

SOUTHWESTERN MONUMENTS MONTHLY REPORT

JANUARY
1937



DEPARTMENT OF THE INTERIOR
NATIONAL PARK
SERVICE

SOUTHWESTERN MONUMENTS

JANUARY 1937, REPORT

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SOUTHWESTERN MONUMENTS

PERSONNEL

HEADQUARTERS, Southwestern Monuments, Coolidge, Arizona: Frank Finkley, Superintendent; Hugh M. Miller, Assistant Superintendent; James Luther, Chief Clerk; J. H. Tovrea, Assistant Engineer; Dale S. King and Charlie R. Steen, Junior Park Naturalists; Millard Singerman, Clerk-Stenographer; Luis Castellum and W. H. Sharpe, ECW clerks.

FIELD STATIONS:

1. Arches - Moab, Utah. J. M. Turnbow, Custodian.
 2. Aztec Ruins - Aztec, New Mexico. Thomas C. Miller, Custodian.
 3. Bandelier - Santa Fe, New Mexico. Jerome Hendron, Acting Custodian.
 4. Canyon de Chelly - Chin Lee, Arizona. Johnwill Faris, Custodian.
 5. Capulin Mountain - Capulin, New Mexico. Homer J. Farr, Custodian.
 6. Casa Grande - Coolidge, Arizona. A. T. Bicknell, Custodian;
J. Donald Erskine, Ranger;
J. W. Brewer, Jr., Temporary Guide.
 7. Chaco Canyon - Crownpoint, New Mexico. Lewis T. McKinney, Custodian.
 8. Chiricahua - Willcox, Arizona. Frank L. Fish, Custodian;
Tomer Bennett and Bronson Harris, CCC guides.
 9. El Morro - Ramah, New Mexico. Robert R. Budlong, Custodian.
 10. Gila Cliff Dwellings - Cliff, New Mexico. No Custodian.
 11. Gran Quivira - Gran Quivira, New Mexico. Geo. L. Boundey, Custodian.
 12. Hovenweep - Cortez, Colorado. No Custodian.
 13. Montezuma Castle - Camp Verde, Arizona. Earl Jackson, Acting Custodian;
Russell Farmer, Ranger.
 14. Natural Bridges - Blanding, Utah. Zeke Johnson, Custodian.
 15. Navajo - Kayenta, Arizona. John Wetherill, Custodian.
 16. Pipe Spring - Moccasin, Arizona. Leonard Heaton, Acting Custodian.
 17. Rainbow Bridge - Rainbow Lodge, Arizona. No Custodian.
 18. Saguaro - Tucson, Arizona. Paul Beaubien, Park Ranger.
 19. Sunset Crater - Flagstaff, Arizona. No Custodian.
 20. Tonto - Roosevelt, Arizona. Thomas Onstott, Park Ranger.
 21. Tumacacori - Box 2225, Tucson, Arizona. Louis R. Caywood.
James Felton, Park Ranger.
 22. Walnut Canyon - Flagstaff, Arizona. Winston Carrington, Ranger.
 23. White Sands - Alamogordo, New Mexico. Tom Charles, Custodian.
 24. Wupatki - Flagstaff, Arizona. Milton Wetherill, In Charge.
 25. Yucca House - Cortez, Colorado. No Custodian.
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CONDENSED REPORT

IN WHICH WE GIVE THE HIGHLIGHTS OF THE MONTH

Coolidge, Arizona
February 1, 1937

The Director,
National Park Service,
Washington, D. C.

Dear Mr. Director:

The Condensed Report on Southwestern Monuments activities for January:

TRAVEL

	<u>January, 1937</u>	<u>January, 1936</u>	<u>January, 1935</u>
Aztec Ruins	278	225	298
Bandelier	231	254	233
Capulin Mountain	600	350	300
Casa Grande	3,744	3,370	2,327
Chaco Canyon	89	260	361
Canyon de Chelly	3	10	9
Chiricahua	241	250	---
El Morro	7	4	---
Gran Quivira	174	287	---
Montezuma Castle	172	612	321
Pipe Spring	---	307	148
Saguaro	1,604	800	---
Sunset Crater	---	80	---
Tonto	438	751	425
Tumacacori	1,964	1,607	888
Walnut Canyon	25	285	---
White Sands	6,007	4,402	---
Wupatki	---	106	60
Actual Reported			
Registration	15,577	13,960	5,370

In spite of the most severe winter weather in years, travel to the Southwestern Monuments shows a gain of 1,617 for January, 1937, over the corresponding month of 1936. No reports were received from Wupatki and Sunset Crater as there is no custodian stationed at Wupatki at present. The southern monuments showed heavy gains which more than took up the decreases in registration at the northern stations.

CONDENSED REPORT (CONT.)

000 GENERAL

020 GENERAL WEATHER CONDITIONS

Tom Charles is the only custodian who has failed to report snow this month; perhaps the reason is that snow is almost as clean and pure as the Great White Sands and is difficult to distinguish. During the latter part of December and the first three weeks of January storms, accompanied by heavy snows and extreme cold, swept the Southwest. This series of storms has been conceded to be one of the most severe on record. Travel to several monuments was completely stopped. Snow fell at such unlikely places as Casa Grande, Saguaro and Tumacacori. At this writing, February 1, the skies have been clear for several days, at least in southern Arizona, and there is good reason to expect more moderate weather for a while.

123 INSPECTIONS BY PARK SERVICE OFFICERS

White Sands - Engineer Stewart, Yellowstone; C. J. Harkness; H. B. Chase; J. W. Hendron; Frank L. Fish; Dick Sutton and C. L. Skidmore.

Casa Grande - Jack Diehl; Jim Hamilton; Homer Farr; T. C. Miller.

Saguaro - J. W. Brewer; H. M. Miller; J. H. Tovrea; George Keller; Charlie Steen; A. E. Clark; Carl Schmidt.

Chiricahua - George Keller; George Collins; Richard Sias.

Bandelier - A. B. Russel.

Chaco Canyon - T. C. Miller.

Tumacacori - James Luther; Luis Gastellum; Mary Lesley; George Collins; Richard Sias; Schofield Delong.

170 - PLANS, MAPS, SURVEYS

Saguaro - Andy Clark's engineering crew is continuing the topographic survey of the monument.

200 MAINTENANCE, IMPROVEMENTS AND NEW CONSTRUCTION

230 NEW CONSTRUCTION

Casa Grande - The cement for the new sewage disposal plant is poured. The job will be completed as soon as the necessary materials arrive.

Chiricahua ECW -

Sloughing of the banks of the Bonita Park-Massai Point road due to snows necessitated a great deal of ditch and culvert clearing.

The road had to be graded and surfaced also.

1000 square yards of road were backslopped.

820 feet of trail constructed.

CONDENSED REPORT (CONT.)

230 NEW CONSTRUCTION

Chiricahua ECW (Cont.)

Maintenance of the Rhyolite Trail progressed 600 feet. Work on this project was halted on January 6 due to snow falls.

Headquarters Parking Area graded

Headquarters Ranger Station completed and occupied

Headquarters Equipment Shed complete except for floor.

Bandelier ECW -

Quarters No. 3 completed and occupied

Frozen ground has held up sub-grading of the entrance road

Landscape crew has completed planting in the residential area

Carpenter crew has spent month building museum cases

Excavation for the utility area for the Hotel development was completed

Rock quarry crew has quarried and shaped 100 loads of material

300 ACTIVITIES OF OTHER AGENCIES IN THE MONUMENTS

320 COOPERATING GOVERNMENT AGENCIES

Bandelier - A United States Geological Survey crew is making a 20-foot interval topographic map of the monument. Special care is being taken to locate all archeological sites accurately.

420 MUSEUM SERVICE

Bandelier - Exhibit preparation for the new museum unit is being continued - a head model of a Bandelier Indian has been completed as has a number of pastels of the Rio Grande pueblos.

400 FLORA, FAUNA, ETC.

460 BIRDS

White Sands - A large swan spent a few days on the pond in the game preserve. About 20 study skins of birds have been sent the monument by Wildlife Technician Adrey Borell.

600 PROTECTION

620 FIRE PROTECTION

Bandelier - Forestry Foreman and Acting Custodian have completed the fire atlas and plan for the year 1937.

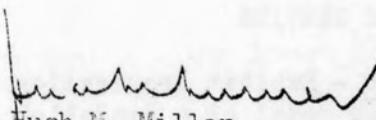
CONDENSED REPORT (CONT.)

700 MISCELLANEOUS

MAIL COUNT

Incoming:		
Personal	1,010	
Government	<u>1,506</u>	
Total incoming		2,516
Outgoing:		
Government only	1,649	1,649
Telegrams:		
Incoming	36	
Outgoing	<u>36</u>	
Total telegrams		<u>72</u>
Grand Total mail handled		4,237

Very truly yours,


Hugh M. Miller,
Acting Superintendent.

FIELD REPORTS

FROM THE MEN ON THE JOB

CASA GRANDE

By A. T. Bicknell, Custodian

The monthly report for the period December 25, 1936, to January 24, 1937, follows:

The past month has shown a heavy increase in travel to the Casa Grande National Monument. The total travel to the Monument was 3,744, but the number contacted was 3,729. That is an increase of 374 visitors over January of last year, and an increase of 692 over last month. While the total is not a record for Casa Grande it does indicate that there are many visitors in the Southwest this season. These visitors came from 44 states, Alaska, Hawaii, District of Columbia, and five foreign countries; namely, Germany, Scotland, Sweden, Canada, and Mexico.

National Park Service visitors were Jack Diehl, Regional Engineer from Oklahoma City, and Jim Hamilton, District Engineer. Mr. and Mrs. Homer Farr from Capulin Mountain National Monument were also Monument visitors. Other newsworthy visitors included: J. E. McDonough, from Hailingbury, Ontario, who went to within 10 degrees of the North Pole in 1912; Mrs. P. K. Wrigley and several of the younger generation who visited the Monument twice during the month; Mrs. James Couzens, wife of the former Senator James Couzens from Michigan, and her family; a party of 32 Apache children from the San Carlos Reservation; Mr. and Mrs. Frederick Z. Marx and Mr. and Mrs. R. F. Potter; Mr. Marx is Secretary Ickes' personal attorney, and Mr. Marx's son is Mr. Ickes' secretary; Bruce Barton, the writer, and his family; and a group of 17 girls from the Jokake School for Girls in Phoenix. Another Monument visitor who should have been mentioned among Park Service visitors was Carroll Miller from Aztec, Chaco and points north.

Weather during January almost made history, though when the reports are in for the northern monuments our weather by comparison will look rather mild. However, for us the weather has been rather severe. The report period started rather wet but with fairly high temperatures, but this past week has seen a decided different type of weather, what with an inch of snow and temperature so low as to freeze some of our best cacti and most of our water pipes. The maximum temperature for the month was 73 degrees on December 25, and the minimum for the month was 13 degrees on January 22 and 24. Precipitation for the period totalled 3.86 inches. Rain fell on December 25, 26, 27, and 29, January 1, 7, 8, 9, 13, 14, 17, and 19. On January 21 an inch of snow fell during the early morning hours, but was all melted by the next day except in very sheltered spots. There were 15 clear days, 8 partly cloudy days, and 8 cloudy days during the period.

CASA GRANDE (CONT.)

The Custodian has been busy thawing pipes and checking the inventory since his arrival. A start has also been made on cleaning up the Monument grounds with special emphasis being placed on the residence area and the old Pageant Grounds. "Teddy" Baehr, our faithful janitor, is on the sick list, and for several days makeshift methods were resorted to until a temporary man was found to work until Teddy can get back on his feet, which we all hope will be very soon.

Our new sewer system is only about 50% complete as bad weather and slow arrival of materials has slowed up the work. Practically all of the cement pouring is completed, however, and another month should see the completion of the job. In the meantime we are continuing the makeshift methods of sewage disposal which have been going on now for over a year.

On January 1 Jimmie Brewer, formerly of Wupatki National Monument, started work as per diem guide pending selection to fill the newly established park ranger position, which will be divided between Casa Grande and Wupatki. We are glad to have Jimmie with us, as his experience has made him valuable in many ways in addition to guiding. On January 19, W. H. Carrington started work at Casa Grande. Bill is to go to Walnut Canyon as soon as weather and snow conditions permit, and will eventually end up at Colorado National Monument. For the last six months he has been working in Yosemite National Park.

Very little has happened during the month in the Nature line unless the weather can be considered in that category. Quite a number of ground squirrels have been running around during the middle of the day. Apparently they are getting a bit hungry, as it doesn't seem likely that they would come out in this cold weather otherwise. The writer has noted a number of White-throated Swifts flying about over the Casa Grande during the month. Otherwise the animals and birds are about normal.

*****OO*****

WHITE SANDS

By Tom Charles, Custodian

About the most exciting thing that has happened at the White Sands this month was when a wild swan landed on the lake in the game preserve. I think Ben Daugherty made a special trip in to bring the news. The bird was evidently of the South American variety which has a black neck, and Ben thought it had black feathers in its tail. It was evidently full grown and a whale of a big bird. After an apparently pleasant sojourn of a few days it moved on to greener pastures. I wish that Adrey Borell had been here; he might have given the thing some sort of breakfast food or something to coax it back on its next trip through.

Last month's report was hardly out of the office until the Christmas visitors began to come in. Engineer Stewart and wife and daughter from

WHITE SANDS (CONT.)

Yellowstone, enroute to visit relatives in Deming, drove clear around this way to see the Sands again. Mr. Stewart was with the original party of engineers who made the first surveys for the Monument. Next came C. J. Harkins, one of the rangers from Petrified Forest and then Hub Chase and Ruby. Hub says he was "born" at White Sands but he wasn't -- that boy was a full fledged engineer when he went on here or he would not have built the wonderful road that he did. What he really was, was a sort of "nurse" for this swaddling baby. He got some of his schooling here too, and we still claim him; he is just getting his "Doctor's" at Bandelier.

Among the outstanding visitors we note the name of Max Boldt, a commercial artist from Chicago. For a number of years Mr. Boldt was in charge of the work at the Barnes-Crosby Company studio where they worked some 80 artists. He was delighted with the Sands.

Then came J. W. Hendron, Acting Custodian of Bandelier. We were sorry that his visit was so short; then came Frank L. Fish and wife and the little Fishes from Chiricahua. We have had no report from Mr. Fish as to whether he thought the Sands is better than Chiricahua or not. Possibly he was dumbfounded by its beauty, possibly disgusted. We are a little leary of his report for this all-important subject of the "best" is a matter of comparison and the visitors whom we have from Chiricahua are always loud in their praise of its wonders.

Then we had Paul L. Wilson, an engineer from Conchas Dam, a couple from Roumania; Martin Campbell, General Manager of the radio station WFAA of Dallas, and his wife. Mr. Campbell was loud in his praise of the system of Park Service playgrounds and assured us of his complete satisfaction with Carlsbad Caverns and the White Sands as national attractions.

Another of our worth while visitors was H. W. Stanley, President of the Broadway of America Association and Chairman of the Committee on Trade Extension of the Dallas Chamber of Commerce. Mr. Stanley wants pictures of the Great White Sands, and it is probably needless to say that we want him to have them. You may be interested to know that we have made arrangement for a few top-notch views for him.

Boss, that article of mine on Cabeza de Vaca teaches me that a fellow should stay pretty well on his own sand-pile. I never laid any claim of being a historian and when I got out of my own field I was in trouble. Joe Bursey, manager of the New Mexico Tourist Bureau, shot that thing so full of holes I hardly recognized it myself. But he admits that he believes de Vaca came this way. That is the important thing and Joe still likes the White Sands for he is throwing one fit after another about not getting enough White Sands pictures to supply the demand.

WHITE SANDS (CONT.)

Well, after I get this route of Cabeza de Vaca's properly and correctly located, just east of Carlsbad, just south of the White Sands, west of Gran Quivira, south of El Morro and over close to Casa Grande, I promise I'm out of that field for good. Just now I need a lift. If you have a historian in the Park Service who can dig out the facts, please send him this way.

On January 1, Dick Sutton and wife and Mr. Skidmore, architects from the Washington Office, visited the monument. They were not only delighted with the Sands themselves but were unstinted in their praise of our new buildings. On the same day Mr. C. J. Batsford, manager of the Nebraska State Planning Board of Lincoln, spent most of the day at the Sands. The eye-opener to Mr. Batsford was the fact that he saw so many Nebraska and North Central state cars coming this way.

Bertha Bell Entriken of Cameron, Missouri, writes that she is having a good sale of her new book, "Canyon's Grand and Desert Sand", in which she features the Great White Sands, not only in the body of the book but also with a picture of the Sands on the cover. The Alamogordo Chamber of Commerce reports that their December business includes 94 letters received and 37 of them were inquiries about the White Sands.

A few weeks ago a local rancher was cleaning a spring about a quarter of a mile south of the White Sands game refuge and down 10 feet in the hole he found an arrow point, which had the ear-marks of Folsom culture. In the same vicinity I had found a point with the "corner-tang" as described by Dr. Patterson of the Texas University and had another which was found near the Sands and proved to be a twin of the one which Dr. Edgar B. Howard catalogues as No. 3 on plate 37, Evidence-of-Early-Man. I bundled the three together and sent them to Dr. Howard for identification. He was interested in them and now sends an urgent invitation for us to have a representative at the 125th anniversary of the Academy of Natural Sciences of Philadelphia, in their "Symposium on Early Man", March, 1937. Also to have an exhibit of Folsom culture from the White Sands area at the meeting.

Dr. Howard is secretary of this organization. He has visited White Sands a number of times and found his first Folsom point as a result of a camping trip with the writer, down in the Crow Flats country. Really, I would like very much to go back and visit Dr. Howard, see those collections of things made by the ice age boys, and hear all the archeological authorities who are on that program. But that is something else again, Boss, and it is too close on the heels of my fling into the fields of history. So I think it best to send Dr. Howard my personal collection of arrow points without comment, don't you?

You should see the collection of birds that Adrey Borell returned to us this week, for the museum exhibit. There were about 20, ranging from the cowbird and the red-naped sapsucker to the eared grebe and the

WHITE SANDS (CONT.)

marble godwit.

Christmas business was good at our place. Registrations climbed from 541 last month to 841 this month. On the basis of 14% registration, we had 6,007 visitors for the month ending January 20. They came from 38 states and 8 foreign countries. Texas led with 36% of the total; New Mexico, 21%; Illinois, California and Kansas had 4% each; Missouri, Oklahoma, Colorado, Arizona, Minnesota, Ohio and Nebraska had about 2% each.

