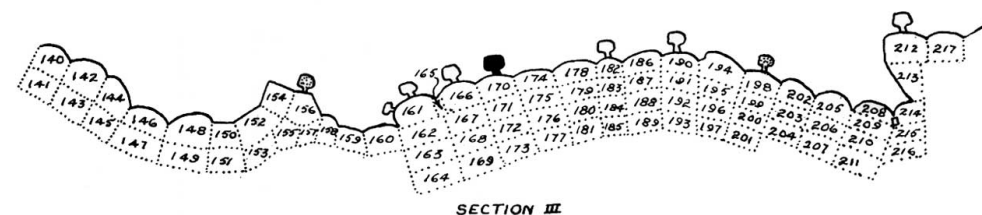
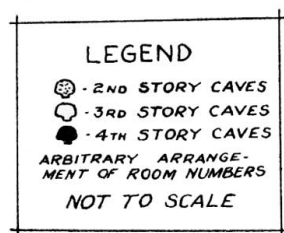
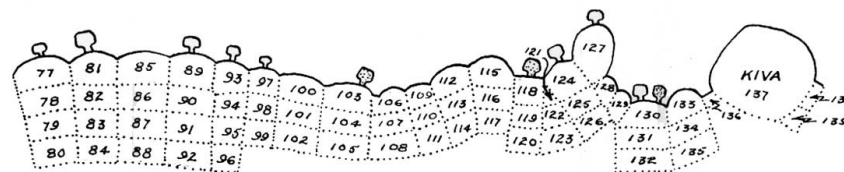


FIG. 45.

LONG HOUSE
BANDELIER NATIONAL
MONUMENT

GROUND PLAN AFTER
HEWETT (1908) - "TALUS
VILLAGE GROUP D"





Location of classified sherds

Utility
Wares

Decorated Wares

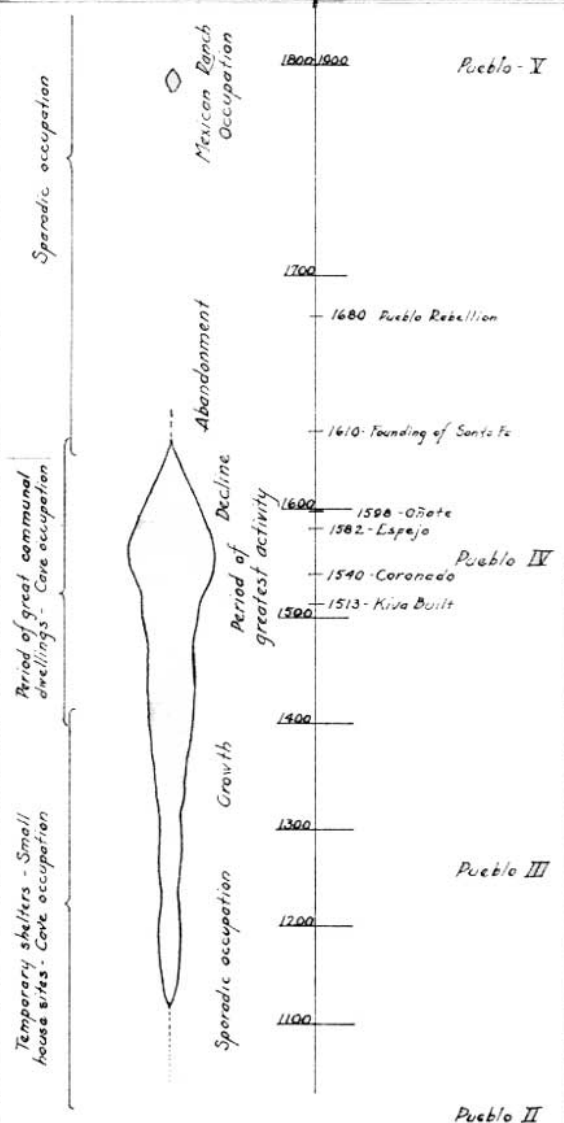
Fill around
Kiva
West
Entrance
Pl. C
Test Trench
N of Kiva
Test Trench
near West Wall
Test Trench
in floor
North Side
With Clay
near center
With Lath
near corner
Pl. near
West End
Total

Degree of
Cultural
Expansion

A. D.

Pecos
Classification

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--



Ceramic Correlation Chart I

D.D. McClung - Del.

