

SOUTHWESTERN MONUMENTS  
SPECIAL REPORT

NO. 17

ARCHEOLOGICAL INVESTIGATIONS

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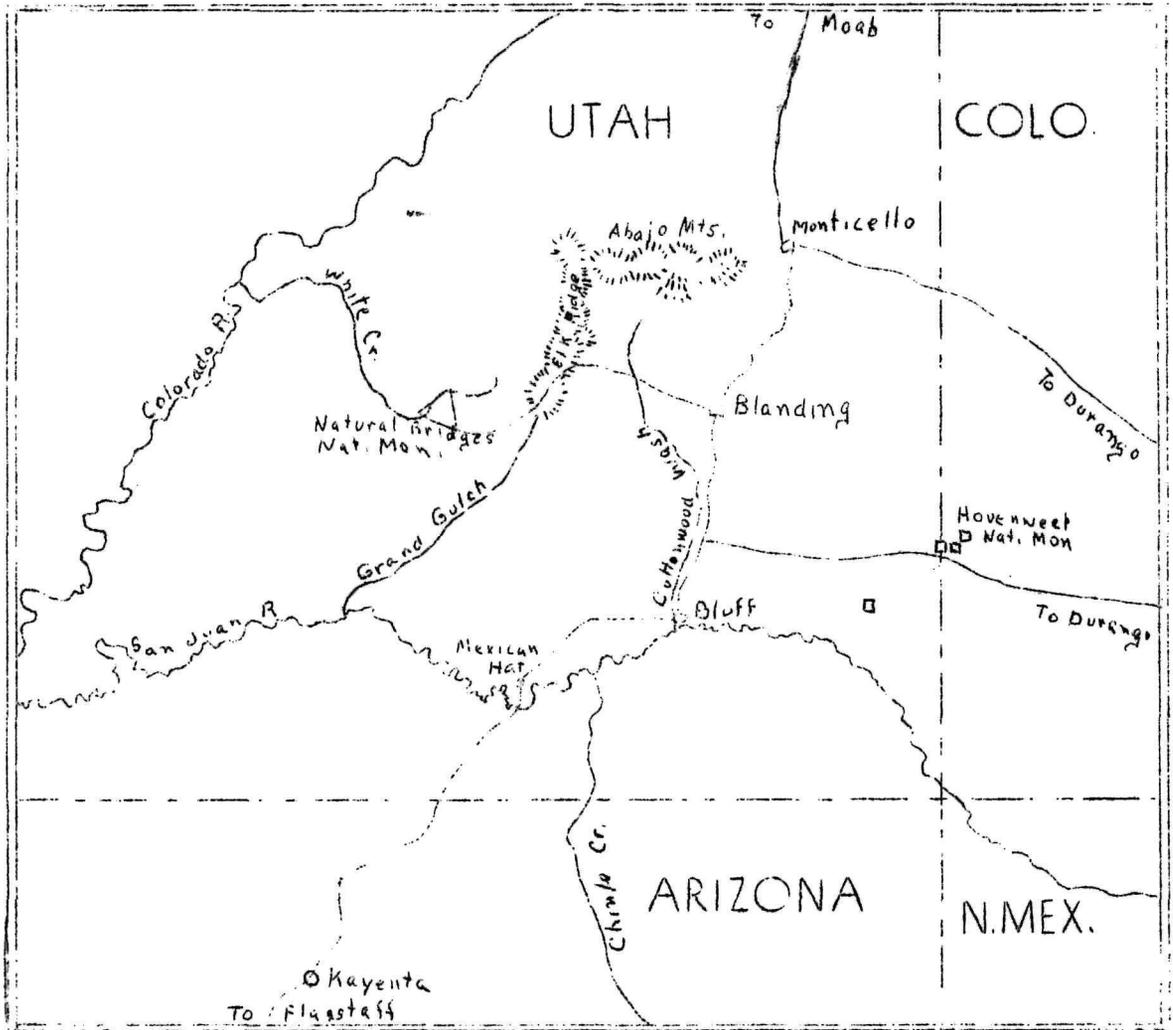
NATURAL BRIDGES

BY

CHARLIE R STEEN



·DEPARTMENT·OF·THE·INTERIOR·  
·NATIONAL·PARK·  
·SERVICE·



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# ARCHEOLOGICAL INVESTIGATIONS AT NATURAL BRIDGES NATIONAL MONUMENT

By Charlie R. Steen, Jr. Park Archeologist

## Introduction

During October, 1936, Mr. Zeke Johnson, Custodian of Natural Bridges National Monument in San Juan County, Utah, was repairing the trail in White Canyon between the Caroline and Augusta Bridges. One cool afternoon he looked about for a warm spot where he might eat his lunch in comfort and noticed that the sun was shining on a ledge about thirty feet above the floor of the canyon. After a little climb he gained the ledge, which was much larger than it appeared from below, and was quite surprised to find himself standing before a small but well preserved cliff dwelling. The feature of the dwelling which particularly caught Mr. Johnson's eye was a roofed kiva, through the roof of which passed the poles of an old ladder.

There are several small ruins on the Monument but until this site was found there were none which could be reached without a strenuous or even a dangerous climb. The one humorous exception to the foregoing statement is that on the same ledge and about one hundred yards north of the site in question is a group of about 12 rooms in a poor state of preservation which is visited by scores of people every year. Due to a constriction in the width of the ledge and the presence at that narrow place of a small group of junipers it seems that no one during the past 25 years had felt it necessary to explore the entire length of the shelf.

Since most visitors to the Monument express a desire to see ruins it was decided that I should accompany Mr. Johnson to the Bridges before the beginning of the 1937 travel season and do any needed work so that hikers to the Bridges might inspect the dwelling. I left Headquarters, Southwestern Monuments, at Coolidge, Arizona, on the morning of April 13 and arrived in Blanding, Utah, the following evening. The road over Elk Ridge was blocked by snow at that time so it was necessary to pack out to the Monument. One day was spent in Blanding getting our equipment together and in visiting a few ruins in the vicinity, and on the morning of the 16th we left for the Monument. Two days were spent in traveling each way and four days at the Bridges, which put us back in Blanding on the 23rd of the month; two days later I was back at Headquarters.