We got our spring housecleaning done. We raised the hills a little, widened the arches, and put a new coat of white on the whole thing. The ripples have a new "split-curl" effect and this baby of ours is as clean and pretty as you ever saw her. Old Ben is a real beautician, especially if he has a little wind to help him along. Anyway, we are ready for the expected visit of Frederick Simpich, Associate Editor of the National Geographic Magazine.

*****00*****

GRAN QUIVIRA

By George L. Boundey, Custodian

Visitors for December, 174.

The bulk of the tourist travel at this time of year passes farther to the south of us but we have had, in spite of the weather, more than a hundred tourists, this month.

The coldest windiest, snowiest day of the whole month, we had two parties of interested tourists. These ruins to the tourist on a cold stormy winter day seems to give them a greater interest in the people who once occupied them than in the pleasanter days of summer.

We have had several snows of a few inches during the month but at the present time only on the north slopes is it much in evidence. Most of the month has been cold with very high winds. Owing to dust, visibility is limited to about a quarter of a mile.

Due to high winds the Park Service signs with only one supporting post are not very satisfactory in this country. Have been looking over the approach roads and find that the difficulty some of the visitors have in locating this monument is because the winds have twisted the signs about. Work on a main highway between Carrizozo and Gran Quivira is to be started in February. This will enable people to travel between Santa Fe and El Paso cutting the present distance almost in half, and bringing them directly along the north line of our Monument.

Our bird baths are not so popular since snow is on the ground, only about fifty are still much in evidence.

GRAN QUIVIRA (CONT.)

A large Ferruginous Rough Leg Hawk allows us to approach within a dozen feet of him then flies. We haven't been able to figure out whether he is tame or has been injured in some way. He stays near a culvert across the road and as there is a rabbit runway thru the culvert, it may be it is just his hunting grounds.

*****oo*****

SAGUARO

By Paul Beaubien, Park Ranger

This month there were 417 educational contacts at the ranger station, while 1,604 visitors were checked through the Speedway entrance by the CCC boys. As these boys are absent from the gate so much of the time, I believe that about 25% of the visitors were missed. A five-inch snow, January 7, with the following cold weather and later snow flurries kept many visitors away.

Some 200 visitors heard lectures by Dr. Vorhies and Professor Thorner of the University of Arizona, January 17. These visitors were not counted in the 417 educational contacts mentioned above.

Park Service visitors included Jimmy Brewer, Hugh Miller, J. H. Tovrea, George Keller, Charlie Steen, Andrew Clark, and Carl Schmidt.

Among the distinguished visitors were Mr. and Mrs. Lincoln Ellsworth, and the wife and small daughter of "Pat" O'Brien, the Movie star. Mrs. O'Brien became entangled in the cat's claw while here. She had heard that an application of whiskey would stop infection. So, Boss, if you have a jug you're not needing, I might be able to use it here. Mr. Ellsworth walks through the monument several times each week. If taking 20 mile walks just for fun is a characteristic of a great explorer, I now know why there are so many places I haven't seen.

Have heard from a trustworthy source that the University plans to immediately move their observatory from the campus to a hill in the monument. A gambling "palace" south of town advertises its location with a revolving searchlight. Said searchlight prohibits all photography at the present location of the observatory.

*****oo*****

WALNUT CANYON

By Milton Wetherill, In Charge

This is the first and perhaps the last chance to get mail out this month. The Country catterpillar is coming out with brub today. Have been snowed in since December 27. We have had about six feet of snow so far. The last three snows there was very little precipitation. It has packed down to about 36 or 40 inches. Today is the coolest we have had so far, 18 below here, 28 below in Flagstaff.

WALNUT CANYON (CONT.)

I started a switchback between trail stations F and G, but owing to the weather I have not been able to do much with it. The ground is frozen to a depth of 24 inches and is harder to work than the rock. Have kept trail broken into the canyon in case the road is opened.

Birds observed during the month:

Western Horned Owl	Western Red Tail
Canyon Wren	Red-shafted Flicker
Pinyon Jay	Long-crested Jay
White-breasted Woodpecker	Rocky Mountain Evening Grosbeak
Shufeldt Junco	Townsend Solitaire
Clarks Nutcracker	Mountain Chickadee
Spurred Towhee	Chestnut-backed Bluebird
Rocky Mountain Nuthatch	Pygmy Nuthatch
Pygmy Nuthatch	Rocky Mountain Sapsucker
Western Robin	California Purple Finch ?

*****OO*****

TONTO

By Tom Onstott, Acting Ranger

This month the report will come closer to being a weather report than a report of visitors, as the visitor tally has fallen off appreciably due to prolonged bad weather.

Since my stay up here began, there have been five days during which it has rained, two of these days also bringing sleet. On the morning of the seventh it snowed about two inches, let up that afternoon, and then snowed three more inches that night and the next day. There was no more snow from then until the 21st when it snowed two more inches. The total precipitation for the month was two inches.

Now for the visitors: The following are the figures compiled minus the time average as I had no way of telling time for a while and cannot find the previous guide's time.

Total number of visitors	438
Total number of visitors to ruins	334
Total number of visitors to upper ruins	4
Visitors museum only	104
Visitors unattended in museum	29
Total number of parties to ruins	76
Average number in parties	4.4
Total number of parties to upper ruin	2

These figures show a decrease of 10.3 persons per day from January, 1936, and an increase of slightly less than .5 persons per day over January, 1935. Inclement weather can be held responsible, I am sure.

TONTO (CONT.)

Since the last snow, the waterlines throughout the neighboring country have been frozen. A short walk up the canyon revealed that the pipe line to the monument had not only frozen but also broken.

Most of my spare time has been taken up in keeping the trail clear of rocks since the snows.

*****oo*****

CHIRICAHUA

By Frank L. Fish, Custodian

Weather

The month of January was about all weather. Snow fell at intervals all during the month. December 25 started off with a drizzling rain followed on the 29th by a six-inch snow. Snow fell also on January 1, 7, 8, 16 and 21. The nights of the 22nd and 23rd have been the coldest this year. Drifts reached four feet on the Massai Point road, average accumulation amounted to 18 inches at higher elevations of the monument for the greatest depth. From 10 A.M. to 2 P.M. on the seventh six inches piled up. Ollie Nelson, ECW Foreman, remarked "If it had been rain, it would have been a cloudburst". This is the storm that blocked the pass between Bisbee and Tucson and resulted in smashed cars, others stuck in drifts and ditches, much cussing, and the famous University of Arizona riot where the students snowballed visitors, locals, and finally the police of the campus and nearby vicinity at Tucson. Bill Stevenson reports a San Diego citizen informed him that he had been in the Damn Blankety Blank storm all the way from there. It has to be considered one of those unusual things, but a member of the Douglas Chamber of Commerce wrote just before the skies opened up that violets were blooming profusely in the bright sunshine down his way. Since that time Mother Nature has punished her unruly offspring.

Roads

The large amount of moisture kept the roads in a bad condition for part of the month. The Willcox road seemed to be the worse, having the most travel, and not being in good condition many cars were stuck. One night it took three trucks to bring the mail in. State Highway 181 from U. S. 81 to the monument has been graded recently and at the present time is in good shape. Paving is continuing from the Bisbee Highway to Elfrida, about two miles is completed to date. Tourists without chains have been unable to get to Massai Point for the major part of the month. We advised them only to go as far as Bonita Park. There is a great need to get more money set up for backsloping the Massai Point road above Bonita Park. These cuts and sections with high rock slopes are in constant danger of sloughing due to the broken condition in the formation and with the added moisture and freezing prevailing it is possible a large slide may occur at any time. The sections backsloped already appear to

CHIRICAHUA (CONT.)

hold up, but due to the type of work necessary it is quite costly and the present funds Mr. Stevenson has to work with are insufficient.

Visitors

Although traveling conditions were not ideal we had 241 people coming in 54 cars as against 250 in 52 cars last year when ideal weather prevailed. Seven of this number took guided trips. A good many more were educated in snow maneuvers. In fact Sundays have been spent mainly in pushing cars back into the packed tracks.

Inspections of Monument

George N. Keller, George Collins and Richard Sias, all ECW officials, were in on the 18th and with the exception of Mr. Collins the 19th inspecting ECW progress.

General

January 7 I was invited to speak at the Rotary Club, Bisbee, Arizona. These gentlemen treated me very kindly and pledged cooperation with our Service, which many of them have been doing right along. John Ball, past president of the Kiwanis and an old friend of the monument, gave his support also. A resolution by Ed Souers, Superintendent of Schools, passed and the Rotary Club is to begin active work to set aside Fort Bowie with a section of the Butterfield Route and part of Old Tombstone as national monuments.

I accompanied George Collins, Richard Sias and Ed Riggs to Fort Bowie on the 18th and later with Ed found out the major part of the old fort is on leased land (probably government); the rest belongs to Mrs. Schaffer, nearby ranch owner. The Fort is an interesting place and I believe is probably the outstanding one left, considering the history, Butterfield Stage Station and road still plain and the fact it has not been changed by later people living amongst the ruins. Mr. Erickson made a map of the old fort naming all the buildings years ago and sent it to the Forest Service. While he believes he has a copy, is unable to find it at present.

We moved into our new residence the evening of the 31st of December and find it quite comfortable. Mr. Stevenson has kindly attached us to his camp light plant. One bedroom with a wife and three children is a bit crowded but we are making out and so far no one has stuck there feet in my face. However, I intend asking the Branch of Plans and Design to consider a glass in the screen porch in the back to save the government buying me some new teeth when the babies get bigger.

On the way back from New Mexico with Corabeth and the kids I had the pleasure of seeing Tom Charles and the Mrs. in Alamogordo, later

CHIRICAHUA (CONT.)

driving out to Tom's permanent snow field. Although we were loaded to the top with kids, toys and clothes, Corabeth expected me to carry home a few tons of sand to play with. I arose to the occasion and told her we would come back empty some day and take it all. Maybe she will forget it by that time.

*****OO*****

CHIRICAHUA ECW

By Wm. Stevenson, Project Sup't.

The maintenance of Bonita Highway has been the major project through the month of January. Successive snow falls, which caused the unstable cut banks to slough, have necessitated clearing ditches and culvert basins repeatedly. Some grading and surfacing has also been necessary.

A backsloping crew has been working a large part of the month 1000 square yards of bank were sloped.

The Massai Point--Balanced Rock trail advanced 300 feet making a total of 3,150 feet and the Sara Deming-Balanced Rock connection 520 feet during the month.

The maintenance of the Rhyolite trail progressed 600 feet, though work was discontinued on this project January 8, due to heavy snow.

Rough grading on the Headquarters Parking Area has been accomplished this month.

The Headquarters Ranger Station was 100% complete early this month.

The Headquarters Equipment Shed is all complete except floor.

*****OO*****

BANDELIER

By J. W. Hendron, Acting Custodian

Visitors

The total travel for this month numbered 231 people, four ahead of last month's total of 227, but falling short 23 of the total for January, 1936.

Visitors arrived in 70 cars from 16 states, District of Columbia, and Ontario. The six highest states by order of visitor count were: New Mexico, 91; Colorado, 15; California, 14; Missouri, 12; Arizona, 9; and New York, 8. Three people visited us this month from foreign countries including Canada and Czechoslovakia.

Return visitors numbered 29.

BANDELIER (CONT.)

Weather and Roads

Days partly cloudy	16
Days cloudy	6
Days clear	9
Maximum temperature	57 January 6
Minimum temperature	3 January 11
Mean maximum	38
Mean minimum	17
Range	21
Precipitation	.27 against .60 for January, 1937.
Rain and sleet	None
Dust storms	2 January 17 and 21.

We have experienced a few south winds and dust storms this month, but nothing disagreeable. The snows have been sporadic, melting almost as soon as it hits the ground, and unlike the detached section where the snow lays on the ground for some time. Snowfalls for this month were on December 26, 29, Jan. 1, 7, 8, 9, 13, 18, 19, 20, and 21, making a total of one inch for this month.

Roads have been fairly good with the exception of a few times when the packed snow made some of the hills almost impassable without chains. I have not actually experienced a winter here before, but some of the canyon folks tell me that this one is pretty bad. Perhaps the Navajos at de Chelly were right in their weather forecast.

Visitor trip chart

Thirty-six parties made guided trips through the ruins making a total of 141 people, with an average of 74 minutes per party. Two parties among these groups were given short talks at the office and at the Great Cave Kiva. Most of the people we have escorted around the ruins this month have been interested, and would have enjoyed them more if it had not been so cold. The fact that we had 29 returns this month shows that our local people are interested in the canyon. I expect a great many more this summer.

Special Visitors

Two special visitors is a pretty poor showing for Bandelier in comparison with those who have come before, but anyway, we boast three. January 12 - A. B. Russel, of the Museum Division in Washington was out for a short stay inspecting the museum building and cases. January 17 - Mrs. J. W. Brewer and her mother, Mrs. C. A. Pierce of Carlsbad spent several hours in the canyon. I'm sorry that Jimmy couldn't have been here too.

BANDELIER (CONT.)

General

A United States Geological Survey crew rolled into Bandelier about a month ago and are taking it by storm. At last we are going to have a map that we can tell something about, and that is something that we have never had before. I understand that it is going to be the last word in 20' contour topographical maps. This means that all of the ruins in the whole 26,000 acres of Bandelier will be incorporated to a fairly accurate degree, as well as all of the old trails or portions of trails that exist for a distance and then cut out completely, such as Harrington's old Navajo trail over on the south mesa. A special lookout is being made for all of these archeological features, and if the Park Service can just get together with these fellows and help work out all of the names of the ruins we will have something that will be most valuable, at the present time and in years to come.

Museum Notes

Our museum is coming along in good shape, the sculptor, Jack Terken, has just finished a head model in high relief of a Bandelier Indian. The measurements were taken from a skull here at the office, and I dug out the type of hair dress from the old Spanish reports, so I think we have something fairly accurate. Turk is now ready to start on another head. Our pastel artist, Helmut Naumer, has completed several very good pictures of some of the pueblos, and through the courtesy of Dr. Hewett, I have arranged for him to use photographs for the pueblos he is unable to enter. It appears as though we will probably have a collection of most of the Rio Grande villages in a short time.

*****oo*****

BANDELIER ECW

By H. B. Chase, Project Sup't.

Painting the interior and decorating has been completed in Quarters No. 3, the building now being occupied.

All sub-grade preparation on the entrance road from the beginning of the road to the parking area is not complete and ready for the contractor and his surfacing project. Frozen ground conditions have prohibited excavation within the parking area for the surfacing and it is contemplated finishing this work as soon as weather permits.

The landscape crew has completed tree and shrub planting in and around the residential area and is now planting in the area adjacent to the camp ball ground. It is contemplated finishing all planting for this season during the month of February.

The carpenter crew has been busy the entire month constructing museum cases and has completed two rooms in the museum to the point of plaster finish.

BANDELIER ECW (CONT.)

The excavation for the Utility Area of the Hotel Development was completed this month, approximately 2,300 yards of earth being moved. This material was used on the sub-grade of the entrance road project. Excavations for the footings of the retaining wall will be completed by February 1, at which time if weather permits, construction of the wall will be started. In conjunction with this the footings for Unit 1 will be started at that time.

The rock quarry crew, in progress all month, has quarried and shaped approximately 100 loads of building stone, for a start on the Hotel Area Development.

This report of a month ago was written in the office of Custodian Tom Charles, in Alamogordo. A very enjoyable visit was had with Tom, during Christmas time, together with a most pleasant afternoon spent with him at his Great White Sands, admiring its newly developed headquarters building and monument.

*****OO*****

BANDELIER FORESTRY

By James Fulton, Forestry Foreman

At the time of this writing Mr. Hendron and myself have completed the Fire Atlas and Plan for the year 1937.

During the rest of the month I have been painting the interior of Quarters No. 3.

*****OO*****

AZTEC RUIN

By Thomas C. Miller, Custodian

General

The approach roads remained in excellent condition from December 23 to the night of the 28th when four inches of snow fell. Since that time all approach roads to this Monument have been covered with ice and snow and in places were very slippery. Most of the passes have been open only part of the time as there has been a lot of snow in the mountains.

One official trip was made from this Monument to Headquarters at Coolidge, Arizona, to get supplies and to deliver Dodge, commercial body, 3/4-ton truck and bring back new Chevrolet pickup, No. 8122, for official use in this Monument. It was a very slow trip as the snow in some places on Highway 66 was ten feet in depth but in one way was a very enjoyable trip. I greatly enjoyed the visit with the Boss and all his staff. On my return trip made a short stop at Petrified Forest and had a nice visit with Superintendent and Mrs. White Mountain Smith.

AZTEC (CONT.)

On my return trip it was noted that several feet of snow was on the approach road to Walnut Canyon National Monument and if Custodian Wetherill was at home he will probably have to hibernate until the snow plow reaches him.

Due to weather and road conditions no attempt was made to inspect Yucca House and Hovenweep this month. I hope to be able to get up there soon though.

It was necessary to keep all the trails cleared of snow and we soon found this was just too big a job to be done by shoveling so we manufactured a "V" drag that is pulled (by man power) over the trails, clearing them and throwing the snow to the sides. We have found this to be a very satisfactory method of clearing trails. Also have had to shovel snow off the roofs.

Weather

Maximum temperature for the month was 44° on January 6, and the minimum was -22° on January 22. Thirteen nights during the month of January it was well below zero and the old-timers here say this has been the longest cold spell they have known. There is now between seven or eight inches of snow on the ground.

Travel

There were 278 visitors at the Ruins this month as compared with 225 during the same period of 1936. This is usually the slowest period of the year in this district. They entered the Monument in cars from New Mexico, Colorado, California, Oregon, New Mexico, Washington, Oklahoma, Minnesota, and Texas. There were 50 guided field trips and 58 museum trips, each field trip averaging about 44-4/5 minutes and the average time spent by each party in the museum was 21 minutes.

Personnel

Lewis T. McKinney entered on duty at Chaco Canyon National Monument as Custodian on January 1, 1937. This Monument was inspected on my return trip from headquarters on January 22 and I am glad to report that Mr. McKinney had everything in fine shape and is getting along nicely.

Special Visitors

Deputy State Game Warden Pickens was a Monument visitor January 5. The cliff-dweller from Canyon de Chelly National Monument, otherwise known as Custodian Faris, arrived here on January 7 and departed on the 10th. Custodian McKinney, with Homer and Mrs. Hastings from Chaco Canyon, were here on the 23rd.

CHACO CANYON (CONT.)