NAME OF STRUCTURE
THE LARGE KIVA

SURVEY NO.

HISTORIC AMERICAN
BUILDINGS SURVEY

LIBRARY OF CONGRESS
PHOTO REPRODUCTION

CERAMIC CORRELATION CHART, I.

Utility Wares

Decorated Wares

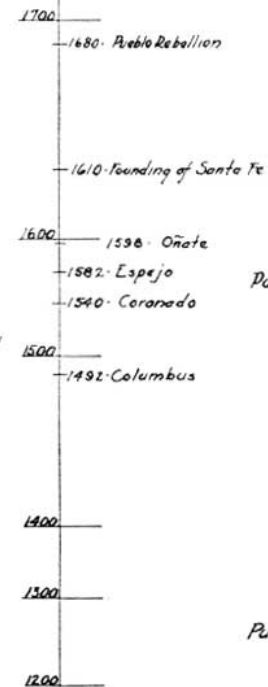
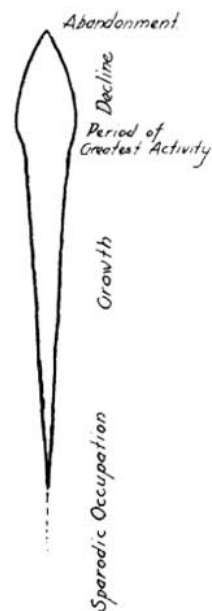
Degree of
Cultural Expansion

A. D.

Pecos
Classification

Cooking Shards	Glaze F	Kolyiti Glaze Polychrome	1
	Glaze E	Duoray Glaze Polychrome	2
	Glaze C	Lepinezo Glaze Polychrome	10
	Glaze A	Crenagulla Glaze on Yellow	1
Early Corrugated		Abiquiu Black on Gray	2
		Santa Fe Black on White	1
Total			91
Misc Shards			
Misc Glaze olla Shards			6
Misc Glaze bowl shards			31
Unidentified Discard			2
Wares of Foreign Origin			
Mesa Verde Black on White			1
Grand Total			131

Sporadic occupation

Period of great communal
dwellings - Cave occupationTemporary shelters and small
house sites - Cave occupation

Pueblo V

Pueblo IV

Pueblo III

Historic Period

Prehistoric Period

Ceramic Correlation Chart - II

RDM Clung - Del.