During the trip I visited and took notes of nine sites and cleaned two kivas and a small circular room in the dwelling at the Monument, which is designated as site 8 in this paper. Sherds were collected at six sites - these were left at the Museum of Northern Arizona for identification.

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ARCHEOLOGICAL OBSERVATION AT NATURAL BRIDGES (CONT.)

A Short Description of Sites Visited - Other than Site 8

- (1) A series of small cliff dwellings four miles southeast of Blanding and located on the east side of Brown's Draw. A small two-story house and about a dozen single rooms are all in a poor state of preservation. The houses and storage rooms are built under a long ledge and have much the same appearance as the ruins at Walnut Canyon National Monument.
- (2) - A cliff dwelling, originally of about twenty rooms on the west side of West Water Canyon. The dwelling has been pretty well wrecked by vandals but is still a fine appearing ruin. Deric Nusbaum named this five kiva house because of the five kivas in connection; he also collected some beam specimens from the site which were dated 1234-35 by Stallings of the Laboratory of Anthropology. One kiva is still in a fairly good state of preservation nearly to viga height. It has red plastered walls with broad white decorative lines between its five pilasters. Just across the canyon is another and smaller dwelling.
- (3) - A sherd area on a ridge one mile north of Blanding. A few scattered rocks might indicate a house but there is nothing definite.
- (4) - A badly weathered stone house of about ten rooms on a low ridge on the west side of Comb Wash just below the mouth of Arch Canyon.
- (5) - A large cliff dwelling about a quarter mile up Arch Canyon from its mouth. The site is located under a high shallow overhang on the north side of the canyon. The ruin covers an area of about two acres and must have been a large village but at present, except for a few walls which stand two stories high, there is nothing but a huge mound, some sherds and viga holes in the cliff to mark the building. Judging by the height of the viga holes, petroglyphs and sharpening grooves on the rock the structure must have stood four or five stores high while it was being occupied. Hundreds of pecked and painted pictographs have been placed on the cliff; these include one long panel (20' x 3') of white paint on which many zoomorphic figures had been painted in red. Six kivas are in evidence with possibility of more being under the fill in the large plaza. Because of the difficulty of access to this site the only evidences of vandalism are a few very small holes.
- (6) - A two-story cliff dwelling of ten rooms located on the west side of Fish Canyon and about one mile south of the trail from Comb Wash to Natural Bridges. The structure is in almost perfect condition with most of the rooms filled with pack rat debris. No sherds were collected at this site although a few were in evidence.
- (7) - A group of five circular structures whose walls stand from one to five feet high located in a large rock shelter in a short spur of Fish Canyon around which the trail from Comb Wash to Natural Bridges passes. These houses are of the same general type as rooms 1 and 2 in site 8

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ARCHEOLOGICAL OBSERVATIONS AT NATURAL BRIDGES (CONT.)

which will be discussed further on in this paper but there were some differences which should be noted here. All five rooms are partially destroyed but the walls of two stand five feet high in part, which seems to have been the original height. The bases of the walls were formed by a double row of sandstone slabs, set on edge and plastered with adobe. On the slabs several juniper poles were laid end to end then plastered over with mud. Additional courses of poles and mud were applied until the desired height was reached. I found no pottery at this site nor has Leke Johnson, who has visited this group on a number of occasions, ever noticed any sherds in the shelter.

(9) - A cliff dwelling 1.5 miles up White Canyon from Augusta Bridge. There are two groups of houses at this site, one on the talus slope at the foot of the cliff, the other on a ledge sixty feet above the floor of the canyon. To reach the ledge one must climb a forty-foot ladder the uprights of which are of Douglas Fir poles apparently cut by the builders of the houses. Rungs have been nailed to these poles during recent years. On the ledge are several dwellings, some storage rooms and a large kiva; all the walls are in a poor state of preservation. At the foot of the cliff the houses are more numerous and in better condition. Two wattle and daub lean-tos and a couple of rectangular storage rooms cut into the hard clay at the foot of the cliff show very little evidence of the passage of the years since they were used. There are two kivas at the lower site, both with complete roofs. One of the kivas was cleaned out years ago (the site is more than a mile above the Monument boundary) and shows no particularly important feature aside from a very large niche in the wall behind the ladder and above the ventilator and a large number of pictographs scratched into the wall plaster. The pictographs are in the form of rectangles averaging two by eight inches with pottery designs scratched within the limiting lines of the figures. The second kiva is still about half full of packrat trash. Above the trash line are three niches set rather closely together. The center niche is much larger than the other two. An interesting feature of this structure is the construction of the pilasters or columns between the niches. Both are masonry columns ten inches wide, 18 inches deep and two feet high. A short juniper log, eight inches in diameter, was set upright at the front of each column and runs for its entire height. The arrangement is reminiscent of the short timbers which were placed at the bases of pilasters in the Chaco Canyon area.

Site 8

This small cliff dwelling, situated in White Canyon and approximately half way between the Caroline and Augusta Bridges, consists of two groups of houses on the same ledge and about three hundred feet apart. The first or northernmost group will not be considered in this paper as no work was performed in the ten or twelve badly demolished rooms which comprise it. As I mentioned in the introduction just south of these dwellings the ledge is constricted in width and half a dozen good sized junipers occupy this

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ARCHEOLOGICAL OBSERVATIONS AT NATURAL BRIDGES (CONT.)

small area, effectively blocking any view from one end of the ledge to the other. South of the trees is the second group of buildings, five houses, two storage rooms and two kivas.

Although my principal purpose in visiting the site was to clean out the roofed kiva and to arrange for its protection, the presence of two round structures similar to those in Fish Canyon (site #7) so excited my curiosity that I decided to clean one of those as well. It was later decided to clean the debris from Kiva #2 since there seemed to be very little fill in it as proved to be the case. The three rooms in which we worked are described herewith.

Room #2

Room #2 is a small circular room abutted against Room #1 which is of the same type. The outstanding features of these rooms are the type of wall construction and the shape of the doors.