Deaths

While at Chaco Canyon on the 22nd I learned that my old friend Hosteen Tomacito, one of the oldest settlers in the Canyon, had just recently died of pneumonia while picking piñon nuts off the reservation. Tomacito was one of the few old time Navajos that made the march to Bosque Redondo in 1863. Tomacito was one of my nearest neighbors for two and one half years in Chaco and we will certainly miss him. He was the most photographed Navajo in Chaco Canyon, by the tourist, National Park Service photographers and all.

*****oo*****

CHACO CANYON

By Lewis T. McKinney, Custodian

General

January has been a bad month for this Monument as the approach roads have been blocked most of this month with snow. However, on the 10th of this month we had six visitors from Minnesota that came in from Thoreau, missed the road to the Monument at Seven Lakes and drove clear over to Pueblo Alto and then back to Seven Lakes, picked up the Monument road and came on over to visit the Ruins, and back to Thoreau that evening. I believe we should consider these special visitors, as there was quite a bit of snow to fight all the way.

University of New Mexico

The University crew finished another hogan this month. This makes five that they have completed. They also have another one started.

The University has only eight men working, also the cold weather has slowed up their work a bit.

Soil Conservation Service

The Soil Conservation Service has discontinued their work here until warmer weather. However, I have the promise of two laborers from them to help do some more work on rodent control.

Visitors

89 people entered the Monument in 43 automobiles from five states.

Weather

We certainly have had our share of cold weather and snow this month. Crownpoint is only 40 miles away, but a 6-hour round trip this month.

CHACO CANYON (CONT.)

The temperature for this month has been as follows:

Maximum 60° on the 25th of December.

Minimum 24° below on the 22nd of January.

.60 inch of precipitation was recorded during the month.

Mumps

Boss, does each new custodian get these with his appointment? If they do I hope the next new custodian doesn't get the "Big Head" like I did over my job.

*****OO*****

EL MORRO

By Robert R. Budlong, Custodian

As I begin this report, the snow is falling steadily, and has been doing so for three days. I have just returned from a hike of about five miles on snowshoes. We had run out of beans, and I had to replenish our supply. Met the mailman, who had brought first-class mail through on horseback, and he reported snow up to his horse's shoulders in many places. A few local people reported it six to ten feet deep a few miles east of here. Trips around the north side of the Rock have to be made on snowshoes or skis, the drifts being rather deep. It would appear that we have been having a slight touch of winter weather.

Visitors for the travel month totalled seven. They came in two parties the day after Christmas, and were our only visitors. There were no visitors in the month of January. Of our seven visitors during the travel month, one party of two persons made the trip over the trail unattended; the party of five persons was taken around the trail and inscriptions by the custodian. Time, 90 minutes.

The afternoon of December 28 I decided to make a trip to Gallup the following morning, to see if the new truck might have arrived, and to get some provisions. Next morning I changed my mind, since about eight inches of snow lay on the ground, with more falling. It continued to snow all that day, and on the 30th and 31st also. Snow also fell on January 1, 2, 7, 8, 12, 13, 14, 16, 19, 20, and today, the 21st.

Radio reports and newspaper clippings told of several hundred Navajos snowed-in in the Zuni Mountains, eating their horses (a nice horse-steak would taste fine right now); of airplanes dropping food to them; a neighbor reported temperatures of 23 below zero at his place at midnight, and remarked that toward daylight, as I undoubtedly had observed, it grew really cold. Car travel is impossible. We tried to dig our own car out of the snow, and labored furiously for several days, succeeding in clearing the road for about five hundred feet, but the following morning we awoke to find an additional six or eight inches of snow on level places,

EL MORRO (CONT.)

and drifts completely covering the road we had so carefully cleared. We haven't moved the car since. All of which is written to indicate that we would begin to believe we may have had a touch of winter here, were it not for the October Monthly Report. We find solace in it by referring to the page whereon it is stated that while the Navajos at Canyon de Chelly (and the former custodian) predicted the most severe winter in years, the United States Weather Bureau was telling farmers to look forward to another warm winter with a sub-normal rainfall. Perhaps they just forgot to make any mention of snowfall, or maybe they bet on the wrong horse.

Aside from the weather, there is little to comment upon this month. More signs were removed, and one new one made. Most of our spare time has been spent delving into early Spanish history of the Southwest, digging out facts relative to people whose inscriptions appear on the rock, etc. Our greatest problem at present is how to repair a typewriter that refuses to hit on all cylinders, when our only tools consist of a ten-inch crescent wrench, a brace and bit, an axe, and a sledge hammer. But with a little persistence and the exercise of ingenuity we hope to manage an emergency repair that will be temporarily satisfactory.

Birds are becoming very tame. Large numbers of Gray-headed Juncos gather in front of the cabin, awaiting the crumbs we throw them. One solitary robin, probably injured, did not join in the southerly migration flight, and is wintering here. The juncos have become so tame that they enter the cabin when we leave the door open for a few minutes. One that had entered became suddenly alarmed and flew against the window, stunning himself. He has never entirely recovered, his left side being somewhat paralyzed, but he is quite at home in the cabin with us, hopping about the floor, eating crumbs and birdseed, and sleeping during the night in a box we fixed for him in a corner of the room. He is unable to fly, but we hope that in time he will be able to do so.

A few local Navajos visited us from time to time until deepening snow made travel on foot too tedious. People living nearby have been most neighborly, coming in on horseback and on foot to visit us until the snow became too deep. In spite of weather and no visitors we are not bothered by spare time, and hope to have accomplished much by the time visitors start coming in again.

The pool has been frozen over solidly for a long time. The syphon was disconnected when I first arrived here, in order to prevent damage to the pipe from freezing, and we haul water from the pool by buckets. Ice is now about a foot thick on the pool, and we have to chop a hole through it with an axe. Wish we had stocked it with fish so we might now enjoy fishing through the ice. Do you know of any unusual ways to prepare beans so they won't taste like beans? We've tried all the ways we can think of, and some that just happened by accident, but they are still just beans, and nothing more.

*****oo*****

CANYON DE CHELLY

By Johnwill Faris, Custodian

Visitors for the month total three. Three artists were in Christmas week for a couple of days. They were taken up the rim one day, and the next I took them across the wash, went out about seven miles with them and showed them what I could of the things they wanted to see. They seemed to enjoy themselves very much. The last day they were here the wind was terrific and the sand so thick one could hardly see. Well, the boys had mentioned the fact that they were not going very far as they had little gas. About five that evening the wind and sand gave way to wind and snow, and we were enveloped in a regular blizzard. The boys were not in and I decided that I should start looking for them. I left word that I was going out, stocked up with some spare gas, dry wood, a little food, etc., and had gone out only about a mile when I met them coming in. They were not one bit more tickled to get in than I was to have them in. 83,840 acres is a lot of territory to cover in an attempt to locate some lost dudes. The snow accumulated overnight to a depth of about ten or twelve inches and was coming down in no small measure the next morning. The boys had forgotten their chains and had to get back to Oakland so with a lot of wire we altered my Chevy chains to fit a model A Ford and the boys were off. Cozy and I waited all day for an SOS but they made their way to Gallup after many hardships. At that they were lucky for no cars came through for several days. They tore up my chains, using them almost all the way to the coast, and upon arriving home sent me a new pair. Lena and the Baby were away, having retreated to civilization for the winter, and the boys moved right in with me. They were hatching and I partook of some marvelous repasts compared to some I prepare for myself. This was one of my first groups handled as visitors and I enjoyed it very much. I can foresee many happy experiences. Now that Cal Miller has taken over the house mound (this is Cal's own name for Aztec prior to December, 1936), he will miss much of the long contacts one has with the visitor in Chaco, de Chelly, etc.

Sunny Arizona, what a laugh, Boss! Snow as far and as deep as the eye can see and the Custodian plow through. Temperatures of 25 and 21 below zero a night or so ago, water pipes frozen one night, the pump the next, and then the water line main. That keeps one from getting lonesome in the winter months and then, too, it keeps us from getting soft. Budlong and Betty should be thankful they do not have a pipe line to dig up and water lines to thaw out. Even El Morro has its good points. Nothing is sweeter than digging up water mains in frozen ground, but as I was saying we don't get soft. In case we are fearful of such, one only needs try a trip to Gallup, our source of supplies. One official trip was made to Gallup and I was five hours getting 45 miles and not stuck once. Tore up two sets of chains and to make bad matters worse woke up the next morning to discover I was snowed out of my station. A couple of days later the roads were passable and I have not attempted any greater distance than Chin Lee since. Who was the Custodian complaining about all the Department heads bothering him so? Send him to de Chelly in a winter like this and he will be glad to see one of the boys for a change. Why even with

CANYON DE CHELLY (CONT.)

frozen pipes and a frozen pump, I would be glad to have Jim Hamilton drop in. You guessed it. Page Jim. If variety is the spice of life I expect several of your custodians are living high this winter.

Well, all this chatter and you did not even copy my last report. I am heaping coals of fire on your head and sending two separate copies of this one. I am enclosing a copy of last month's report also that you might know that I did not slip up entirely on December.

Accept my sincere sympathies for your fellows at headquarters. I hear over the radio that you have snow at Phoenix and in Southern Arizona. I bet you haven't got any red flannels either. Sorry I can't help you any; you see, my two pair are in use. These Navajos can't show me much about layers of clothing. With the aid of the weatherman I adapt myself in a hurry.

*****OO*****

NATURAL BRIDGES

By Zeke Johnson, Custodian

I came up here (Salt Lake City) soon after Christmas, and talking about cold, it's the worst ever. It is warmer today and the Weather Bureau says that we can look for better weather. There is a lot of snow all over the state; many sheep and cattle are in bad condition and there are apt to be heavy losses. Snow at Blanding is about three feet deep on the level which means plenty of water for next summer.

I have tried to contact people but it's been too cold to go out much. I find that people are more Natural Bridge minded than ever before. I am sure that we will be busy at the monument next summer and I will be very glad when spring comes and I am back on the job.

*****OO*****

TUMACACORI

By Louis R. Caywood, Custodian

This month has proven to be a very good month for visitors. The number guided through the mission numbered 1,789 and an additional 175 drove into the parking area and used the facilities offered by the monument. Thus, there were a total of 1,964 visitors for this month or more than a 22% increase over the same month last year when 1,607 visited the monument. And this increase has been in spite of the unusually cold weather which has certainly kept many away. In all 40 states, Washington, D. C., and Alaska were represented in addition to four states in Mexico, three provinces in Canada and one registered each from France, Ireland, China and Persia.

During the month almost a third of the days were stormy or so cold as to make a visit into the mission disagreeable. On January 7 there

TUMACACORI (CONT.)

was a snowfall of between 4 and 5 inches. Again on January 20 and 21 there was rain, sleet and snow. In both cases the snow melted rapidly.

Mr. James Luther and wife from Southwestern Monuments headquarters at Coolidge paid us a visit on December 25. Luis Gastellum also from headquarters visited us twice during the month. On January 16 Miss Mary Lesley of the Museum Division, National Park Service, Washington, D. C., was an interested visitor, especially in regard to the proposed Administration and Museum Building. Mr. George L. Collins, Santa Fe, New Mexico, and Mr. Richard Sias, Tucson, Arizona, both ECW technicians for the National Park Service, were here January 17 on their way to Chiricahua National Monument. On January 19 Bishop Daniel J. Gercke and four notable Franciscans were here for a short visit. Father Victor Stoner also paid us several visits during the month. Mr. and Mrs. Schofield Delong and three boys were here January 24. Two bus loads of school children from the 7th grade in Nogales, Arizona, were visitors on January 21.

The cold weather has been rather disastrous to some to the cactus on the monument. The spineless variety all became frozen so badly that nothing now remains but the strong main stems. The stems of the agave were also frozen on the ends, but were not damaged as seriously as the spineless variety.

The water pipe leading from the storage tank to the ground was frozen so that we had no water for half a day. Luckily the pipe did not burst.

Bird-banding was very successful this month with the following birds banded:

Arizona Cardinal	5
Arizona Pyrrhuloxia	10
Canyon Towhee	7
Gambel Sparrow	48
Gambel Quail	8
House Finch	7
Palmer Thrasher	1
Rock Wren	1
Sparrow Hawk	1
Total	88

Sparrow Hawks and White-rumped Shrikes are taking their toll of other birds at this time of the year when there are no other sources of food.

One Sparrow Hawk was caught in a two-compartment trap after killing a Gambel Sparrow. The Hawk was banded and taken almost to Tucson or

TUMACACORI (CONT.)

about a distance of 42 miles from the Monument and released. Nine days later he was again caught in a Government Sparrow trap here after killing another Gambel Sparrow. This time he was taken to Nogales and released and so far has not returned.

*****OO*****

MONTEZUMA CASTLE

By Earl Jackson, Acting Custodian

Statistical

Visitors	172	-	Same period 1936	612
States	16			
Foreign	Scotland and British Columbia			
Guided Trips	33	(with 134 people)		
Museum Lectures	30	(with 155 people)		
Average trip	44.5	minutes		
Average Lecture	20.1	minutes		

Visitors

Although the visitor count was very low, because of weather conditions and roads, a very high percent of those who came were interested, as is seen by the fact that 77% climbed the ladders or went through the lower ruins. Of this number, all but nine went through the Castle building.

Special Visitors

December 24 - A party of 26 CCC boys from the Beaver Creek camp were in.

January 14 - Mr. and Mrs. George Sholly were in from Bandelier.

Weather and Roads

Was feeling pretty good until I reached this subject. Weather has been bitterly cold, very stormy, and the roads have been dreadful. While I cannot yet provide complete statistical data on weather here, having arrived at the Castle after the month was partly over, and having not yet purchased a high-low thermometer, I can say without fear of contradiction that the month of January has been the most unseasonable in many years. On the morning of January 7 there were two inches of snow here, and on the morning of the 8th there were nine inches. Snow is till on the ground. We have had probably five clear days this month.

With the heaviest snowfall in over twenty years in the Verde Valley, the surrounding mountains really got a dose of weather. On the highway between here and Flagstaff snow drifted in places to many feet in depth.

MONTEZUMA CASTLE (CONT.)

with some of the highland getting six feet on the level. The Oak Creek Canyon road has been closed for intervals of several days at a time, and has been quite dangerous all of the time since the first of the year. Prescott had about two feet of snow, and on the main road leading to the valley, between Prescott and Jerome, snow reached four feet in depth, and the road was closed part of the time. It is still slippery. To the Southeast, on the Apache Trail through Pine and Payson, heavy snow has stopped all tourist travel.

So, all in all, with all three main roads leading in practically impassable, Montezuma Castle was lucky to get any visitors. As a matter of fact, most of those who did come arrived before January 1, before the worst of the series of blizzards began hitting.

The dirt road between here and Camp Verde has been so muddy until the last two or three days that when we start the six miles to town, with or without tire chains, it is found advisable to carry a sleeping bag, rubber hip boots, and a compass. Then if the car slips off the side of the road and disappears in the mud, one can stand on top of it in the boots, and either pitch his sleeping bag there for the night or take a bearing on the North Star and hit out over the country for a destination, jumping from bush clump to bush clump to keep from miring down.

Nature Notes

Wildlife activity has been confined mostly to the birds and rabbits, although we have seen two coyotes just off the monument boundaries. Appended will be found Betty's observations on birds for the month.

General

Matrimony, strangely enough for the season, has been in the air. On the 29th of December Norman Jackson married Louise Thompson, of Milwaukee, Wisconsin.

Then, in the ranks of the Park Service, Ranger Russell Farmer became concerned with plans for a better half. On the 18th of January he set out through many weary miles of snow, slush, and mud, to Ashfork and met a train. He returned with his new boss, Mrs. Russell Farmer, nee Harriet Hutchinson, of Gallatin, Missouri. Because of the shortage of quarters at this monument, the newlyweds are starting married life in a tent-house, which I think will be an experience they both will long remember, since their tent life occurred during the coldest weather in history.

To return to prosaic things, we find that the cold weather has wrought considerable havoc with the cement steps leading from ground level up to the rooms of the lower ruin. Freezing and thawing have

MONTEZUMA CASTLE (CONT.)

cracked some of the blocks loose from the limestone, and more of the limestone has sloughed loose.

While travel has been so light, Mr. Farmer has been engaged in tearing down two obsolete shacks on the Castle grounds and converting the lumber to useful equipment shelves, cupboards, and tables, so that Uncle Sam's properties can be kept in more coherent order.

Birds at Montezuma Castle by Betty Jackson

Several birds have died this month, due to the unusually cold weather and snow. A Pink-sided Junco was found shivering on the fender of my car. It was too cold to mind being picked up, so Norman took it in the house, hoping to revive it. After about ten minutes its heart quietly stopped.

A Rock Wren got into our house through a door that was slightly ajar. I put him out, and two days later Earl found him dead, under the eave where he was covered with ice from the drip.

The Quail have been gathering near to receive grain in this snowy weather. There are two groups of them, the second group being very timid. They had an awful time in the fresh snow, because each time a foot sank in it, it was a fresh surprise, and they would stumble and slide on their chins.

Juncos are flocking in. They eat the wheat thrown out for the Quail, and now are coming regularly outside our dining-room window for the chick feed I am putting out.

We have identified five species of them: the Oregon (we can't call him Shufeldt any more), Pink-sided, Red-backed, and White-winged are definitely identifiable; and Norman is quite sure he saw one Grey-headed Junco. I haven't any record of birds previously seen here, but I think this is the first record for the White-winged Junco. Three of us have seen him outside the window, at close enough range so there is practically no doubt that that is what he is.

By the way, for other banders who get Juncos, let me recommend the use of the article, "The Identification of Juncos Banded in the Rocky Mountain States", by Alden H. Miller in Bird Lore for November-December, 1936. It clears up all of my difficulties, and I am sure will help everyone.

A Pink-sided Junco came in this morning with just one white feather left in his tail, and a Red-backed one with just a brown feather left in his. They are very scrappy, but I can't see how they could do such a thorough job on each other. Could it have been a narrow escape from a coyote?

MONTEZUMA CASTLE (CONT.)

A Road-Runner tried the grain one day, but got scared off, and a rabbit seems to enjoy the grain here too.

We saw a Bald Eagle soaring over the Castle on the 23rd. He was so close that we could easily see the sharp contrast between his white head and tail, and his black wings and body.

Follows a list of all the birds seen and identified this month:

Canyon Wren	Rock Wren
Gambel Quail	Blackpoll Warbler ?
Crissal Thrasher, perhaps a sub-species with a less curved bill, but definitely a Crissal Thrasher	
Killdeer	Hermit Thrush (Alaska or Dwarf)
Mourning Dove	House Finch
Arizona Cardinal	Cactus Woodpecker
Pink-sided Junco	Oregon Junco
Red-backed Junco	White-winged Junco
Grey-headed Junco ?	Road-runner
Bald Eagle	Terganza Heron

*****oo*****

CAPULIN MOUNTAIN

By Homer J. Farr, Custodian

I am able this month to report only indirectly from word I have received. We have only had about 600 visitors this month. I had planned to be home by this time, but have been unavoidably detained. Will be back in a very few days.