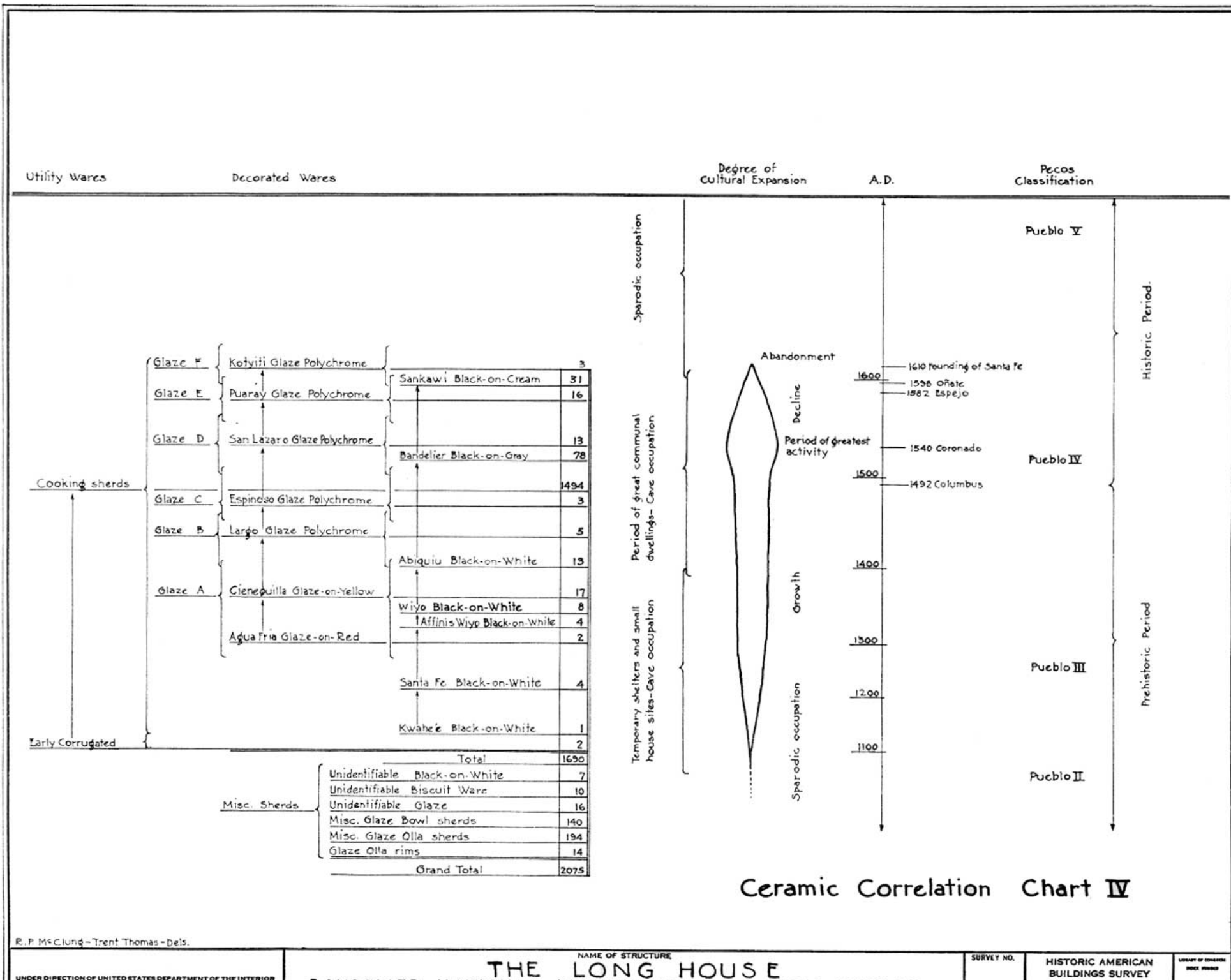
NAME OF STRUCTURE
THE CEREMONIAL CAVE

SURVEY NO.

HISTORIC AMERICAN
BUILDINGS SURVEYLIBRARY OF CONGRESS
PHOTO REPRODUCTION

CERAMIC CORRELATION CHART, II.

CERAMIC CORRELATION CHART, III.



Ceramic Correlation Chart IV

R. P. McCullough—Trent Thomas—Dels.

NAME OF STRUCTURE

THE LONG HOUSE

SURVEY NO.