Mention has already been made of the walls at Site 7. The walls of Rooms 1 and 2 are similar except that instead of juniper poles, river boulders were used as a basic material. Here too, a double row of upright sandstone slabs were laid in a circle with a nine foot diameter as a foundation. The slabs were well cemented with adobe and a single row of small river boulders laid on the slabs; adobe was then patted around and over the boulder to form a single course. When the adobe was dry another course was added and the process repeated until the walls had reached a height of approximately five feet.

The door of room 2 (and of all similar rooms that I saw) is heart shaped, and had a pronounced moulding of mud around the door on the outer wall. This room had the smallest doorway of any of the round rooms seen. The door was only 1.4' high with a maximum width near the top of 1.4' and a minimum width at the base of 0.75'. While it is possible to enter the room it takes a little effort. Two other complete doors of the same nature were noted, each of them was approximately three feet high.

A ventilator, or a similar rectangular opening, had originally been constructed through the wall below the door but it had subsequently been chinked with small spalls of sandstone. Apparently at the same time the opening was filled the small granary which I have designated as Room 3 was added to the existing round houses and a buttress placed against the wall of room 1. This buttress came up to and squared off at the base of the door.

Inside the room the walls show only one feature worthy of mention, four plugs of wood which are imbedded in the walls 3.3' above the floor and which are spaced so that they quarter the circumference of the room. These plugs are securely cemented in the wall and are stuck in at an

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ARCHEOLOGICAL OBSERVATIONS AT NATURAL BRIDGES (CONCT.)

angle of about 45 degrees from the perpendicular. All the plugs point toward the center of the room and although they have been broken off almost flush with the wall it is possible that at one time they helped to support the roof although there is no evidence on which to base such an assumption. A close examination of the walls of Room 1 failed to disclose similar sticks.

The debris on the floor was from three to six inches in depth and was composed only of roofing material and of a few artifacts. I am not able to reconstruct a plan of the roof from the evidence disclosed by the floor fill. Apparently the main support of the roof was a series of short sticks .75" in diameter and from 1.5' to 2.0' in length. Over these sticks, which were far from being long enough to reach across the room, was laid a thin layer of willow wands then a layer of adobe which was patted down by the bare feet of children as a large number of foot impressions show. The entire roof was no more than three inches thick; the roof had been destroyed by fire.

The floor of the room was slightly concave and plastered. There are no features on the floor except for five rough boulders which were found lying in a semi-circle facing the doorway. These stones served no apparent function. While cleaning the floor a pair of yucca fibre sandals, some small fragments of turkey feather cloth, a few pieces of yucca cord, some pointed sticks and a few sherds of two corrugated pots were found. No wall material was found on the floor nor did any charcoal or evidence of fire other than the charred roofing material turn up.

Kiva #1

This was the structure that caused the trip. A fine looking, rectangular roofed kiva with original ladder poles protruding through the hatch is not found every day. Unfortunately, when we had cleaned out the debris only one of the rungs of the ladder was found to be in place. The other three rungs, however, were lying on the floor at the foot of the ladder.

The fill in the room was approximately four feet deep around the ladder but shoaled off to not more than eight inches at the back of the kiva. The kiva was built against the rear of the rock shelter and a large block of sandstone weighing several tons is incorporated in the structure by forming the southeast corner. It may be well to call attention that a seeming difference in plan as shown in Plates I and III is due to this large rock. The measurements in Plate I were taken on the roof of the kiva whereas Plate III is a plan of the floor and shows the irregularity of the room itself as caused by the rock.

A very interesting feature of the exterior is what is left of an adobe ramp which led from the floor of the rock shelter to the hatch of

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ARCHEOLOGICAL OBSERVATION AT NATURAL BRIDGES (CONT.)

the kiva. Originally this ramp was approximately fifteen feet in length but only three feet of the center portion remain in good condition. The ramp was of solid mud, two feet wide with a plaster finish.

The roof of the kiva is of large cottonwood vigas, juniper poles, juniper shakes and mud. Large cottonwood poles were laid along and on top of the walls with the vigas resting on them. The smaller poles and shakes were laid above the vigas in alternating directions in the usual southwestern fashion.

The walls of the kiva are thick, from one to two feet, and are of double faced masonry set up in adobe with the center of the wall filled with spalls.

Two short wooden pegs and a few pictographs are the only features of the smoke stained walls of the kiva. The pegs protrude 0.3' from the south wall at a height of 3.5' above the floor. One is 2.2' the other 3.75' from the southwest corner of the room. The pictographs consist of a spiral, some triangles and a figure of a man painted in black on the west wall, near the southwest corner.

Along the west wall are two small, narrow shelves which run along the wall from the southwest and northwest corners, respectively, of the room. The first shelf extends 4.4' from the south wall is 0.4' broad and 0.45' above the floor. This shelf is pecked out of the rock of the cliff. The second shelf, or small bench, is built of adobe. It extends 3.7' from the north wall, is 0.3' deep and 1.0' high. At right angles to the second shelf are two upright stone slabs 0.6' high, 1.1' apart and extending 0.95' into the room.

The only other features of the floor are the firepit, a roof support, the deflector, the ladder and the ventilator. These, with the exception of the pole which supported one of the vigas, are in line. The firepit is large, 2.2' in diameter and has a rim raised 0.2' above the floor. The deflector consists of three stone slabs set on edge and leaning against the ladder poles. Raised 0.4' above the floor, the ventilator passes directly through the wall into the open; the ventilator is square in cross section and measures 1.6' for each of its sides.

Kiva #2

As was the case with Room 2 this kiva had very little fill on its floor so I decided to clean it as a supplemental exhibit. Digging the twelve to fourteen inches of soft sand which covered the floor disclosed the fact that this structure was probably abandoned and partially destroyed while the cliff dwelling was occupied. No roofing material of any sort was found nor were the few blocks of sandstone lying within and around the kiva sufficient carry the walls to a suitable height for a roof. Two other factors which point to the same conclusion are that

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## ARCHEOLOGICAL OBSERVATIONS AT NATURAL BRIDGES (CONT.)

only a very few pot-sherds were found in the fill (none on the floor) and while we noted no signs of activity by rodents the floor plaster was in a very bad condition with large portions of plaster entirely missing.