Weather has been very cold and very dry this month, with only about two inches of snow. All roads to the monument have been open and in good condition this month.

*****oo*****

PIPE SPRING

By Leonard Heaton, Acting Custodian

If you didn't get this monthly report before next July, you would have to lay the blame onto the Desert Gods of Storm, for only four or five mails have reached us since December 28, 1936.

I had thought once of telephoning my report into you and just saying something like the following: "No visitors, been snowed in since December 28. Spent most of the time getting wood to keep warm; everything okay for a North Pole Monument." But the last two days the CCC officers have gotten some snow equipment from up in Utah somewhere and are in hopes that the road will be opened tonight, so I am taking a chance on getting this report out to you.

PIPE SPRING (CONT.)

Weather

December 27 we received some showers of rain which turned to snow about eleven that night and by noon of December 28 there were 11 inches of very wet snow. Two more inches of snow accumulated on December 29 and 30. An additional five inches of fine snow fell on the 31st, settling down to about 14 inches of some of the heaviest snow I have seen. Again on January 7 and 8 a new storm visited us bringing an additional 9 inches of snow. The night of the eighth the sky cleared and the thermometer almost lost its bottom for this country as it dropped to 22° below zero. Everything was frozen up; even the fire seemed to need thawing out before it could burn.

On January 13 we had another 5 inches of very light snow, which made care travel hard. Snow also fell as follows: January 14, 1 inch; January 16, 2½ inches; and January 19, 2½ inches, which made a total of around .38 inches of snow that have fallen the past month. The snow has settled down to 16 inches to date.

There has been one good feature about the storm and that is that the ground has not frozen up, except in places where the snow has been disturbed. The ground has been so warm that the snow is melting from the bottom and going into the ground as we want it to.

All in all it has been one of the toughest winters I have ever witnessed. We thought that five years ago was bad and that another could not be any worse. However, we think we have gotten one now. I am wondering what the Old Navajo and the U. S. Weather Man of last fall based their predictions upon. Every night during the past week the thermometer has been down around 10 and 15 below zero.

Reports from the sheep and cow men are that there will be a heavy loss in livestock. Some predict 50%, others more, of their stock will be lost. They really want warm weather to come pretty pronto.

Bird Notes

I am sorry to report that the past month has been so hard on the birds. So much that I believe I am safe in saying that more than 60% of all the birds have died of starvation and cold, as after the first storm there were two or three hundred birds around, and after the first cold night I began to find dead birds almost everywhere I went, and I am still running onto birds that have died.

I have not done a lot of banding since the birds began to die for I could not see the good of banding birds that would more than likely die this winter, and I want the birds to live and have a chance to come back next year. But now that the weather has taken a turn for the better (let's hope) I am again going after the birds to put bands on them. I

PIPE SPRING (CONT.)

have tried to keep feed out but without much success since it soon covered up with snow. I have banded the following birds since the last report:

Gambel Sparrow	41
Song Sparrow	1
Shufeldt Junco	42
Red-backed Junco	5
Red-wing Blackbird, sonora	14
House Finch	2
total	<u>105</u>

I caught one foreign return that I haven't as yet learned from what station it came.

Travel and visitors have just not come this way since the storm and my last report. I have had a lot of CCC boys up to keep me from getting lonesome and to spend the day doing nothing. There has been no work for the boys except the shoveling of snow and very little of that has been done, even to get the roads open so that supplies could be brought in.

It seems as though I have spent the major part of the month in getting wood to keep warm. I believe though that I have spent as much time getting wood as it takes to burn it since I have to carry or drag it all in.

Say what got into the stencil cutter last month - too much Xmas or did he have some one there bothering him - that we now have the Custodian from Sunset Crater National Monument writing reports from Pipe Spring National Monument. I have no doubt Jimmy can write good reports for I always like to read them, but when Jimmy starts on the Sunset Crater let him finish and don't switch to about the last 2/3 of Pipe Spring for his report and leave his out altogether.

*****00*****

HEADQUARTERS STUFF

BRANCH OF EDUCATION

By Charlie R. Steen,
Jr. Park Naturalist.

Junior Naturalist Steen was the only member of the staff at headquarters during January. Park Naturalist Rose was transferred to Boulder Dam Recreational Area on January 1 and Junior Naturalist King continued his studies at Yale University. Steen made several field trips to Tonto, Saguaro and Tumacacori National Monuments, but spent the greater part of the month at Coolidge, on routine work. A very short museum plan was drawn up for the administration building at White Sands; the outline is included in the Supplement to this report.

Outside Lectures

A talk on Arizona Cacti was given to an assembly of the Coolidge Grammar School on January 28.

Donations and Accessions

Several new publications have been received and added to the Library. A new book list will be printed in the monthly report soon. It was hoped that it could be included in this month's edition but the Supplement is loaded pretty heavily with Brewer and Reed's reports on the recent excavations at Wupatki.

Bird Banding

Birds banded at three stations are listed herewith:

Pipe Spring

Gambel Sparrow	41
Song Sparrow	1
Shufeldt Junco	42
Red backed Junco	5
Red wing Blackbird	14
House Finch	2
Total	105

Tumacacori

Cardinal	5
Pyrrhuloxia	10
Canyon Towhee	7
Gambel Sparrow	48
Gambel Quail	8

BRANCH OF EDUCATION (CONT.)

Tumacacori, birds banded at (continued) 78

House Finch	7
Palmer Thrasher	1
Rock Wren	1
Sparrow Hawk	1
Total	88

Walnut Canyon

Green-backed Goldfinch	1
Mearns Woodpecker	1
Red-shafted Flicker	3
White-breasted Woodpecker	1
Rocky Mountain Blackheaded Grosbeak	1
Rocky Mountain Evening Grosbeak	3
Gray-headed Junco	10
Red-backed Junco	10
Pink-sided Junco	3
Junco oregonus ?	3
Shufeldt Junco	18
Bendire Crossbill	6
Mexican Crossbill	23
Townsend Solitaire	2
Western Tanager	3
Mountain Bluebird	1
Chestnut-backed Bluebird	265
Rocky Mountain Nuthatch	5
Pygmy Nuthatch	37
Red-naped Sapsucker	6
Pine Siskin	41
Western Chipping Sparrow	12
Western Robin	14
Western Mourning Dove	1
Gambel Sparrow	1
Mountain Chickadee	1
Total	486

Specie	Casa Grande		Pipe Spring		Tumacacpri		Walnut Canyon	
	Prior	Jan.	Prior	Jan.	Prior	Jan.	Prior	Jan.
Blackbird, red winged				14				
Bluebird, Chestnut-backed							29	265
Bluebird, Mountain								1
Bunting, Lazuli					1			
Cardinal, Arizona					4	5		
Chickadee, Mountain								1
Cowbird					1			
Crossbills							28	29
Dove, Inca	2				1			
Dove, West, Mourning								1
Flicker, red-shafted							2	3
Flycatcher, Arizona, crested			5					
Goldfinch, Greenbacked							1	1
Grosbeak, R. Mt. Blackhead								1
Grosbeak, R. Mt. Evening							2	3
House Finch	37		1	2	1	7		
Hawk, Sparrow						1		
Juncos				47			1	44
Mockingbird					2			
Nuthatch, Pigmy							12	37
Nuthatch, Rocky Mt.							1	5
Pyrrhuloxia					5	10		
Quail, Gambel	4					6		
Robin, Western							3	14
Sapsucker, red-naped							4	6
Siskin, pine							38	41
Solitaire, Townsend								2
Sparrow, Gambel	2		82	41		48	1	1
Sparrow, R. Mt. Song			11	1				
Sparrow, Western Chipping							7	12
Tanager, Western							2	3
Thrasher, Palmer					1	1		
Towhee, Canyon					4	7		
Woodpecker, Mearns								1
Woodpecker, White breast								1
Wren, Cactus	1							
Wren, Canyon			2					
Wren, Rock						1		
SUB-TOTAL	46		101	105	20	88	131	472
TOTAL	46		206		108		603	

CLOSING

By Charlie R. Steen

Due to the fact that the Boss is under the weather and will have to remain home for another week or two, the closing of this month's report falls into foreign hands. I believe that there are two problems that should be cleared up and this seems to be a logical place and time to attack these two puzzlers.

In the first place, Budlong, reporting from Canyon de Chelly last October mentioned the fact that the Navajos were preparing for a long cold winter. Ye ed., on reading that sentence, recalled a small press item which claimed that balmy days would prevail in the Southwest this winter. With a perverse humor, the contrasting forecasts were mentioned and the incident forgotten, at least at headquarters.

The report apparently is read much more closely than we believe. That da--mn paragraph was picked up and included in two of the Washington Office press releases, but the rain of sarcastic comment didn't commence until the custodians of the northern monuments began to look outdoors of a morning to find several feet of snow on the ground, impassable roads and thermometers with the mercury fallen out of sight. From now on there is one man in this office who will stick to weather which has already happened, let the forecasts fall where they may.

The second problem arose after last month's report was placed in the mails. We never did find Johnwill Paris' report, and the less said about the Sunset Crater-Pipe Spring error, the happier we will be. Perhaps Heaton is right, the after effects of Christmas were too much for the stencil cutter (a wail of anger from Luis at this point).*

Several personnel changes were effected during January. Doug Harritt resigned late in December and was replaced by Tom Onstott, who has studied archeology at the University of Arizona. Jimmie Brewer left the Flagstaff region just in time and started work as temporary guide at Casa Grande on January 1. Winston Carrington, arrived at headquarters on the 25th and has been serving as ranger at Casa Grande since then. Bill has just transferred from Yosemite and will be sent to Walnut Canyon in a few days; at that time Milton Wetherill will move over to Wupatki and relieve Clyde Pesh-lakai, who has been taking care of that monument for several weeks.

A possible source of confusion is included in the foregoing paragraph -- Bill is Winston Carrington.

* Steen, the ruminator, talks of experience - he is the proof reader!

STATISTICAL SUMMARY OF EDUCATIONAL CONTACTS FOR JANUARY 1937

SOUTHWESTERN NATIONAL MONUMENTS

MONUMENT	No. Employees		GUIDED TRIPS				MUSEUM TRIPS				Unaided		Outside Lectures		Total Educ'l Contacts	Total Travel	Total Last Year
	Per Trip	Total	No.	Att'd	Time	Av. Av. Att. time	No.	Att'd	Time	Av. Av. Att. Time	No.	Att'd	No.	Att'd			
Arches	1	1	54	268	2370	4.9	43.9	56	278	1205	4.7	20.7			546	278	225
Aztec	1	1	36	220	3955	6.1	109.8								220	271	254
Bandelier	1	1	2	6	300	3	150								6	3	10
Capulin	P															500	350
Casa Grande	2	1	386	3729	11708	9.6	30.3	294	2709	6330	9.1	21.5			6438	3744	3,370
Chaco Canyon	1	1	4	16	280	4	70	4	16	70	4	17.5			32	16	260
Chiricahua	1	2	3	7	500	2.3	166								7	241	250
El Morro	1	1	1	5	90	5	90								5	7	4
Gila Cliff																	
Gran Quivira	1	1	39	174	1920	4.5	49.2								174	174	287
Hovenweep																	
Montezuma	2	1	32	134	1470	4.2	45.8	32	155	604	4.8	18.9			289	172	612
Natural Bridge	1	1											9	396	296		
Navajo																	
Pipe Spring	1	1															307
Rainbow Bridge																	
Saguaro	1	1	109	417	3505	3.8	32.1								417	1,604	800
Sunset Crater																	80
Tonto	1	1														438	751
Tumacacori	2	1	253	1789	9559	5.2	33.5								1,789	1,964	1,607
Walnut Canyon	1	1														25	285
White Sands	F	1	26	763	4042	2.3	15								763	6,007	4,402
Wupatki																	106
Yucca House																	
Headquarters													1	650			
Total this mo.			377	7,326	56,039			382	3,158	8209			10	1046	11,032	15,577	13,960
Total last mo.			1019	6,001	41,106			464	2902	8856			7	570	10,553	13,021	
Same mo. last yr.			1232	7,663	42,881			461	3006	9220			18	1883	14,047	13,960	

THE Supplement

S·M MONTHLY REPORT

January 15, 1937.

Mr. Frank Pinkley, Superintendent,
Southwestern National Monuments,
Coolidge, Arizona.

Dear Mr. Pinkley:

I am herewith submitting a report of the excavation of
Room 7 at Wupatki National Monument.

In chronological order, the notes of Dr. J. W. Fewkes,
Mr. A. T. Williamson, C.W.A., 1933-4, Mr. Erik Reed, 1936,
and Mr. J. W. Brewer, Jr., 1936, are included.

Acknowledgment is made to Mr. Volney H. Jones of the
University of Michigan, Mr. George Willett of the Museum
of Los Angeles, and Mr. L. L. Hargrave of the Museum of
Northern Arizona for their identification of material found
in the excavation.

Respectfully submitted,

J. W. Brewer, Jr.

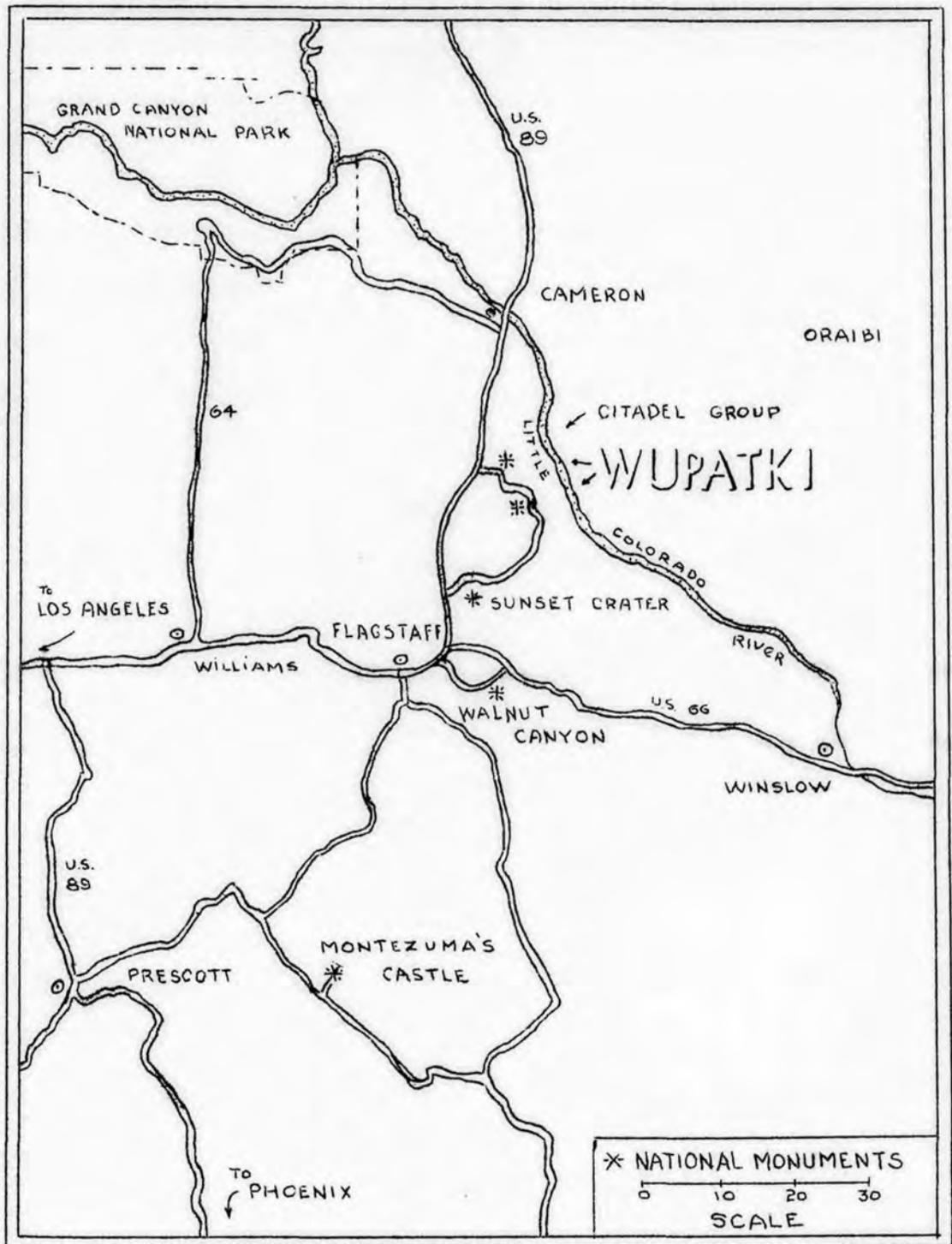
J. W. Brewer, Jr.

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EXHIBITS

LETTER OF TRANSMITTAL
MAP SHOWING FEWKES' ROOM DESIGNATION
MAP SHOWING MUSEUM OF NORTHERN ARIZONA ROOM DESIGNATION
SKETCH OF THE EAST WALL, ROOM 7
SKETCH OF THE NORTH WALL, ROOM 7
BURIAL PLANS



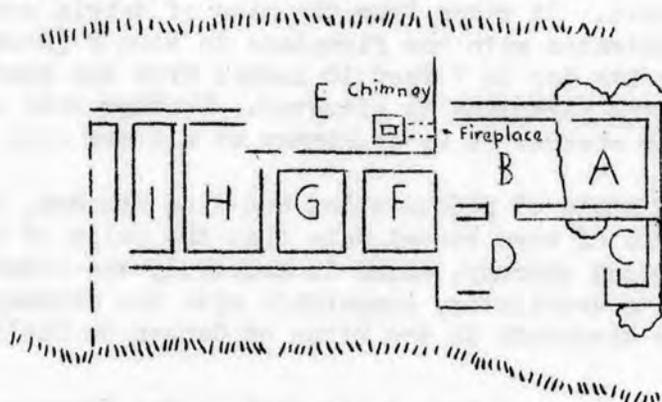
VICINITY MAP

WUPATKI NATIONAL MONUMENT LIES 38 MILES NORTH-EAST OF FLAGSTAFF, ARIZONA.

WUPATKI

THE EXCAVATION OF ROOM 7

By James W. Brewer, Jr., and Erik K. Reed



Fewkes' Figure 8

REVIEW OF PREVIOUS WORK IN ROOM 7 AT WUPATKI NATIONAL MONUMENT

Assembled by J. W. Brewer, Jr.