HISTORIC AMERICAN BUILDINGS SURVEY

LIBRARY OF CONGRESS

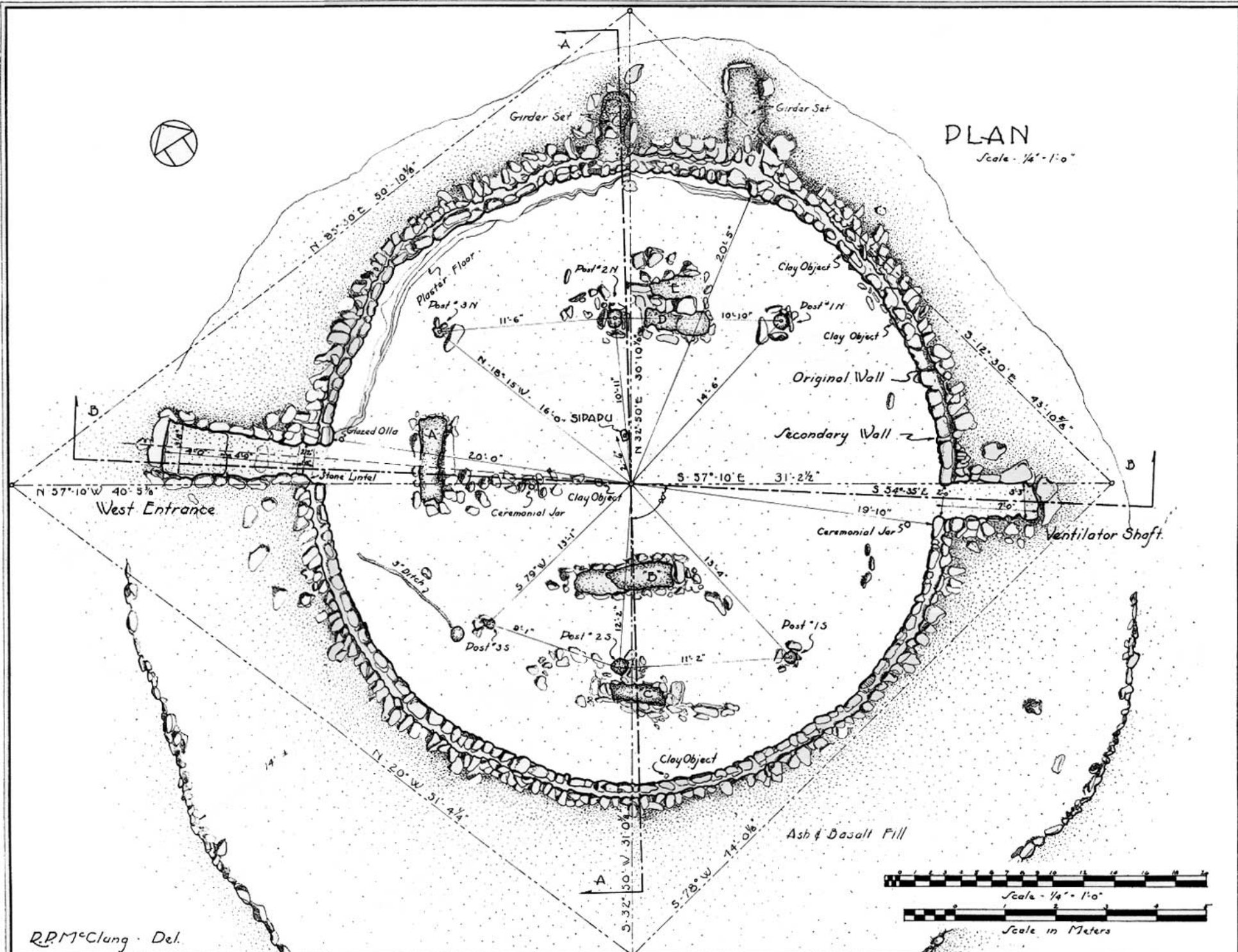
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CERAMIC CORRELATION CHART, IV.



PLAN

Scale - 1/4" = 1'-0"



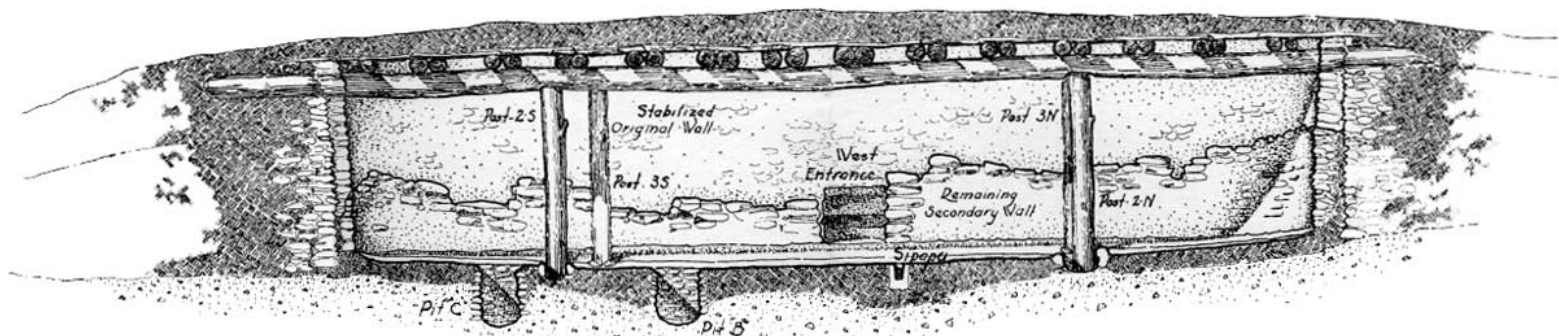
R.P.M. Clung · Del.