The walls of Kiva 2 are very thick, from two to three feet. Both sides of the wall are of faced sandstone masonry and the middle of the wall is a rough mixture of large sandstone blocks, spalls and adobe.

Around the wall of the kiva are three niches, one quite small and two large ones. The small niche is located in the north wall of the room at a height of 0.6' above the floor. Although the wall has been destroyed down to the recess enough was left to indicate that the face was probably one foot square and that the niche extended 0.85' into the wall.

The other two niches in this kiva are of the same size and height from the floor. Both are 3.5' wide, 1.8' high and 1.8' deep. The backs of both are of faced slabs of sandstone set upright and each has a half dozen juniper headers to support the wall above and serve as a ceiling. Nothing was found in either of these recesses.

A square opening measuring 1.5' on each side and passing through the wall served as ventilator. The ventilator, as was the case in Kiva 1, is raised 0.4' above the floor. A stone and adobe deflector two feet from the ventilator protected the firepit which is so badly torn up that measurements were impossible. The wall deflector is 2.1' long, 0.8' wide and 1.1' high.

The only other feature of the floor is a small hole, 0.4' in diameter which might have been a sipapu.

### Recommendations

(1) That a light ladder be made so that the cliff dwelling might be visited without a long and somewhat arduous climb by way of the north group of ruins. Such a ladder can be taken down and laid at the base of the cliff where it will be completely hidden so that parties who walk along the trail unaccompanied by a ranger will be unaware of the presence of the dwelling and, consequently, the ruin will be saved from vandals. Custodian Johnson was to make this ladder at the beginning of the 1937 travel season.

(2) That another archeologist investigate the occurrence and construction of the round houses which seem to be peculiar to this district. So far as I have been able to determine this type structure has not been reported up to the present.

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ARCHEOLOGICAL OBSERVATIONS AT NATURAL BRIDGES (CONT.)

Summary

The most important result of the trip was the establishment of certain definite and peculiar methods of construction for small round houses whose function is unknown. These methods are:

- 1 - Wall footings of parallel rows of upright stone slabs (this method of wall construction is not common in the San Juan region)
- 2 - Walls of river boulders, or poles laid horizontally, carried up in courses.
- 3 - Heart shaped doors surrounded by a heavy moulding.
- 4 - Possible additions to the three features listed above are: concave floors and a lack of pottery.

A possible explanation for these houses, since usually no smoke stain is found on the walls, is that they were storage rooms, but at site 8 there were storage rooms adjoining the two round structures and all other rooms of the site were built of horizontally coursed masonry of sandstone blocks. Aside from the two doors in the round houses, all doors at the site were plain and rectangular. It does not seem probable that a specialized type of construction should be developed for granaries - besides, Room 2 at one time had a ventilator - but no firepit. Further excavation of this type house is suggested. According to Zeke Johnson there are a number of round houses scattered through the region.

The well known fact that the kivas of southeastern Utah are far from being of standardized shape or construction was further borne out by the excavation of the two kivas at site 8 and observations of kivas at other sites.

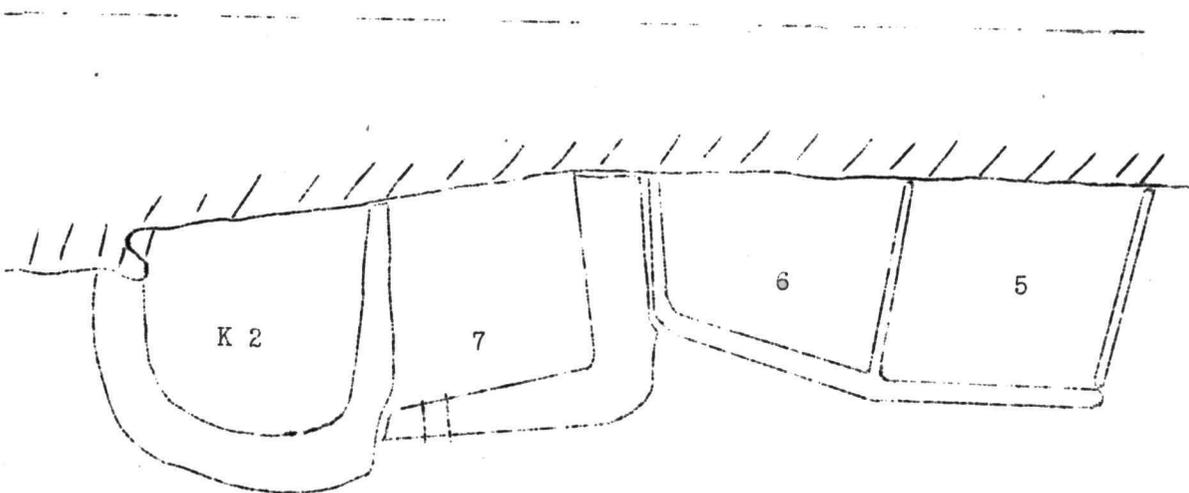
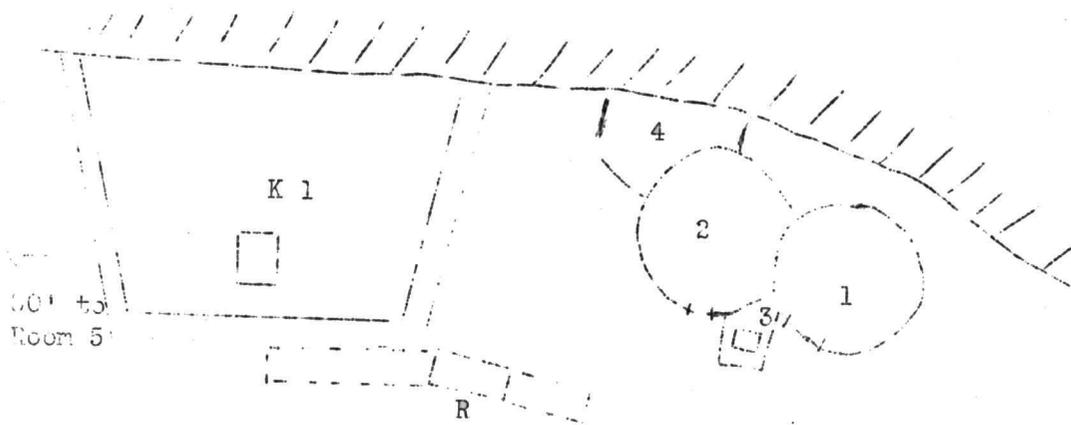
Unfortunately lack of time prevented us from cleaning the floor of one of the living rooms.