J. W. Fewkes (22nd Annual Report, Bureau of American Ethnology)

Notes of the Summer of 1896

Room E (Room 7*) has two stories, and the floor beams and rafters are still in place but buried under debris. A high wall extends from the eastern wall of Room E, crossing a depression in the cliff which is bridged by logs serving as a foundation. - - - - -

The rooms of the second section (North Unit) (Fig. 8), several of which are well preserved, are lower than those of the first section, (South Unit) and the detritus has covered the base so completely that the mesa is inconspicuous. - - - - -

Room A (Room 1) is nearly square and is built on two rectangular rocks, the top of which forms the floor. One of the rocks forms a side of the lower story of the adjoining Room B (Room 4), which is in the best

* Present designation.

EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

condition of any in this section. The walls of this room are well preserved and it was occupied as a habitation by a herder a few winters ago.* There is a lateral doorway through the wall on one side (east), and in one corner (southwest) is a fireplace communicating with a chimney, which will be later described. - - - - -

A chimney like structure is one of the most conspicuous objects in this part of the ruin. It rises from the mass of debris covering Room E (Room 7) and communicates with the fireplace in Room B (Room 4), but a vertical line from its top is 7 feet 10 inches from the nearest wall of the room in which the fireplace is situated. Whether this chimney is aboriginal or not, or whether it is a chimney at all are open questions.

Excepting its state of preservation and fine masonry, no evidence was found that it is of more recent date than the walls of the rooms. If it is an aboriginal chimney, which is doubtful, the structure is unique. It may be a ventilator, comparable with the chimney like structures described by Mindeleff in the kivas of Canyon de Chelly.

* During later excavation of Room 4, in 1933, a San Francisco newspaper with the date of 1889 was found on the floor.

A. Tenbroeck Williamson (Report of CWA Excavation in 1933-34)

(True Copy)

Room 7

A.T.W.---693

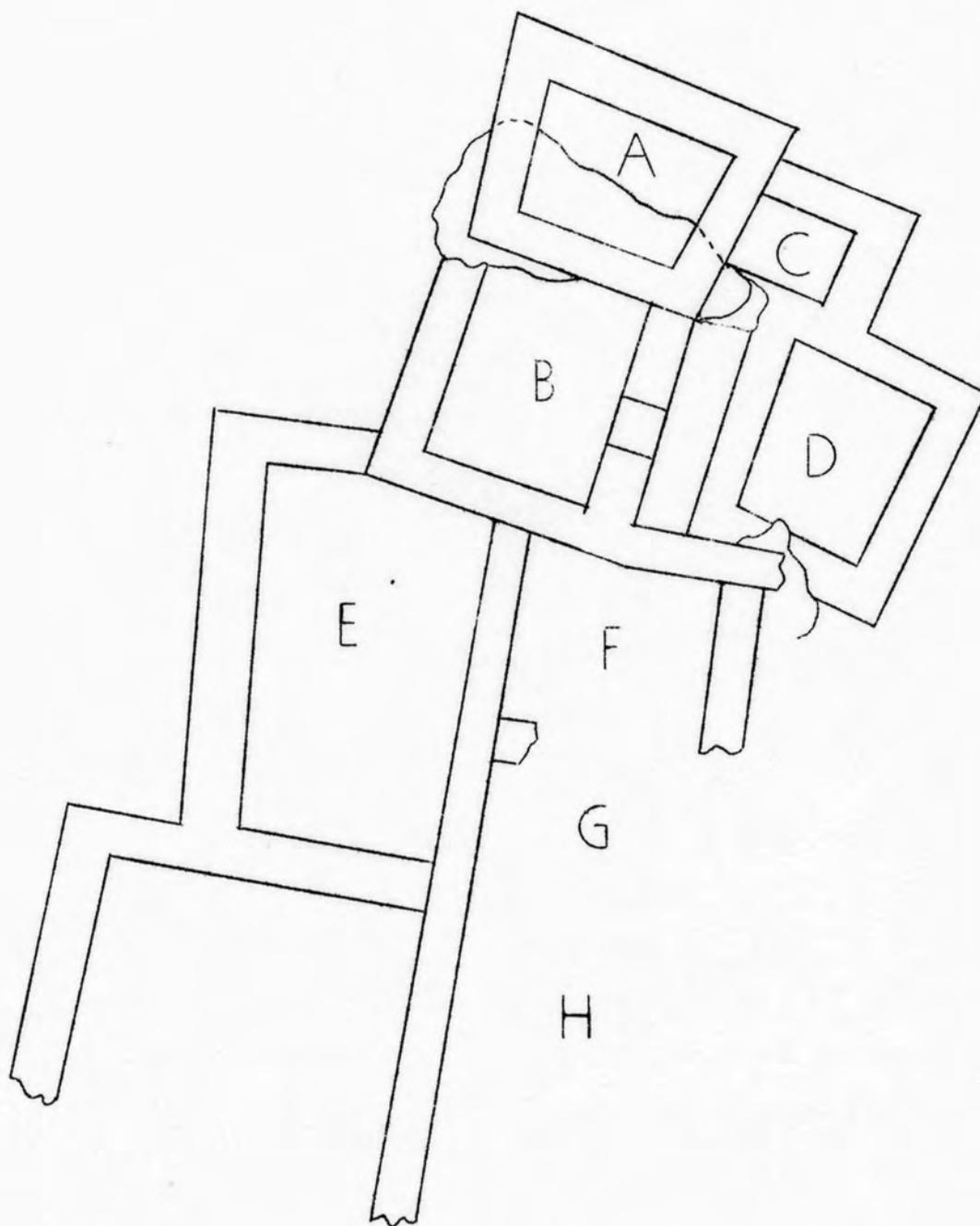
The upper fill of fallen wall was removed from Room 7. Because the allotted quota of laborers was not maintained, it was impossible to complete the excavation of this room. Of importance was the proof, since there was no tying into the wall, that the chimney in this room was not aboriginal. This is counter to a belief of Dr. Fewkes. Three beam holes in the east wall indicate a E-W direction for the roof beams.

Artifacts recovered from Room 7:

Ladle handle - Baby-in cradle-type
Fragment cotton cloth (2)
Bone implement fragment (3)
Glycymeris fragment, incised.

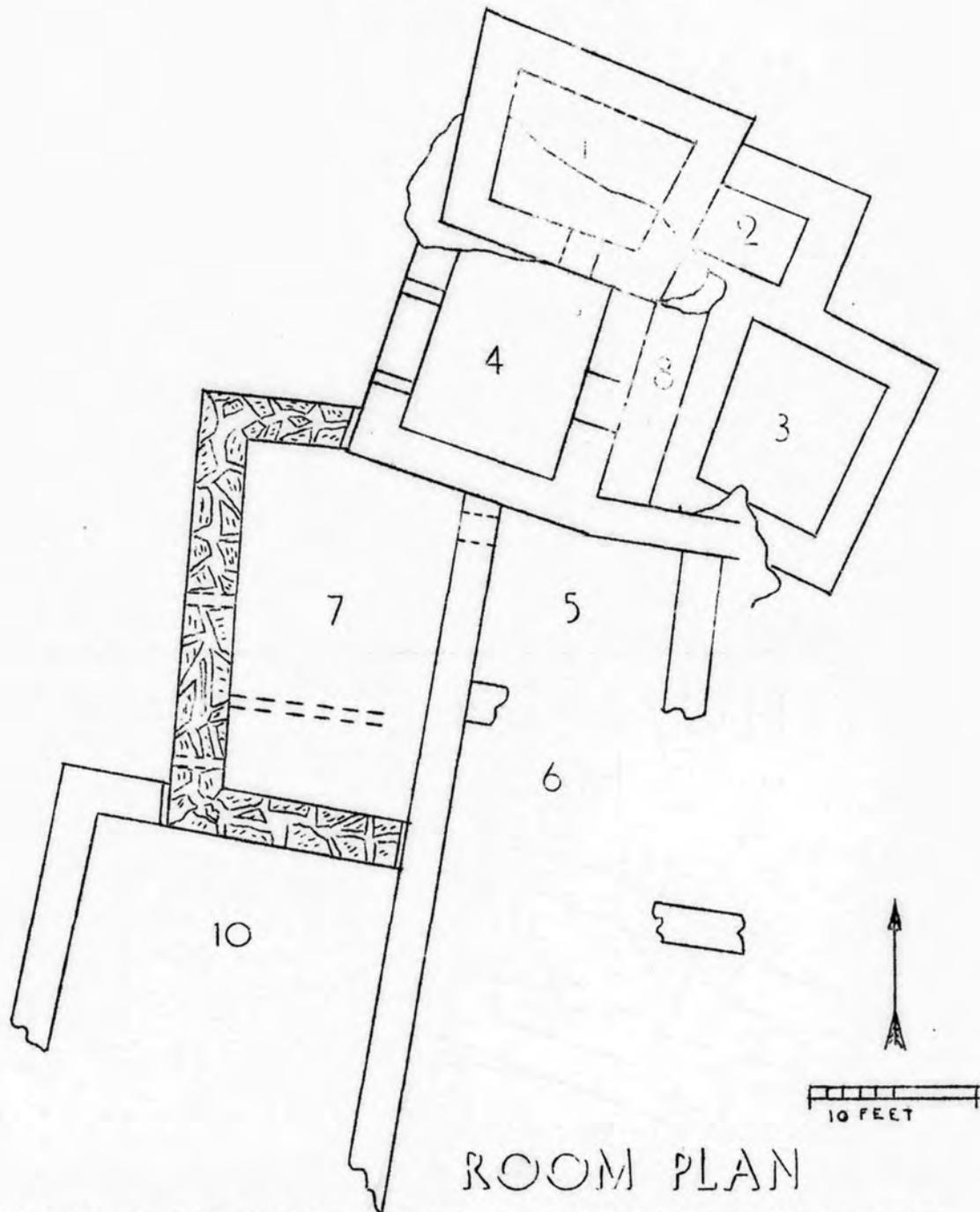
Photographs in association with Room 7:

405.87
405.111



ROOM DESIGNATION AFTER FEWKES

THE NORTH UNIT WUPATKI



ROOM PLAN

(AFTER PLAN OF MUSEUM OF NORTHERN ARIZONA)

EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

Reprinted from Southwestern Monuments Monthly Report for March, 1936, page 162, by J. W. Brewer, Jr.,

430 Archeology, History

From partially excavated Room 7. A larger than average, much broken pot washed out. I collected the pieces and put them together on a slack Sunday afternoon. The olla is of coarse paste, rough smudged exterior; interesting is a row of 3/4 inch coiled rosettes just below the neck.

EXCAVATION 1936

BY E. K. REED,

Assistant Archeologist
Region III
National Park Service

1. Introduction:

The main ruin at Wupatki National Monument is a large masonry pueblo on a spur of rock below the edge of Woodhouse Mesa overlooking the valley of the Little Colorado. The major portion of the site was excavated and restored by a CWA project, directed by the Museum of Northern Arizona; it is planned to leave part of the rest unexcavated indefinitely. For some time, however, Room 7, from which some of the upper fill had been removed by the CWA, on the side of the lower (northern) portion of Wupatki, had been washing out badly and it was feared that sherds of restorable vessels were being lost.

Accordingly the Regional Assistant Archaeologist spent the period of October 13 to November 3, 1936, at Wupatki National Monument excavating Room 7. Ordinarily eighteen man-days would not be required for the excavation of a room 20' x 12' with average depth of fill about 2 $\frac{1}{2}$ ', but, mainly because of the abundance of sherds, all of which I want to recover with as little breakage as possible, the work was done very slowly and painstakingly. Five burials were encountered; fifty-nine listed specimens and a number of uncatalogued ones were found; a number of interesting architectural details were worked out and studied. These are discussed in detail below.

Reluctantly, I left the job unfinished, because of the pressure of other matters, when it became evident -- upon entering the trash pit at the south end of the room -- that considerably more time would be required. On the one hand, I left the room in passable condition, the trash pit cleared and levelled to a slightly deeper level than that of the floor,

EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

so that washing out will do little damage; on the other hand, custodian James W. Brewer, Jr., is sure he can find time to finish up the job (there is no doubt at all of his ability to do the work properly - he was field supervisor in general charge of the CWA work here and is a Research Associate of the Museum of Northern Arizona). Incidentally, I wish to express here my appreciation of Mr. Brewer's help throughout my work.

The artifacts and burials found in Room 7 were given serial numbers following the system of the Museum of Northern Arizona and continuing their Wupatki catalog. The majority of the cultural material recovered will be turned over to the said Museum for safe-keeping and for study (the specimens recovered by the CWA here are also in the custody of the Museum). These, and the CWA collections, will be returned to Wupatki for exhibit whenever a museum is arranged there. Dr. Colton and Mr. Hargrave of the Museum are publishing a general study on the Pueblo III period shortly, and plan to publish on Wupatki - primarily the CWA excavations - eventually; they have always cooperated with the Park Service to the fullest extent, and everything found at Wupatki should be placed at their disposal.

Burials 38 and 42 were not preservable at all; burial 41 is not yet excavated; burials 39 and 40 were cleared and left in place, and it is my opinion that they should be shellacked and the pits covered with some sort of lid and left permanently undisturbed as insitu exhibits. I am content to leave the disposal of burial 41, and any further burials found by him, up to Mr. Brewer.

Insitu exhibition of burials (of other phenomena, for that matter) in Room 7 is particularly to the point if Room 7 is utilized for a museum room as has been suggested. I heartily support this idea; the room can be made into a very suitable small museum, with no vast expense. If this is done, I suggest that a large skylight, or pair of skylights, be incorporated in the roof, rather than making unsuitably large window in the west wall; that the entrance be placed at the northeast corner of the room (i.e., using the present (original door)); that the outward-leaning section of the north wall be left sprung and simply finished up - there is no likelihood of its collapsing; that on the other hand the wall in the northeast corner be restored (to use the old door as the entrance); that the floor be of 'dobe plaster as it is now and has always been.

2. Method of Excavation:

Room 7 was filled to an average depth of about two and a half feet above the floor (some of the fill had previously been removed by CWA crew directed by Ten Broeck Williamson) with sand and adobe, largely fallen roof and wall material, containing lenses, layers, and pockets of ash and charcoal, and containing a great quantity of sherds. Due to the amount of sherds and the possibility of restorable vessels, practically all the fill was first trowelled down; and then shovelled out, being thrown across

EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

the trail on the west side of the ruin to fill in depressions there.

The excavation was conducted systematically, by dividing the fill into horizontal and vertical sections of varying size. The fill sloped sharply from north to south, so the uppermost layer was taken at first arbitrarily to the lowest point on the then surface; later it appeared that this was nearly down to the uneven level of the fallen ceiling, so this latter was taken as the division point between layers 1 (upper fill, above the fallen roof) and 2 (fill between the fallen roof and the floor). Layer 3 is subfloor trash. The horizontal divisions within each layer were arbitrary and of varying size according to conditions and convenience; they are designated by alphabetical letters. They do not necessarily correspond from layer to layer. Thus, block 1 A is the fill above the fallen ceiling in the entire south half of the room (this block was extended so much because of its extreme shallowness); block 2 A is only four feet square in the southwest corner (between the ceiling and the floor); block 3 A is the entire trash pit in the south end of the room, since this area constitutes a unit as against the presumably much earlier subfloor trash. (It is also possible that the trash pit is really subfloor trash, the floor having for some reason disintegrated over the south end of the room. Light will be thrown on this by Mr. Hargrave's study, by comparison of artifacts from 3 A and 3 B (subfloor trash)). Material from sections 1M and 1E belong actually with layer 2, since these blocks were almost entirely behind (under, in effect) the upturned northeast corner of the fallen ceiling. The small section of wall north of the door in the east wall fell before the roof did, obviously, and a certain amount of soil washed and/or blew in among these rocks, also before the fall of the ceiling; any cultural material therein belongs temporarily, though not literally spatially, between the ceiling and the floor.

Layer 1 was removed down to the fallen ceiling (most of blocks 1E and 1M being left untouched accordingly), and the latter was cleared off and photographed; then layer 2 was removed and the floor cleared. The small pits in the floor were investigated and infant burials found in most of them. One burial, No. 41, over which the floor had been replaced, was not worked on, and excavation of the trash pit was carried down only to floor level. These two things are being worked on by Custodian Brewer, who informs me that he has already found a very fine burial in the trash-pit (area 3 A).

3. Architectural Features:

The floor of Room 7 is of adobe plaster, in good condition; it has been replastered once. The replastering is one inch thick; there is no refuse fill between the floors, so no break in occupation is indicated.

The walls are of small slabs of Moencopi limestone and evidently were plastered completely with adobe during occupation. Some of this wall plaster is preserved quite well in the northeast corner of the room

EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

(protected by the fallen rock and consequent early accumulations of soil).

The ceiling evidently fell in all at once, atop the rock-fall in the northeast corner and atop about 9' (in the north end) to 3" (in the south end) of mostly windblown (?) refuse fill. Impressions of rafters (running north-south, poles about 3" in diameter), in some cases still containing decayed fragments of the poles themselves, and of small sticks, brush, and grass (mainly running east-west approximately), with remnants of the grass itself, were clearly observable in the north end upper side of the ceiling. In other words, what is referred to herein as the ceiling is only a part of it - the underneath, or inside, plaster. (A major portion, accordingly, of the fill above the ceiling, layer 1, is the adobe and earth which were piled on top of the timber and brush that constituted the basis of the roof. As a matter of fact, the two metates which we found, and perhaps some of the pottery - restorable plainware jars especially in -- layer 1 were probably on the roof when (and before) it collapsed). The three transverse (east-west) rafters, did not appear in the fallen ceiling itself; but three beam holes in the east wall attest their former presence. The center one of these, in the middle of the wall, is now 1'6" by 2'3" and presumably the central rafter was a log about 15" to 18" in diameter. This would have been the primary support of the roof. The other two beam-holes are spaced about halfway from the central one to the north and south walls and contained rafters not over 10" in diameter. The three-inch north-south poles were laid across these three main supports which were firmly held in the walls and brush, grass, adobe and earth, piled successively atop them.

These three-beam-holes extend down to one and the same course of masonry, so that these are the original lower limits, at 6'6" to 6'10" above floor level. The present upper borders of the rafter holes are 7'10" to 8'1" above the floor, which is about a foot above what appears to have been the top of the door in this wall. There can be no question but that the fallen ceiling which we have been discussing is the one which was supported by these three beams, as on the one hand there is no trace of any fallen ceiling between it and the floor and on the other hand there are no rafter holes whatever between these three and the floor. Accordingly, then, the ceiling was approximately 8' above the floor; forming a room unusually large vertically as well as horizontally.