1940 PUBLIC WORKS ADMINISTRATION PROGRAM
FEDERAL PROJECT - 488-A
RECORDED DECEMBER 23, 1933

NAME OF STRUCTURE
THE LARGE KIVA

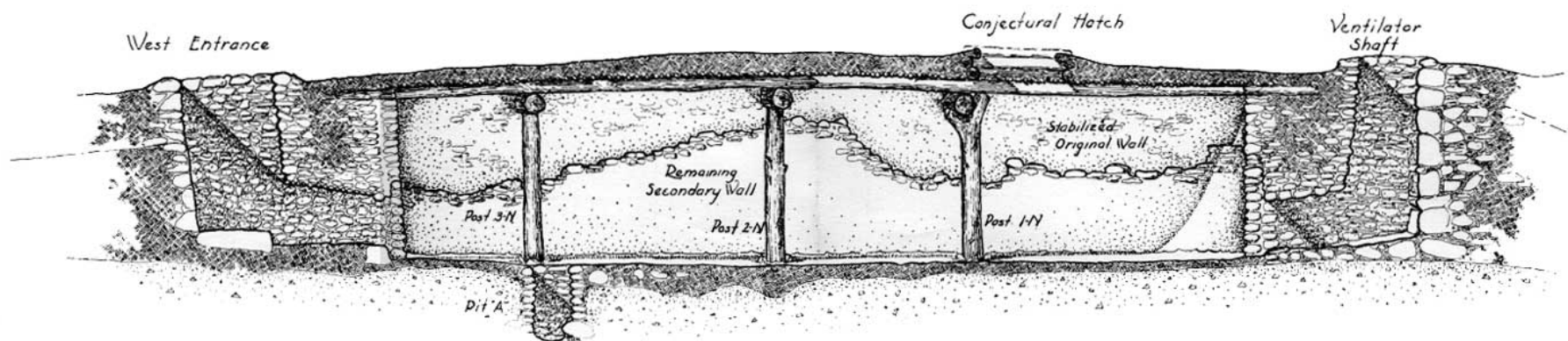
SURVEY NO.
N.M.
HISTORIC AMERICAN
BUILDINGS SURVEY
UNIVERSITY OF CALIFORNIA
BERKELEY

LARGE KIVA PLAN—A.



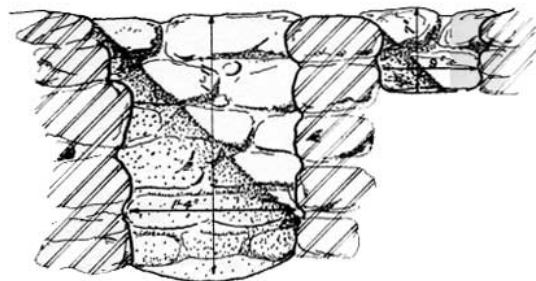
SECTION ALONG "AA" SHOWING EXISTING WALLS AND CONJECTURAL RESTORATION

Scale - 1/4" = 1'-0"



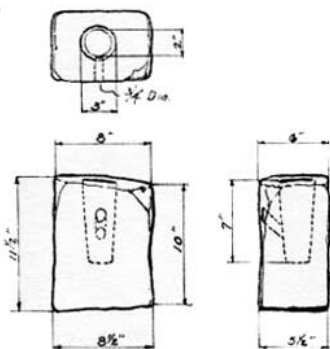
SECTION ALONG "BB" SHOWING EXISTING WALLS AND CONJECTURAL RESTORATION

Scale - 1/4" = 1'-0"



SECTION DETAIL PITS "D" & "E"

Scale - 1/2" = 1'-0"



DETAIL SIPAPU

Scale - 1/2" = 1'-0"

DETAIL UNBAKED CLAY OBJECT

See Plan for Location

Scale - 3" = 1'-0"



RPM:Clung - Del.