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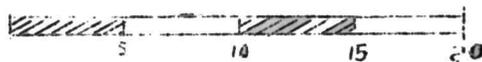
ARCHEOLOGICAL OBSERVATIONS AT NATURAL BRIDGES (CONT.)

Catalogue

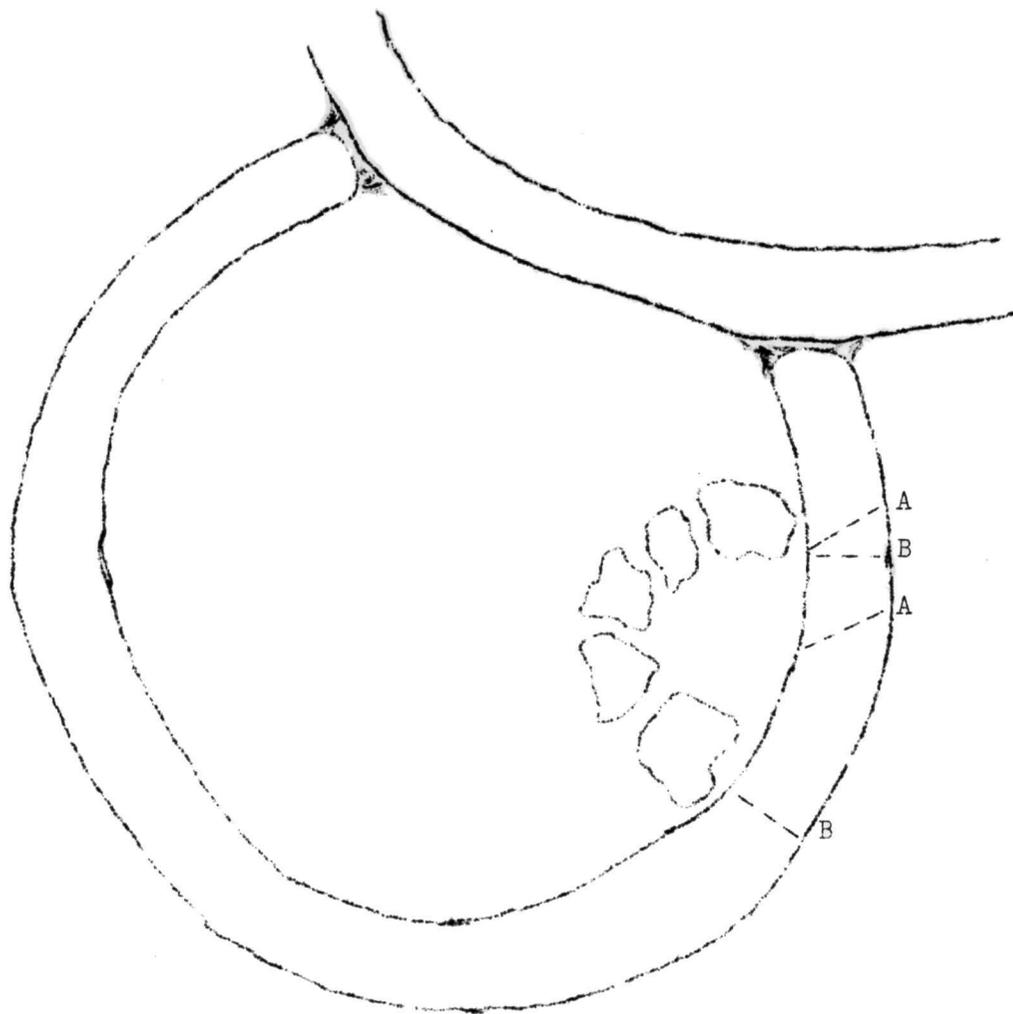
<u>Catalogue</u> <u>Number</u>	<u>Description</u>	<u>Provenience</u>
K1-1	Portion of reed screen	From fill of Kiva 1
K1-2	Oval ring of willow, lashed with yucca fibre-possibly rim of basket	"
K1-3	Fragment of fibre sandal	"
K1-4	Fragments of turkey feather cloth	"
K1-5	Bone awl	"
K1-6	Bone awl	"
K1-7	Bone awl	"
K1-8	Bone awl	"
K1-9	Corn cob with twig inserted in stem end	"
K1-10	Yucca fibre sandal-heel worn through	From floor of Kiva
K1-11	Bundle of grass, similar to Navajo comb	"
K1-12	Stone ax	"
K1-13	Billet of wood	"
K1-14	Trough shaped billet of wood	"
K1-15	Willow pot ring	"
K1-16	Short stick with grass brush tied to it	"
2-17	Bundle of yucca leaves	Floor of Room #2
2-18	Bundle of yucca leaves	"
2-19	Yucca sandal	"
2-20	Yucca sandal	"
2-21	Short length of turkey feather cord	"
2-22	Sharpened willow wand	"
2-23	Corn stalk (short length, smoothed at each end)"	"
2-24	Three pieces yucca fibre cord	"
2-25	Several pieces of knotted grasses and canes	"



Scale = 20'