There is no indication and no likelihood of any door except the one in the north end of the east wall, which is mostly gone, rising at present only about 30" above floor level. There is nothing suggesting any opening in what is left.

The door in the north end of the east wall extended vertically from 4' above the floor to 7' above the floor. Presumably a short ladder was set against its sill. This peculiarity of one small door so far above the floor, may have been for defensive reasons; more probably it is simply because the floor level in the adjoining room (unexcavated) into which it

SKETCH OF THE EAST WALL
ROOM 7 WUPATKI

SCALE $\frac{3}{8} = 1$

NORTH
WALL

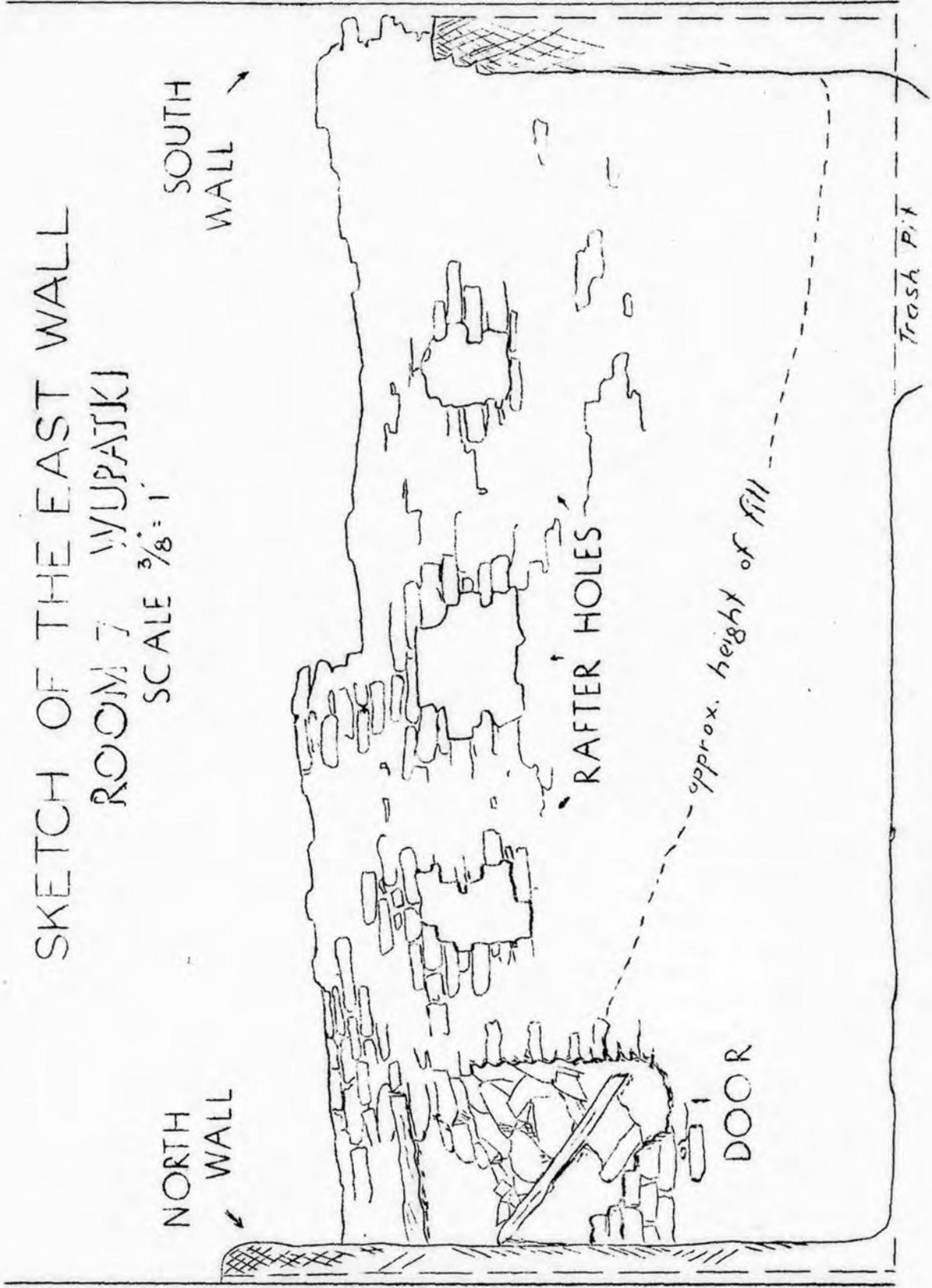
SOUTH
WALL

RAFTER HOLES

DOOR

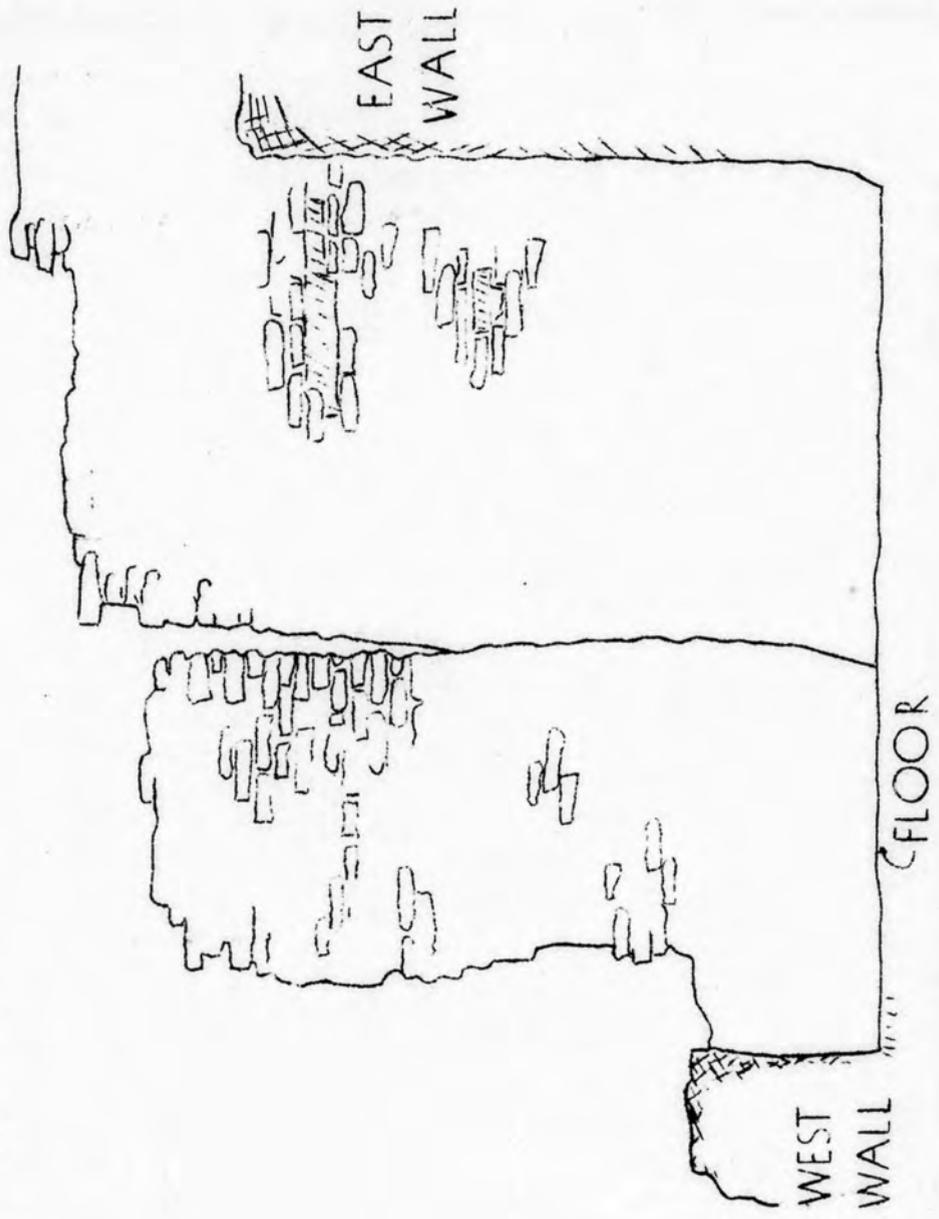
approx. height of fill

Trash Pit



SKETCH OF THE NORTH WALL
ROOM 7 WUPATKI

SCALE $\frac{3}{8}$ "-1'



EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

opens is presumably higher--not necessarily a full four feet higher--than that of Room 7. The door is about 20" wide, set out about 18" from the corner. (Those measurements are given as approximate because the section of wall between the door and the north wall, and the east part of the wall above the door, have collapsed.) The fallen lintel is still in the doorway, extending diagonally across it (and across where the fallen section of wall stood); above it are displaced stones it previously supported.

A ventilator extends through the west wall close to its south end just below floor level. A similar ventilator, filled in with building stones, occurs in the west wall near its center just at (that is, extending up from) floor level. It is quite possible that this ventilator was used at first, was blocked when the replastering took place. Why, I have no idea.

Several pits in the floor appeared when it was cleared off. The most striking of these was the large trash pit across the south end of the room, constituting 3 A. This is being worked out by Mr. Brewer. The others turned out to be burials (discussed below) or simply disintegrated places in the floor. A weak part of the floor just north of the center of the room contained a pocket of ash; this resembled a burnt post more than a firepit. I found neither definite postholes nor a definite firepit. These, at least the firepit, may perhaps be found by Mr. Brewer. It is to be expected that further pits will appear in the lower floor level when the replastering is removed. Very possibly weak places in the upper floor are due to such pits. A clay-lined pit in the northwest corner of the room, 1'2" in diameter and 4" deep, contained a shattered polychrome bowl.

Late chronological position of Room 7 is amply evidenced by the curving-out of the base of those of its walls which are parts also of other rooms; clearly the east and south walls and part of the north wall were built as exterior walls, and Room 7 added later by extending the north wall and constructing a west wall. This is particularly definite and clear in the north wall, where the added section was not tied in with the already existing part and has leaned out away from it.

4. Burials:

Five inhumations were encountered; two of these were completely removed; two cleared but left in place; one has not yet been worked on. They were assigned numbers beginning with 38, in continuation of the Museum of Northern Arizona series of Wupatki burials. All four of the excavated burials were children; two flexed, one extended, one extended and twisted or semiflexed. All four were in pits cut through the floor beside one or another wall, and the floor was not replaced over them. Possibly these four children died at the time of, or shortly after, the abandonment of the room. The unexcavated burial is evidently in another pit under the floor; but the floor was replaced over it. (Perhaps only the upper floor or replastering). Two burials were not accompanied by grave-goods; two had as offerings two small pottery vessels each, a jar and a bowl in each

EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

case. In one of these a twilled yucca mat was spread under the pots and above the skeleton. The other was covered with thin slabs of stone.

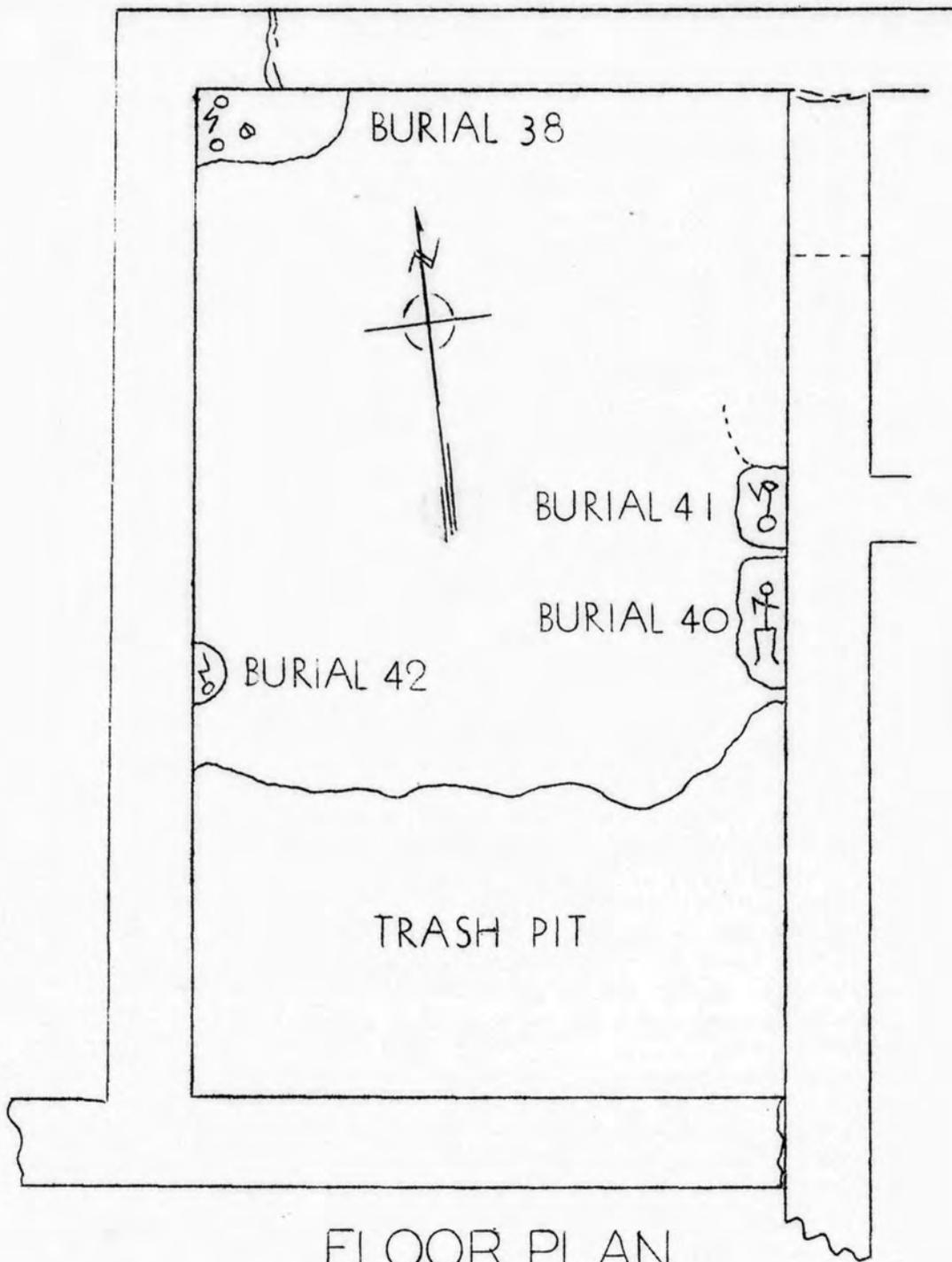
Thirteen complete or restorable pottery vessels are listed in the catalog; in addition there are, probably restorable, several polychrome bowls and a number of redware and plainware jars which were not catalogued because they had not been completely sorted out and worked on. In addition there are the following minor ceramic objects: clay figurine leg with a cleven-hoof; two ladle-handles, two pottery disks (spindle-whorls--flat sherds worked down to an approximately circular shape and to a diameter of about an inch and a half), one perforated black-on-white, one unpierced corrugated.

Of the thirteen pottery vessels, only two are jars; both of these are small (one, black-on-white, $4\frac{1}{2}$ " by $4\frac{1}{2}$ ", the other, corrugated, $4\frac{1}{2}$ " in diameter and 3" high) and both were found with child burials. The black-on-white jar could well be termed a pitcher; narrow orifice (to-wit, $2\frac{1}{2}$ "), and a single large vertical handle. The other, is a small flat indented corrugated vessel without handles. The uncatalogued redware jars are large ollas.

Five black-on-white bowls and six redware bowls are listed. One of the former is particularly interesting, a variation that neither I, nor any archaeologist I've talked with since finding it, had previously observed or heard of: After the bowl was dry, but before firing, a layer of coils was added around the exterior, and not indented or thumb-marked ("corrugated"). One of the black-on-white specimens was originally a large bowl; part of the rim broke off, presumably, and the vessel was ground down to form an almost flat place. Another black/white plate, incomplete, was found--this one deliberately and originally a flat plate (a typical shape in the Pueblo area). This object is also of interest in that it is decorated on both sides; ordinary Flagstaff-type designs on the top of interior, hatched bands on the bottom or exterior. Another black/white bowl is slightly unusual in its sparsity of design---a succession of long, narrow horizontal triangles around the interior of the rim; nothing more. The fifth is surprisingly, quite average---a typical and fairly good large Kayenta black-on-white bowl.

All the redware vessels have black interiors, varyingly well polished. The three large (about 9" diameter) bowls are smudged also on the outside. One small ($2\frac{3}{8}$ " diameter) redware bowl was with one burial, another slightly larger with another. The latter has an interesting detail---it is crimped at two points on the rim, forming a corner or, so to speak, a spout. Finally, one is not only a small black-interior redware bowl with thumbnail marks on the exterior suggesting the Plains, it is an effigy type of Hohokam, or Mexican, affinity carried on the back of a quadruped.

The polychrome bowls are of at least two, perhaps three, varieties, all on an orange base. One vessel has a black/orange interior and a



FLOOR PLAN
ROOM 7 WUPATKI.

SCALE 2 FEET

EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

white/orange interior; the others are various developments of red/orange with, or without, white or black added and with horizontal stripes around the orange exterior an inch or so below the rim.

Among the sherds (all of which are being kept) the following wares are represented in addition: gray plainware, black-on-red, Rio de Flag brown, Elden corrugated.

6. Objects of Stone:

a. Four metates of the shallow trough type (the trough open at one end only). A large number of manos were also found, most of them of the ordinary type (flattish, one side showing use), but several were of the late Hopi type, bevelled so to speak, two smooth faces adjacent.

b. Two small sub-hemispherical lava mortars, one so tiny it must have been a toy, and part of an oblong shallow mortar 4" across the short side and $1\frac{1}{2}$ " high, the larger (diameter 3") hemispherical one near the surface of the fill, the other two mortars close to the floor.

c. Only two arrowpoints, a typical concave base and side notch chalcedony point and a small broken obsidian one.

d. Several small rounded-cylindrical pebbles (rather, worked-down fragments) of vesicular basalt, averaging about $2\frac{1}{2}$ " long. Many of these have been found at Wupatki before, their function or purpose is unknown. They are most nearly comparable to "net sinkers".

e. Two "hoe blades", thin flat limestone slabs.

f. A very thin perforated dice of hard stone similar to the pottery "spindle-whorl" discs.

g. A small ($7/8$ " high) keg-shaped diorite (?) object with a deep transverse groove in one side.

h. A perforated pendant 1" long of red igneous stone.

i. Also a number of hammerstones, cores, flakes and spalls.