1940 PUBLIC WORKS ADMINISTRATION PROGRAM
FEDERAL PROJECT - 498-A
RECORDED DECEMBER 28 1939

NAME OF STRUCTURE
THE LARGE KIVA

SURVEY NO.
N.M.

HISTORIC AMERICAN
BUILDINGS SURVEY

LIBRARY OF CONGRESS
PHOTO NUMBER

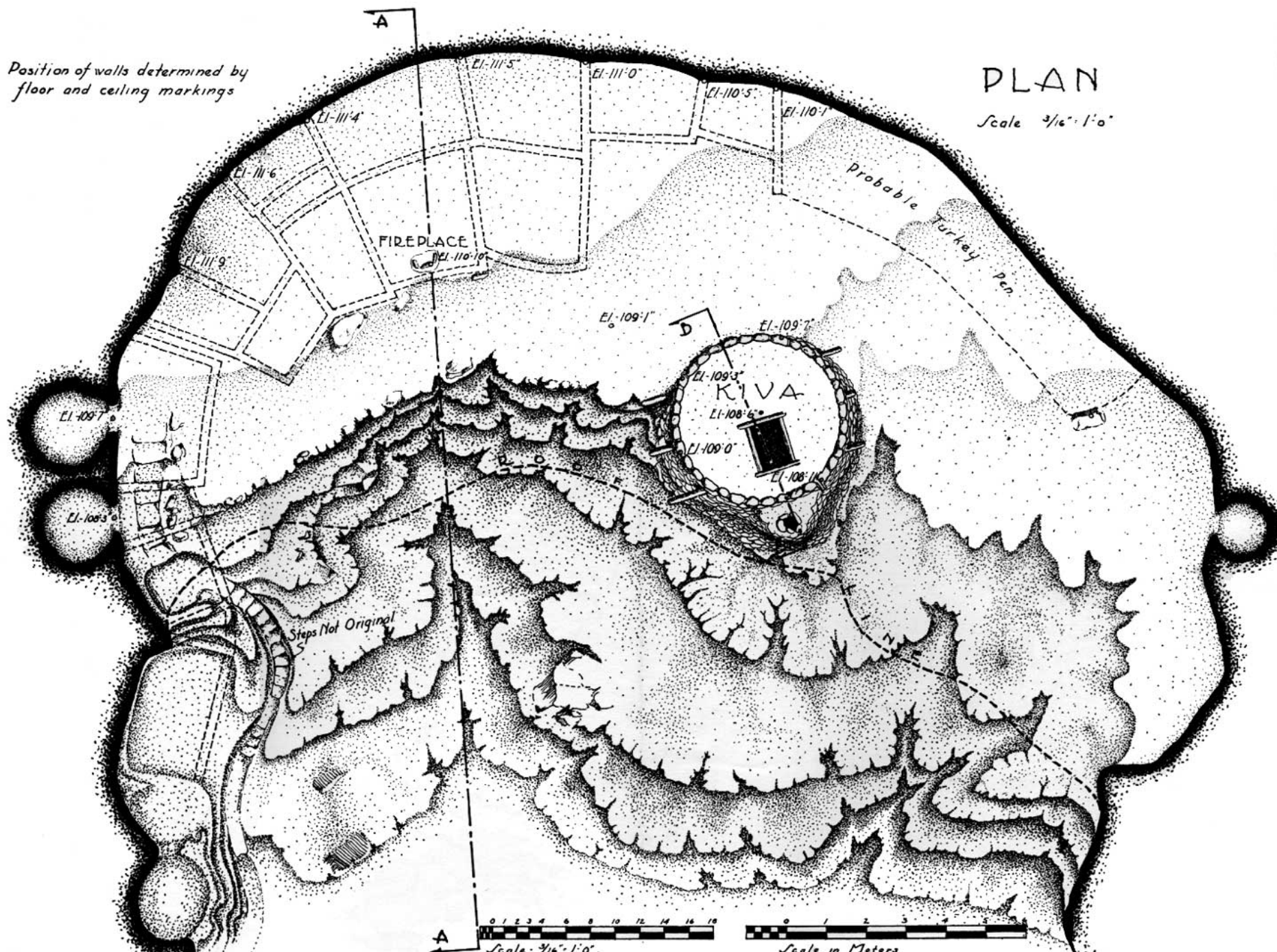
LARGE KIVA SECTIONS—B.