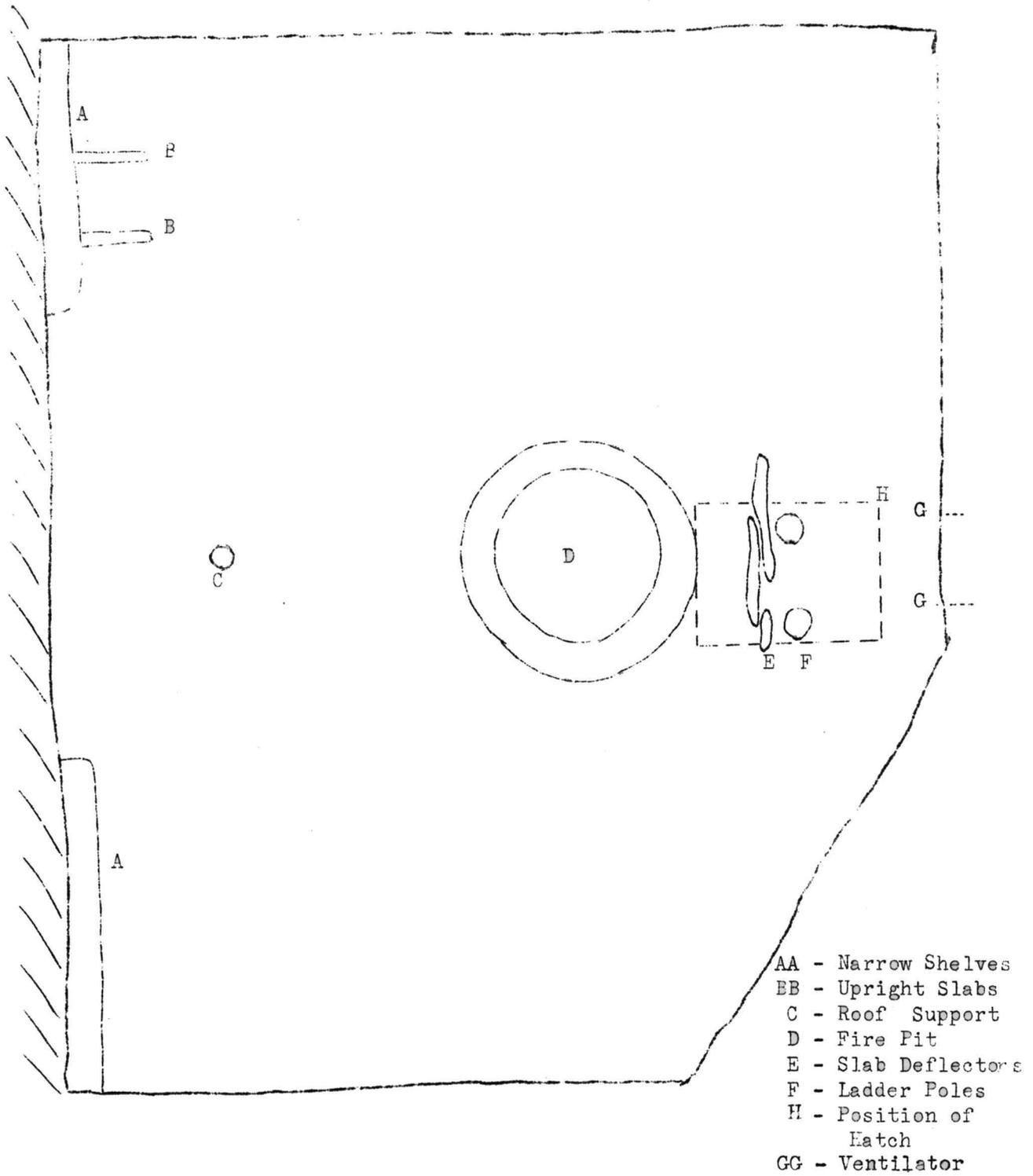


I - PLAN OF SITE



AA - Ventilator  
 BB - Door

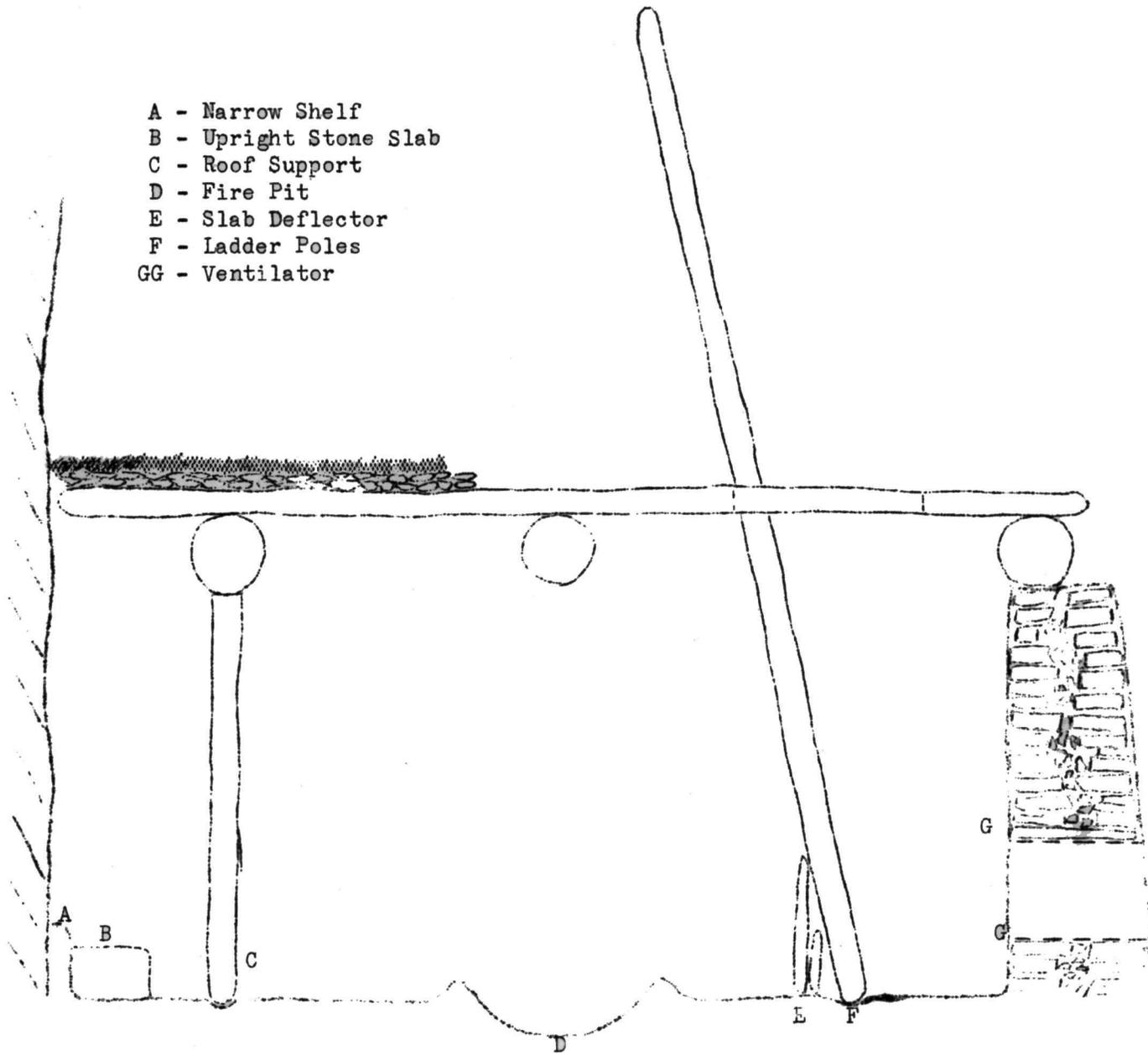
II - PLAN AND PROFILE - ROOM 2



Scale  $\frac{1}{2}'' = 1'$