7. Objects of Shell:

Several small articles or worked-down marine shell were recovered-- olivella or oliva beads and glycymeris bracelets, "tinklers" of (apparently) small conchs.

8. Objects of Bone:

In addition to unworked faunal remains (including birds, small

EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

mammals, deer), ten artifacts of bone were found. Five were typical bone awls of mammal bones (mostly deer metatarsals), three were small needles, of rodent or bird bones, one of which is eyed, one is a "bodkin" ---a large needle with a slightly hooked end; one a variety of awl with a deep groove from front to back across the proximal epiphysis.

9. Objects of Perishable Material:

Squash seeds and small corn-cobs constituted the only remnants found of vegetal foods. A number of fragments of wood, and wood charcoal, of varying size were recovered; those which were in fairly good condition were saved in the hope that they might prove of use in dendrochronological determinations. Unfortunately only a few look like pine (the only wood utilizable in tree-ring dating).

Remnants of textiles of various types in varying condition were recovered. An almost complete cast (both upper and lower impressions) of a coiled basket about 10" in diameter, with only the merest traces of the basket itself, was just above the fallen ceiling. A roughly twilled yucca sandal, two smaller fragments of sandals, an irregular fragment of tightly woven thin cloth, and one end of a sandal-pad or belt woven of coarse cotton (?) yarn, with two longitudinal dark stripes, were recovered from the trash pit. Also, small fragments of well-knit textile, perhaps of cotton, were found with burial 39, curved pieces suggesting leggings or armlets. A mat accompanied burial 38; or narrow-leaf yucca leaves twilled one over-two under. A few other much smaller fragments of yucca matting were encountered.

No wooden artifacts were found; one cane cigaret was turned up in the trash pit.

CATALOG OF SPECIMENS

- NA 406 R 7 A-8 Vesicular basalt mortar 3" in diameter in SE corner of 1E at depth from surface 4".
- 9 Shell tinkler from 1 B
 - 10 Redware ladle handle from 1b
 - 11 White chalcedony (?) projectile point $1\frac{1}{4}$ " long with concave base and pair of small side notches from depth about 2-" from surface in 1 a
 - 12 Bone awl from 1 a, of deer (?) ulna
 - 13 Bone awl from 1 a, Epiphysis gone (not worked off)
 - 14 Bone awl from 1 a, perfect, of deer (?) metatarsal
 - 15 Piece of glycymeris shell bracelet from 1 b
 - 16 Bezel of shell bracelet, from 1 a
 - 17 Leg (cloven foot) of pottery figurine, 1 a
 - 18 Incomplete shell bracelet 1 d
 - 19 Vesicular-lava cylindrical pebble 1 d
 - 20 Broken small bone awl, 1 h

EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

- NA 406 R7 A-21 Pendant of red igneous stone, large longitudinal perforation, one side flat, rest of circumference bulging 1" long, from SW corner of l c, dept from surface 1'8"
- 22 Piece of shell bracelet from l j.
 - 23 Shell tinkler, l a
 - 24 Stone hoe blade, l a
 - 25 Stone hoe blade, l a
 - 26 Blackware bowl 3 $\frac{1}{2}$ " in diameter, exterior thumbnail-marked, supported on quadrupedal effigy of which head and tail gone. Much of rim gone in SE corner of l h at depth 1'9".
 - 27 Black/white bowl bottom worked down to a plate, complete. Diameter 6 $\frac{1}{2}$ ". In layers (2 and (3 in l g
 - 28 b/w bowl 6" in diameter with layer of coils added around exterior after bowl dried but before firing. In NW $\frac{1}{4}$ of l d at depth 18" and in l g (2 and (3, almost complete.
 - 29 Black- (fairly well polished)- interior redware bowl 9 $\frac{1}{2}$ " in diameter, about one-third missing, in SW $\frac{1}{4}$ of l h at depth 1'6".
 - 30 b/w bowl--about half present, in two large sherds; small design, repeated around rim only. In SE corner of l d at depth 8" and in NW $\frac{1}{4}$ of l d at depth 15" from surface (actual diff. in depth circa 10").
 - 31 Large b/w bowl, fairly well made, mesquite bar type of design not especially well drawn; about a third present (in l b at depth 12" to 18")
 - 32 Fragments of inner and outer impressions of a basket cast (in l a at 10'9" due North (magnetic N)) from SE corner of room 10" in diameter; ordinary coiled with 4 $\frac{1}{2}$ coils to the inch, 16 stitches to the coil, foundation unascertainable, hemispherical.
 - 33 Large flat-bottomed black (not especially polished) interior bowl (in center of l h at depth from surface ca. 2'--about same absolute level as A26 and A20) over half present.
 - 34 Large blackware bowl of A29 and A33; in poor condition; over half present. (at depth 10" in lj).
- * A ladle handle (b/w) in l g or h sherds
- ** Two or three vesicular-lava cylindrical pebbles in l a sherds.
- NA 405 R7 B-1 Half of perforated pottery, b/w, disc-2d
- 2 Unperforated pottery, corrugated, disc--2d
 - 3 Half of perforated thin stone disc--2m
 - 4 Bone awl; perfect; epiphysis worked off--2d
 - 5 Vesicular lava cylindrical pebble (within 3" of floor in 2m)

EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

- NA 405 R7 B-6 Tine (diameter 1", height $\frac{1}{2}$ ") sub-hemispherical diorite (?) mortar (just above floor at conj. of 2a, b, e, f).
- 7 Broken shell tinkler-- 2m
 - 8 Olivella bead from S end of 2j, depth CA 4" above floor.
 - 9 Fragment ca 3" by 2" of tightly woven cloth-- 3a
 - 10 Piece of shell tinkler (within 5" of floor in 2j)
 - 11 Obsidian arrowpoint; base broken off (3" above floor in NE corner 2f)
 - 12 Part (probably about half) of a subrectangular flat low-walled vesicular basalt "mortar"; 4" across short side; $1\frac{1}{2}$ " high (in N end of 2j, about 5" above the floor)
 - 13 Vesicular lava cylindrical pebble-- 2f
 - 14 Vesicular lava cylindrical pebble-- 2f
 - 15 Piece of shell (not glycymeris, larger) bracelet 3a.
 - 16 Stone keg-shaped object $\frac{7}{8}$ " high; deep transverse groove in one side-- 3a
 - 17 Bone tool with deep notch in proximal end-- 3a
 - 18 Cane cigaret-- 3a
 - 19 Bone needle--3a--epiphysis worked off; perfect
 - 20 Bone needle--3a--epiphysis left on; perfect
 - 21 Bone needle--3a--eyed; end broken off at eye
 - 22 Bone bodkin (hooked end)--3a
 - 23 b/w (of Dogeszhi) plate; about $6\frac{1}{2}$ " in diameter and about $11\frac{1}{2}$ " high; about $\frac{1}{3}$ percent; decorated on both sides-- two hatched bands on exterior; solid motifs and thick lines around interior with Maltese cross in middle (6" above floor in 2m)
 - 24 Sandal of twilled yucca-- 3a
 - 25 Sandal fragment-- 3a
 - 26 Sandal fragment-- 3a
 - 27 Woven sandal pad or belt end of very coarse thread (cotton?); two longitudinal dark stripes; 3" wide 3a
- NA 405 R7 B38-
- 1 b/w pitcher; one large flat vertical handle; diameter $4\frac{1}{2}$ "; height $4\frac{1}{2}$ "; diameter of mouth including rim $2\frac{1}{2}$ "
 - 2 Small redware bowl, polished black interior, $2\text{-}7/8$ " diameter including rim; height $1\text{-}3/4$ "
- B40-1 Tiny shell bead (a ground down olivella) in fill of pit above skeleton
- 2 Corrugated small handle--less jar; $4\frac{1}{2}$ " in diameter; 3" high; diameter of mouth $3\text{-}1/8$ "
 - 3 Redware (polished black interior) bowl; 5" in diameter; $2\text{-}3/8$ " high; with two crimps in edge forming a spout.

EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

Polychrome bowls not catalogued; uncertain as to how many are restorable.

A number of evidently restorable plainware jars among the sherds. Manos, metates, hammerstones, flint chips, and cores not catalogued.

Four metates: the thickest, from surface above 1e, two metates in 1e, 3" apart, one face up at depth 15", one face down at depth 20"; at 16" from SE corner of room and 15'2" from SW corner a metate in 1M at depth ca 4' from surface, on 1 $\frac{1}{2}$ ' above floor, just to west of stack of fallen rock; thinnest and least used one, no definite trough.

Condensed Burial Notes

Burial 38: A very small baby, flexed on left side, head to north-northeast in large grave (floor not replaced) in the northwest corner of the room. The skeleton itself closely tucked up in the corner in a pocket of cinders. A yucca mat spread flat across the grave, corner turned up against west wall extending above floor level. A black-on-white pitcher and a very small redware bowl set on the mat.

Burial 39: Child about four years old, flexed on left side, head to south, in pit 1'3 $\frac{1}{2}$ " in diameter, at the east wall 8' from north end, floor not replaced. Uppermost point of skull (right parietal) only $\frac{1}{2}$ " below level of floor. No offerings--traces of a closely woven textile. Note peculiarity; skull and rib cage empty, but not collapsed.

Burial 40: Small baby, extended with head to north, in pit 2'4" by 1'1" along east wall just south (4 $\frac{1}{2}$ " from) #39, floor not replaced. Face up. Arms semiflexed--right pulled back and up, left pulled under torso, skull about 9" below floor level. A redware bowl and a small corrugated jar on the floor of the pit, the bowl near the left foot and the jar near the right knee. A small shell bead in the fill. Covered with four thin slabs of stone set on ledge in grave at about 4" below floor. Left insitu.

Burial 41: Unexcavated. Just north of 39 against the east wall--skull of 41 one and one-half inches from right insehium of 39.

Burial 42: Tiny baby in circular pit, less well-defined and shallower than foregoing, 8" in diameter against west wall 12' south of north end. Head of east, foot to northwest, no offerings. In poor condition, removed.

*
EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

The following is a laboratory report by Mr. Volney H. Jones:

NPS/NA 405 R7 B.9

A fragment of a textile of plain plaiting (under-one, over-one) weave. It is rather closely woven with about 14 threads per centimeter in one direction and about 8 threads per centimeter in the other. The threads are single strand and spun in a counter-clockwise direction.

A larger two-strand cord is worked into one edge of the textile. The manner in which it is engaged does not conform to the usual pattern of edge binding. It appears to be a repair rather than part of the original weaving.

Bits of material from threads of each direction and from the heavier cord on the edge were examined and were found to be of undyed cotton, Gossypium sp. The species is likely Gossypium hopi.

NPS/NA 405 R7 B.27

A fragment of a textile of twilled weave. The borders and a center portion are undyed. Two broad stripes are dyed brown.

The fragment is 7.8 cm. in the shortest dimension and about 18 cm. at the longest point in the other--but is incomplete. The material is cotton and the individual threads are single strand, twisted counter-clockwise.

The weave is basically a twilled weave with the unit over-two, under-two. The pattern is a diagonal one, and by varying the grouping of the warp elements passed over and under, the diagonals zig-zag back and forth across the fabric. This is further complicated by breaks in the pattern caused by what appears to be imperfections in the weave.

FURTHER EXCAVATION

BY J.W. BREWER, JR

When Mr. Erik Reed was detailed to Chaco Canyon National Monument, the excavation of Room 7 at Wupatki was continued from November 5 by the writer.

At this time the fourteen feet and seven inches north of an irregular E-W partition had been cleared to the 'A' floor level. This was the last occupied first story floor level in this room.

In the west wall there is a ventilator 1' 3" from the south wall (inside). Since the top of this vent is located 11" below the A floor level, its use could be determined only through further excavation of the trash pile south of the partition.

EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

Excavation of the Trash Pit

The south five feet of this room appears to be a trash dump separated from the north part of the room by a wall of vertical and horizontal sandstone slabs; this wall, partly destroyed, once extended downward to a depth of 2' 3", from the level of floor A to undisturbed shale. (The sandstone shelf noted in the north end of the room (Reed) does not continue south of the partition.)

Removing the trash in arbitrary six-inch layers, a small cyst (12" N-S by 13" E-W by 15" deep) was found 24" from the south wall (inside). The east wall of Room 7 is the east side of the cyst. The upper fill in the cyst was similar to that found throughout the pit (ash, bones, sherds, sticks, and stones). At a depth of ten inches and against the north side the edge of a coiled basket, or tray, was found (Catalog No. 405.R7D.1). The bottom one inch of the cyst was entirely covered with partly burned clumps of grass.

Against the north side (outside) of the cyst is a vertical stone slab that forms the south side of Burial 43.

In the trash pit a small block of hardened level occurs at a depth of one foot, seven inches in the SE corner. At the same level another block of hard packed clay appears against the partition of the EW center. Angling toward the ventilator from this block are three vertical and then two horizontal sandstone slabs. On top of the hardened level and flush on the first vertical slab, rests a nearly horizontal stone that suggests the remains of a covered channel ventilator. (Sub-floor channel ventilators have been noted in Rooms 46 (Hargrave) and 43 (Van Valkenburgh)).

I believe that after the room was abandoned the south end was used as a trash dump, and that stones once used in the wall (partition) and in the vent channel (?) were later used to construct the cyst and Burial 43.

Artifacts found in the trash pit are as follows:

- 405 R7D.2 Cane tube
- .3 Cane tube
- .4 Fire drill
- .5 Fire hearth

Burial 41

The excavation of Burial 39 revealed a skull bone on the north side of the cyst 10" below floor level B.

This was thought to be a north-south burial until a test hole 6" to the north of Burial 39 and through three floor levels produced no supporting evidence.

EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

Working this test hole to the south at a depth of 10" no bones were encountered, until the edge of Burial 39 was reached, revealing that the evidence upon which Burial 41 had been based was only a fragment of skull (a complete parietal bone).

Suspecting more of this burial might be found at a greater depth, Burial 39 was removed. One inch below the bottom of this cyst another parietal (right) bone was found and, with the removal of that inch of fill the parietal bone was seen to be resting on a frontal and upper jaw bone. On the same level and against the wall the occipital bone was found. All of the skull bones mentioned above apparently belonged to one individual.

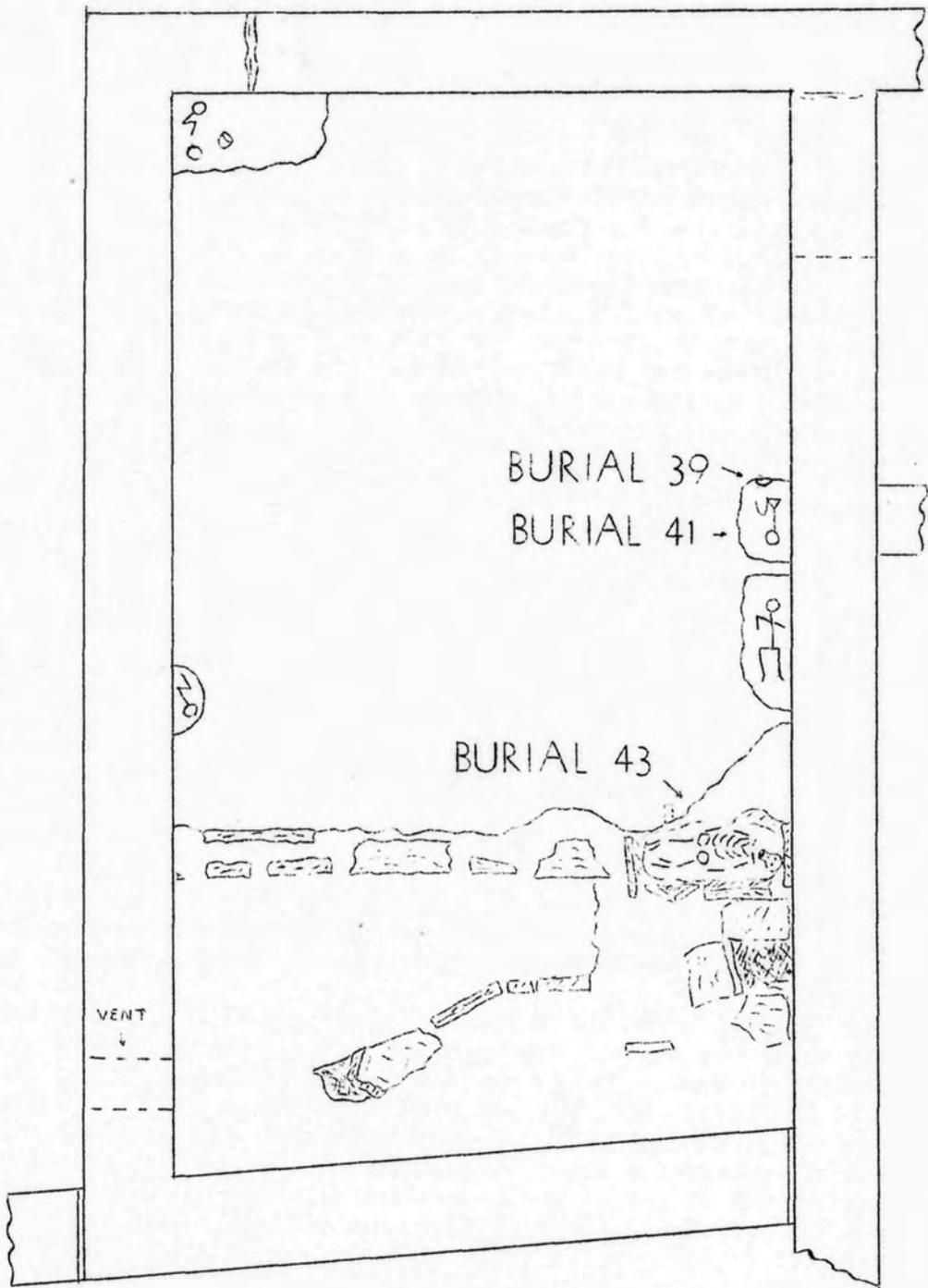
No other bones or offerings were recovered in this burial, which appears to have been the re-burial of a youth's skull.

Burial 43

Burial 43 is that of a seven (?) year old child. It lies at right angles to the east wall and parallels the disrupted partition on the south (fourteen feet from the north wall). The north side of the burial is the space formerly occupied by the E-W partition; at the east (head) end a vertical slab leans on the east wall of Room 7; at the west (foot) end and south side are also vertically placed slabs. Eight inches from the west end a three-inch pine beam once spanned the burial, supported by one of the vertical slabs on the south and inserted into a hole hollowed on the north side. The purpose of this beam was to support a stone lid or cover for the burial; this stone cover was found over the west end of the burial, still resting on the beam except on the north end where the beam was rotted and fallen. (Catalog No. of beam: F.405 R7.5).