R.D.M. Clung - Del.

Position of walls determined by
floor and ceiling markings

PLAN

Scale $\frac{3}{16}$ " = 1'-0"



1940 PUBLIC WORKS ADMINISTRATION PROGRAM
FEDERAL PROJECT-491-A
RECORDED DECEMBER 30 1939

NAME OF STRUCTURE
The CEREMONIAL CAVE

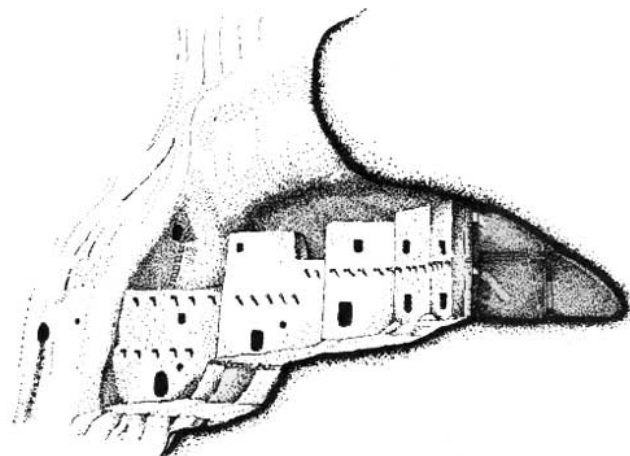
SURVEY NO.
N.M.

HISTORIC AMERICAN
BUILDINGS SURVEY

LIBRARY OF CONGRESS
PHOTODUPLICATION SERVICE

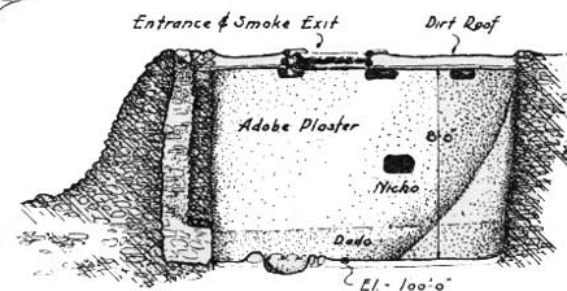
CEREMONIAL CAVE PLAN—A.

R.P. McClung - Del.



CONJECTURAL RESTORATION
ALONG SECTION 'AA'