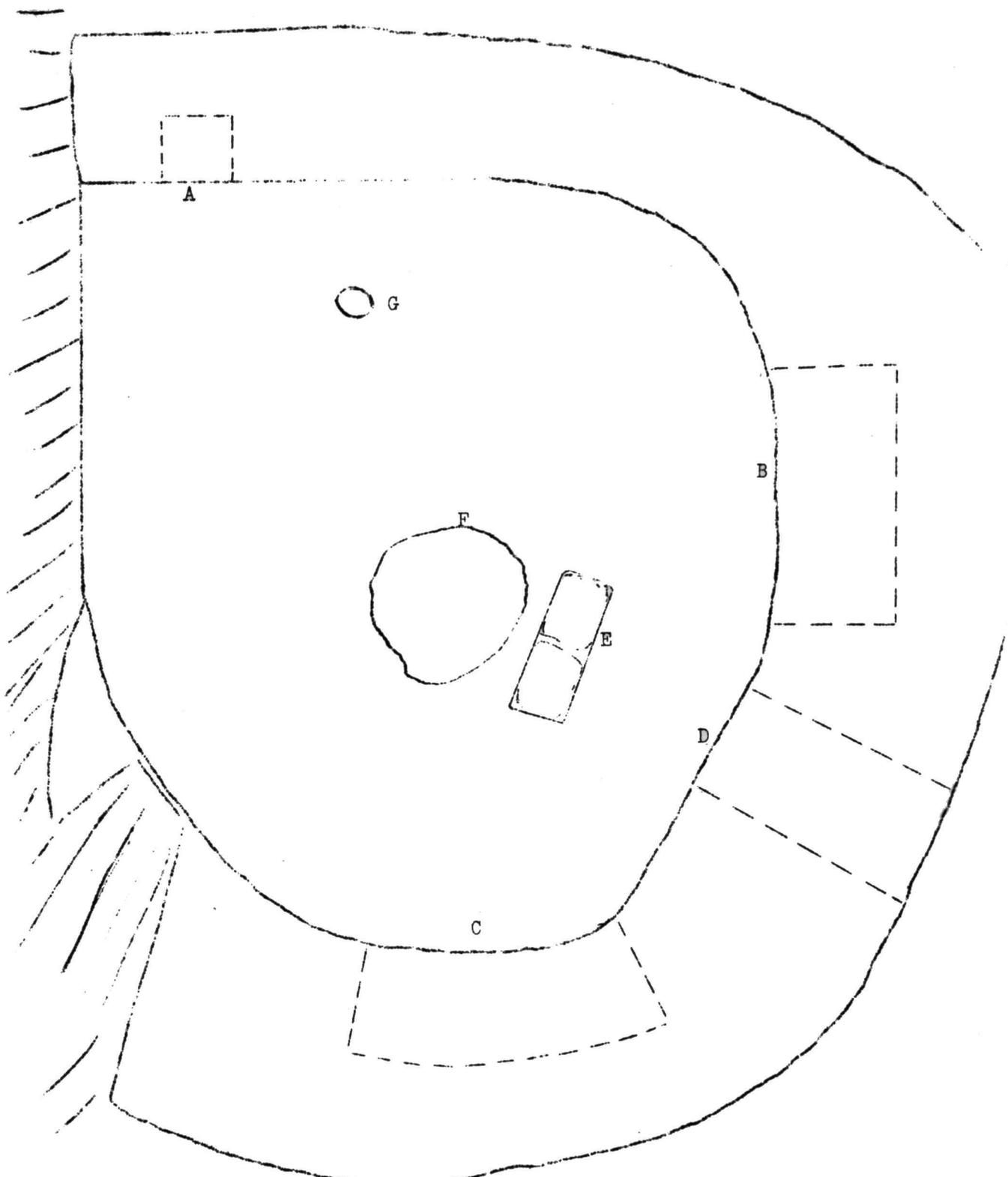
III - PLAN - KIVA 1

- A - Narrow Shelf
- B - Upright Stone Slab
- C - Roof Support
- D - Fire Pit
- E - Slab Deflector
- F - Ladder Poles
- GG - Ventilator