Scale - $\frac{1}{32}'' - 1'-0''$

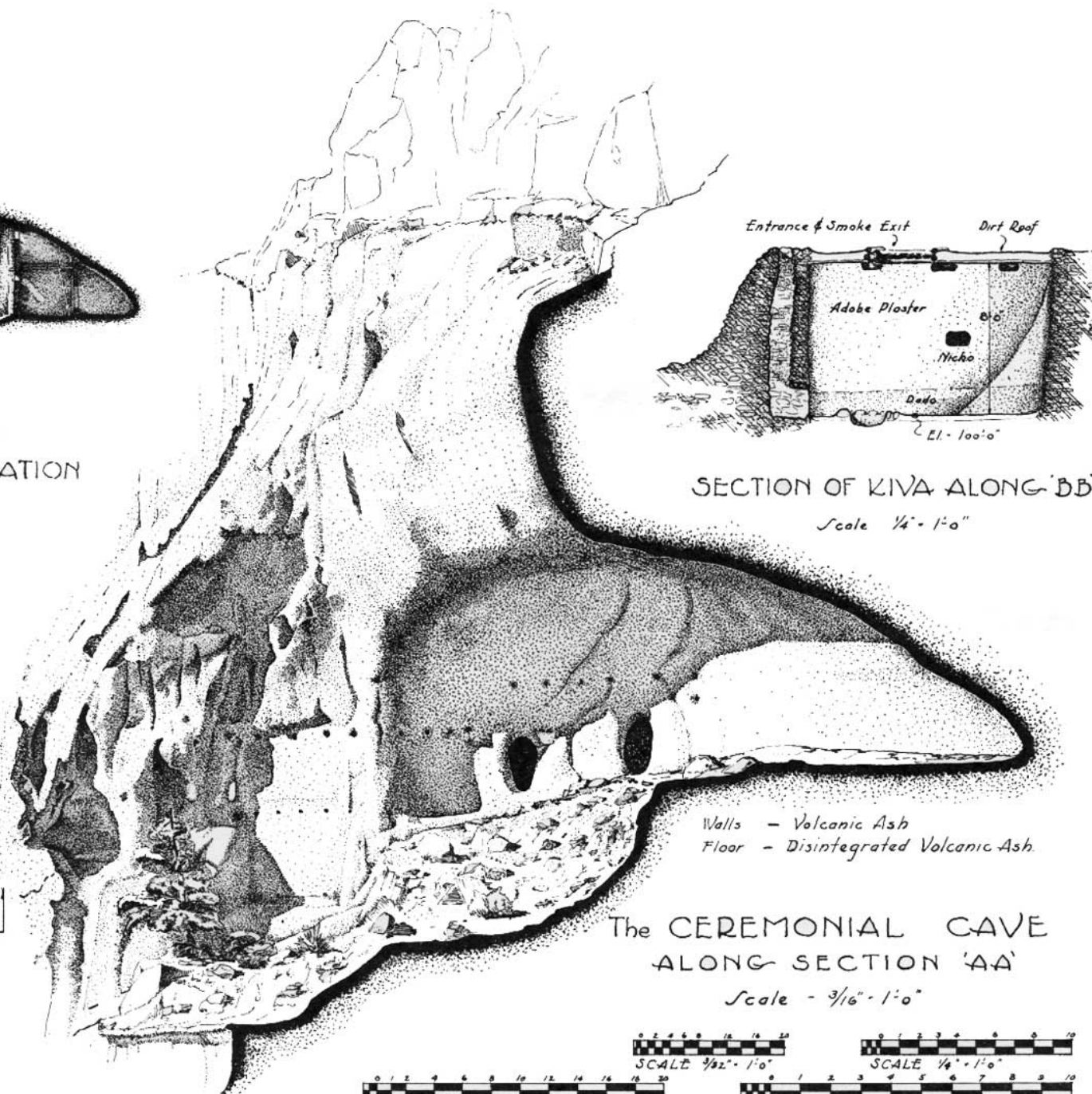
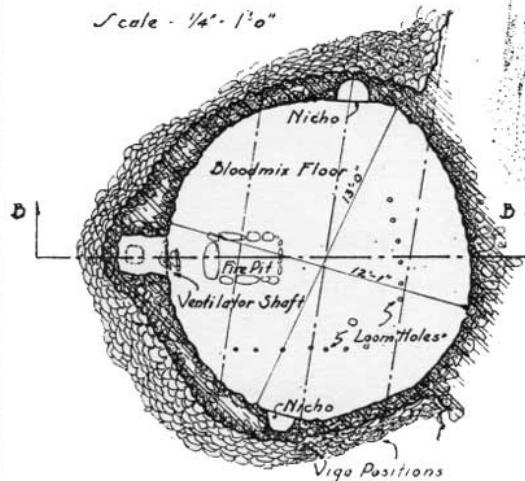


SECTION OF KIVA ALONG 'BB'

Scale $\frac{1}{4}'' - 1'-0''$

FLOOR PLAN OF KIVA

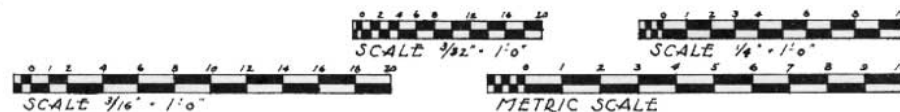
Scale - $\frac{1}{4}'' - 1'-0''$



The CEREMONIAL CAVE
ALONG SECTION 'AA'

Scale - $\frac{3}{16}'' - 1'-0''$

Walls - Volcanic Ash
Floor - Disintegrated Volcanic Ash



CEREMONIAL CAVE SECTIONS—B.