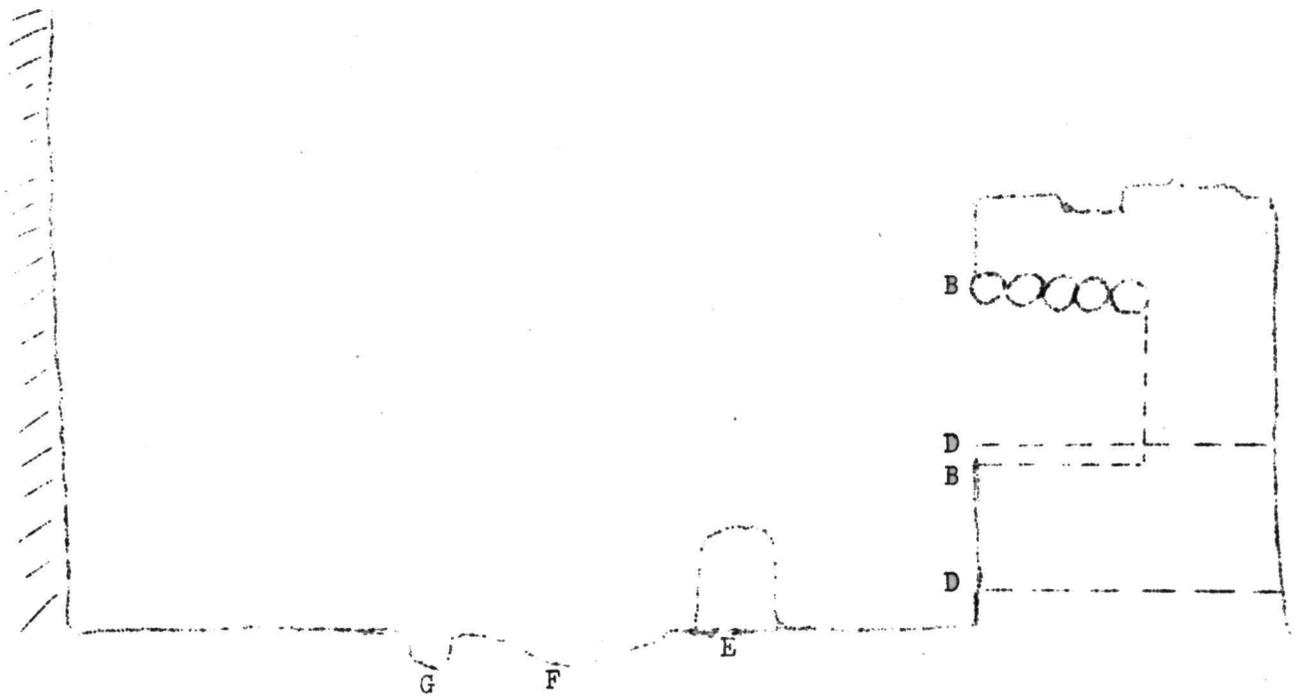
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IV - PROFILE - KIVA 1



- A - Niche #1
  - B - Niche #2
  - C - Niche #3
  - D - Ventilator
  - E - Masonry Deflector
  - F - Firepit
  - G - Sipapu
- Scale  $\frac{1}{2}'' = 1'$

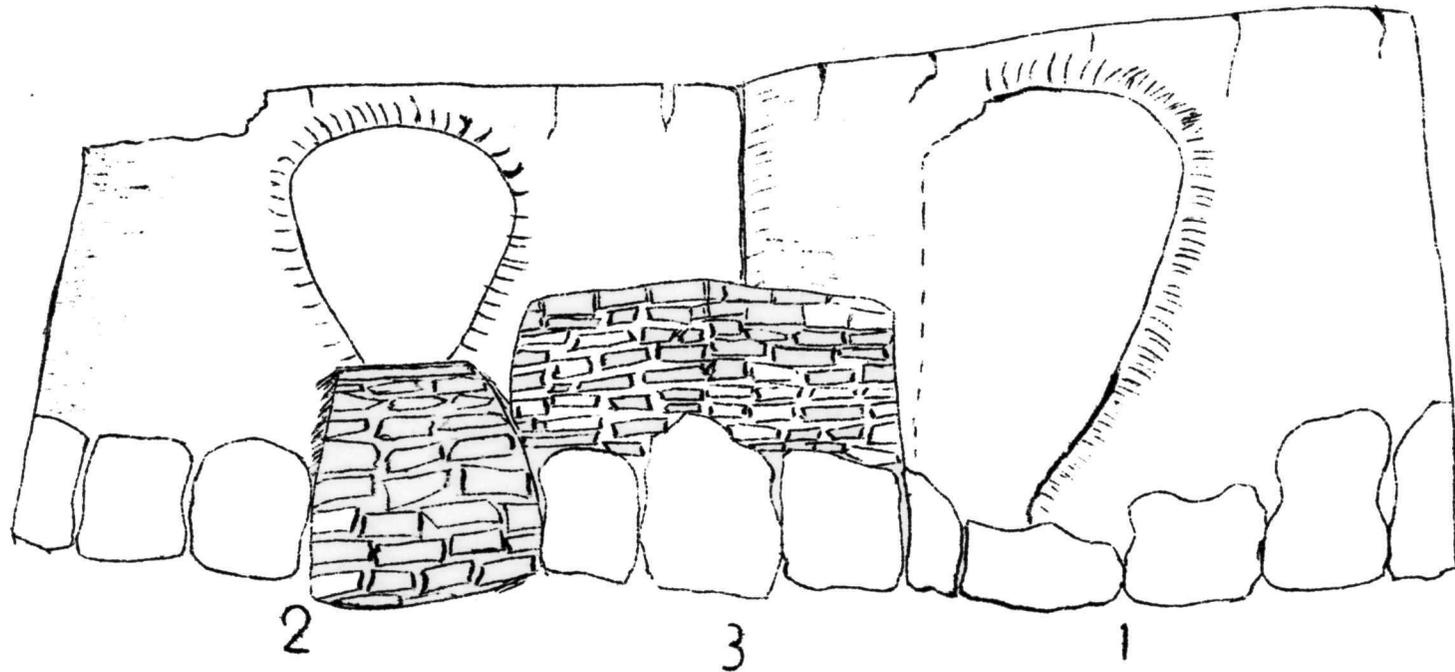
V - PLAN - KIVA 2



- B-B - Niche #2
- D-D - Ventilator
- E - Masonry Ventilator
- F - Fire Pit
- G - Sipapu

Scale  $\frac{1}{8}'' = 1'$

## VI -- PROFILE - KIVA 2



VII-ROOMS 1,2 & 3