The bottom of the cyst is one foot, nine inches below the B floor level; the cyst is one foot, three and one-half inches wide and two feet, nine inches long.

The child was wrapped (or dressed) in a cotton fabric and placed on a mat, which in turn had been placed on a thin layer of cinder in the bottom of the cyst. The arms and legs were extended and the head tipped slightly forward, because of the inadequate size of the cyst. The child was then covered with a mat upon which burial offerings were placed as follows: A pair of nested bowls--a black on white jar (Cat. No. 405 B43.3) inside a corrugated redware bowl (Cat. No. 405 B43.2)--placed three inches to the right of the neck. A single black on white jar (Cat. No. 405 B43.1) placed slightly above and to the right of the hips on a coiled basket or plaque (preserved only directly under the jar). Above the right knee a Flagstaff Red bowl (Cat. No. 405 B43.5) was nested into a black and white bowl (Cat. No. 405 B43.4). Between the knees a small black on white cup (Cat. No. 405 B43.6) was nested into a slightly larger black on white cup (Cat. No. 405 B43.7). A glycymeris shell bracelet (Cat. No. 405 B43.9)



ROOM 7 WUPATKI

1" = 2'
SCALE

EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

was intact around the left humerus. Scattered (possibly by rodents) throughout the cyst were 86 small bivalve shells and 48 olivella shells (Cat. No. 405 B43.8). They were most numerous about the neck and eight of the olivellas were lying together under the skull, longitudinally parallel with the perforated end toward the head of the burial. About the right wrist were found seven olivella shells ground off on both ends, probably a bracelet (Cat. No. 405 B43.10). (Beam F.405 R7.5 complacent, McGregor)

CATALOGUE

Burial 43

NPS

- NA405 B43.1 B/W jar with vertical handle Diam. 4" Ht. 3"
- .2 Undescribed corrugated bowl with white exterior decoration
Diam. $6\frac{1}{2}$ " Ht. 3"
- .3 B/W jar with vertical handle Diam. $4\text{-}3\frac{1}{4}$ " Ht. $4\frac{1}{2}$ "
- .4 B/W bowl with horizontal handle Diam. $7\text{-}5\frac{1}{8}$ " Ht. 4"
- .5 Flagstaff Red bowl Diam. $4\frac{1}{2}$ " Ht. 3"
- .6 B/W cup with horizontal handle Diam. $3\text{-}5\frac{1}{8}$ " Ht. 2"
- .7 B/W cup with vertical handle Diam. $4\text{-}3\frac{1}{8}$ " Ht. $2\frac{1}{2}$ "
(unfinished cross hatchure on exterior)
- .8 Shell necklace (Glycymeris and olivella bacteria)
- .9 Glycymeris bracelet (?)
- .10 Bead bracelet (olivella)

NPS

F405 R7.5

Beam specimen (complacent; McGregor)

Disposition of Backdirt

The back dirt from Room 7 was used to fill a depression in the trail along the outside of the west wall of Room 18 and the south half of Room 7, and a hole left by CWA five feet west of Room 7. To get a trail across this hole, a "dry masonry" wall had been constructed $4\frac{1}{2}$ feet west of the west wall of Room 7. This wall has also been covered with back dirt.

EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

A trench in Room 18 was also filled to help eliminate a pocket that compelled surface water to seep into the room. This is another unexcavated, unrestored room that probably contains as much valuable information and as many artifacts as Room 7.

Recommendations

In view of the several unexcavated floor levels known to exist in Room 7 and the occurrence of burials in that room below floor level, further investigation of the lower floors might be advisable.

I recommend the reconstruction of Room 7 and the replacing, under glass, of all the burials with their artifacts.

The door into Room 5 should be sealed and a new one built into the west wall as it is restored. The north, south, and east walls are now standing at sufficient height to support a roof.

In addition to the burials this room is large enough to accommodate at least four museum cases and several wall charts, etc.

In reconstruction of the roof two 3' square skylites should be provided toward the eastern half of the roof. This would permit light for display of B 43. Two windows in the west wall would also help lighten the room.

A thorough study should be made of the pottery.

Technical identifications of artifacts recovered.

Shell material was identified by Mr. George Willett of the Museum of Los Angeles as follows:

NPS/NA405 R7.23 - *Conus comptus* gld. (?)
NPS/NA405 R7.15 - ? ?
NPS/NA405 B43.8 - *Olivella* Bacteria (Little Olive)
NPS/NA405 B43.9 - *Glycymeris*
Miscellaneous (1.) - *Cardium elatum* (Giant Cockle)

"The material probably comes from the Gulf of California."
(Comstock)

The laboratory report of Dr. Volney H. Jones of the University of Michigan follows:

EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

Report No. 90

Date of receipt of material November 23, 1936.
Received from National Park Service, Wupatki Nat'l Monument
per J. W. Brewer
Collected by Brewer?
Where collected Wupatki Monument, Arizona
Name of site Wupatki
Other circumstances From Room No. 7, Wupatki.
Tree-ring date 1168 A.D.

Description

Original No.

Laboratory No. 1273.

A fragment of loosely woven textile with about 8 threads to the centimeter in each direction. The threads running in one direction are of somewhat larger diameter than those in the other direction. As there is nowhere a selvage edge it is impossible to determine which is warp and which is waft. The weave is a simple over-one, under-one or plain weave. It is probably, but not necessarily loom woven.

The material is cotton, very likely Hopi cotton (*Gossypium hopi*) as this species seems to have been the only one grown in the region in prehistoric times. There is no evidence that the textile had been dyed.

Lab. Report No. 1274

Four fragments of shells which seem to be of gourds (*lagenaria vulgaris*). It is difficult to distinguish the gourds, squashes, and pumpkins by shells alone as the stems and seeds are the criteria by which they are usually determined. However, the stem scar on one of the fragments leaves little doubt as to the identity in this case.

Gourds were commonly used in the Southwest, and elsewhere as well, in the manufacture of rattles, containers, dippers, etc. The Hopi at present have four different shapes of gourds, each separately named and grown for a special purpose.

EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

Lab. Report No. 1275. A corn cob about 7.5 cm. in length and 2 cm. in diameter. It formerly had eight rows of kernels, and shows the elliptical cross-section characteristic of Southwestern corn. This cob is somewhat smaller than that of the corn commonly grown today in the Southwest but is not otherwise unusual in any way. It appears to have been of flour type.

It is interesting to note that the kernels were removed in the green, or roasting-ear state, as evidenced by the bases of the kernels still adhering to the cob. It had probably been steamed or roasted before eating, but does not show any effects of scorching in the process.

Lab. Report No. 1276. An ear-stalk of corn of average size and appearance. It is not possible to distinguish the type of corn from which it came.

Lab. Report No. 1277. One half of shell of a walnut, 18 mm. in diameter, none of the kernel now present.

Walnuts grow in the canyons of southern New Mexico and southern and central Arizona. These were formerly considered to be all of one species, Juglans rupestris, but have since divided. The westernmost which has a larger nut and differs in other respects is now considered as a separate variety (Juglans rupestris var. major) by some authors and as a separate species (Juglans major) by others. Juglans rupestris extends only into the southeastern corner of New Mexico, while Juglans major occurs across southern New Mexico and Arizona extending in central Arizona almost as far north as Flagstaff. Wupatki appears to be somewhat north of its range but it is not impossible that it occurs in sheltered canyons nearby.

The diameter of the nut of Juglans rupestris is given as 15-20 mm. and that of Juglans major as 20-35 mm. but there is some overlapping. Since the present specimen is 18 mm. in diameter it more nearly resembles Juglans rupestris in size, but if it is of this species it has been carried considerably out of its range. We are more inclined to believe that it is a small specimen of Juglans major from nearby.

These western walnuts which are so small as to offer only a negligible source of food were, however, some-

EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

times eaten by Indians. They were also carried considerably out of their range for use as ornaments. They have been found at both Aztec and Pueblo Bonito with holes drilled in them for suspension and one from Bonito was decorated with turquoise inlay. There is no indication that the present specimen had been brought to Wupatki for any purpose other than as food or as a curiosity.

Lab. Report No. 1278. Four tubular reed pipes and one segment of reed of much smaller diameter. These may be described as follows:

- a. One pipe 4 cm. in length and 1.5 cm. in diameter. The internode has been punctured. No material remains in the pipe but there is evidence of burning.
- b. One pipe 5 cm. in length and 1.6 cm. in diameter. The internode has been punctured and there is evidence of burning. There is no material in the pipe.
- c. One pipe 3.5 cm. in length and 1.2 cm. in diameter. The internode has been punctured and there is evidence of burning. Some partly burned material remains in the pipe.
- d. One pipe, now broken, but formerly about 4.5 cm. in length and 1.4 cm. in diameter. The internode had been punctured and there is evidence of burning. Some partly burned material came from the pipe.
- e. A segment of reed 6.5 cm. in length and .8 cm. in diameter. Appearing to have not been fashioned as a pipe but possibly waste material from pipe manufacture.

These pipes are of the type commonly called "ceremonial cigarettes" in the Southwest. Such pipes seem to have been used both in ceremonial smoking and as offerings. The present lot are of the customary material, Reed Grass (*Phragmites communis*) and in general are similar to others which we have seen in being composed a node and parts of two adjacent internodes.

These differ in several respects from reed pipes from the Gila region examined by us and by Mr. Charlie

Steen. (See: Steen, Charlie R., Ceremonial Cigarettes, Southwestern Monuments, Monthly Report, Oct. 1935, Supplement pp. 287-292). Only about one-third of those from the Gila region had the node punctured while it is punctured in all of the present specimens. All of the present specimens show signs of burning while few of those from the Gila had been burned. None of the present specimens have any wrapping or ornamentation while this was common among those from the Gila.

The material in the pipes from the Gila region examined by us was crushed tobacco leaves held in place by a plug of thin folded inner bark of creosote bush. The material found in two of the present specimens is definitely not of the same material and arrangement. The material is of small half cylinders of bark as taken from some stem or root, apparently from some woody plant. It bears no resemblance to either tobacco or creosote bush. The material seems uniform and there was no plug to hold it. We have so far been unable to identify this bark.

The pipes from the Gila region seem in most cases to have been for offerings rather than for smoking, but these from Wupatki apparently were designed and used for smoking. Fewkes has reported having observed the ceremonial smoking of reed pipes by the Hopi.

Lab. Report No. 1279. A cocoon of some insect of the order Lepidoptera, probably that of a butterfly. Identified by Professor F. M. Gaige, Curator of Insect Division, Museum of Zoology, University of Michigan Museums.

Lab. Report No. 1280. Badly disintegrated strips and wads of strips of leaves of *Yucca*, apparently of *Yucca baccata*. Some of the strips are twisted and knotted seeming to have been used as thongs.

Lab. Report No. 1281. A pod of the plant commonly called Devil's Horns or Unicorn Plant, *Martynia* sp.

A number of species of this genus occur in the Lower Sonoran zone of southern Arizona and southward. Only a single species occurs in the Upper Sonoran zone in the vicinity of Wupatki, this is *Martynia louisiana*. the specimen is doubtless of this species.

Among the Apache, Papago, and Yaqui the seeds of these

EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

plants are eaten. Fiber from the pods enters into the ornamentation of the baskets of the Papago and Pima. The purpose of the present specimen evidently was not for food as the seeds are still present. Also there is no evidence that the fiber was removed for basketry and indeed there is no record of *Martynia* fiber having been used thus except in the Gila region. Hough has reported the ceremonial use of *Martynia louisiana* in the soyaluna paho of the Hopi. Possibly some such use may account for the presence of the specimen at Wupatki.

This is the first archaeological specimen of *Martynia* which has come to our attention.

Lab. Report No. 1282. Two beans and several fragments of bean pods. In size, shape and other characteristics these strongly suggest Lima beans (*Phaseolus lunatus*) and we have no doubt that they are of this species.

Lima beans are of Central or South American origin and have been found in archaeological sites in Peru. They have been collected from various tribes of North American Indians and their aboriginal cultivation in North America apparently has never been questioned. However, much to our surprise a hasty examination of our files and of archaeological literature reveals no previous archaeological Lima beans in North America. If a more careful survey fails to show any such evidence these specimens will assume great significance and importance. Kidney beans (*Phaseolus vulgaris*) are quite common in archaeological sites in the Southwest and other parts of North America.

Lab. Report No. 1283. Portion of stem, two seeds, and several fragments of shells of pumpkin. The stem and seeds are of *Cucurbita moschata* and the shells appear to be of the same species but exhibit no definite diagnostic characters. *Cucurbita moschata* is common in archaeological sites in the Southwest. A variety of Striped Cushaw pumpkin of this species was widely cultivated throughout the Southwest and has persisted to the present.

Lab. Report No. 1284. Tube and trap-door of the nest of a trap-door spider. Identified by Professor F. M. Gaige, Curator of the Insect Division, Museum of Zoology, University of Michigan Museums.

Lab. Report No. 1285. Basal portion of a yucca leaf, seeming to be of the

EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

narrow leafed yucca, yucca glauca. No suggestion as to its purpose is offered.

Lab. Report No. 1286. A disintegrated and broken cotton boll. This checks well in size and other characteristics with bolls of Hopi cotton, Gossypium hopi in our collections and doubtless is of this species which seems to have been the only species grown in the Southwest in aboriginal times.

Conclusion

The writer agrees with Mr. Reed that Room 7 was apparently abandoned in the latter days of the prehistoric occupation of Wupatki.

The south wall of Room 4 is abutted by the west wall of contiguous Room 5 and 6 at an almost right angle (see Room Plan). Taking advantage of this much construction, the builders of Room 7 made an extension of 6 feet, 4 inches to the already existing 6 feet, 2 inches of south wall of Room 4, thus forming the north wall of Room 7. The west walls of Rooms 5 and 6, of course, were the east wall of the newer Room 7. Constructing the south and west walls for Room 7 the northwest and southwest corners were tied, while the east end of the south wall abutts the west wall of Room 6 as the added portion of the north walls abutts Room 4. The presence of these two tied corners is unusual, "ties" are almost unknown in the earlier rooms of the Pueblo.

The only door in evidence in Room 7 is in the east wall, 4 feet, 3 inches above the floor level! I believe this unnatural height of the door entered on the second floor level of Room 5 (unexcavated). The chinking with small stones, to bring the sides up evenly, indicates the restoring of a wall through which an opening for the door had been made. A beam specimen taken from the fill in this door (possibly a fallen lintel) dates 1168 (McGregor); with the outside ring present.

Some of the pottery types found in the fill of room 7 are of the latest types found at Wupatki (Hargrave). Of the decorated wares, polychrome sherds are as much in evidence as black-on-whites.

Sherds from a "Little Colorado" type vessel appearing to have a small glazed panel were forwarded to Mr. F. G. Hawley of the Inspiration Copper Company, who tells us the following: "By dissolving off a considerable amount of the paint in a mixture of nitric and hydrofluoric acid and concentrating this in a platinum dish I was able to get very good tests for both copper and lead by the electrolytic method. Apparently more copper than lead but very distinct tests for both."

EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

Of special interest are the four infant and two youth burials in this room.

In some localities it was the custom to bury infants inside of pueblo rooms, while the adults were buried outside. Haury shows us that at Canyon Creek Ruin (Medallion Paper #14, 1934):

"Forty burials were found during the excavations. Infants, and in rare cases adults, were buried below the floors of rooms. Adults and youth were placed on two artificially constructed terraces on the talus slope below the west end of the house."

Such a practice is not indicated at Wupatki. Of the 26 human burials excavated at Wupatki (not including Room 7) 18 were inside burials. Of these 18, ten were adult. On the other hand, of the eight outside burials three were children. This indicates that Wupatkians did not observe the custom of the Canyon Creekers, or of the modern Hopis.

The answer to why so many children, and no adults, were buried here in Room 7 seems to be only that so many children died.

Bearing in mind that all four of these infant burial pits were definitely cut through the last occupied first story floor level in Room 7, and assuming this indicates a high rate of infant mortality, let's turn to Dr. H. S. Colton's excellent paper "The Rise and Fall of the Prehistoric Population of Northern Arizona." (Science, October 16, 1936)

"Haury has shown us that droughts were sometimes so bad that there were considerable migrations of peoples, and there is no doubt that persons in early days were subject to deficiency diseases. Droughts no doubt lead to starvation, disease, migration and to wars, but droughts were probably on the long run not much worse in the years after 1100 than in the eight hundred years that preceded. The tree ring specialist can see no real difference in rainfall. As you will see later, the big decline in population began long before the 23-year drought, the great drought that ended in 1300, which certainly was a major catastrophe in pueblo history. -----

"Lack of vitamins would hardly be a serious factor in causing deficiency diseases. But there is a neglected factor leading to a population decrease which seems very much stronger than any of these. This factor might be summed up in the words 'bad sanitation'. ----

EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

"After 1100 the people changed their habits and constructed masonry structures with flat roofs in which several families dwelt in closely contiguous rooms. It marked a change from rural conditions to urban--a change from a family or a small group of families living in detached one-roomed houses placed near their farm plot, to a condition of many families living in multi-storied apartment houses and walking some distance to reach their fields. I want to stress the fact that the change occurred in northern Arizona about 1100 A.D. The statement may not apply to the area east of the Chinle Valley and certainly does not apply at all to New Mexico or Colorado.-----

"The pueblo family lives in crowded quarters. Families live close together, and the excreta are deposited in the narrow plazas, streets, middens, and passages near the houses. Were it not for the arid climate, conditions would be impossible. -----

"The infant mortality of the Hopi children under two years of age after the summer rainy season is very great. ----- In 1934 nearly all the children under two years of age died of infantile dysentery at Shungopavi and also at First Mesa. -----

"Our studies show us that the population of northern Arizona increased seven fold between 600 A.D. and 1100 A.D. This was possible by the introduction of agriculture, together with the custom of families living in isolated houses.

"During the next eight hundred years, when urban communities such as Wupatki grew up, the population decreased. This decrease was equal to the previous gain. We do not have to postulate nomads, we do not have to postulate drought. The mere fact that people lived in crowded tenements under bad sanitary conditions, and so could not raise their children is a sufficient explanation to account for a loss of population." (The underscoring of "could not raise their children" is mine.)

On the evidence presented in Room 7 Wupatkians "could not raise their children" at that time.

Assuming Room 7 was constructed about 1168, used as a living room abandoned and used for a burial ground, the evidence found in this room might contribute to the answer to "Why was Wupatki abandoned?"

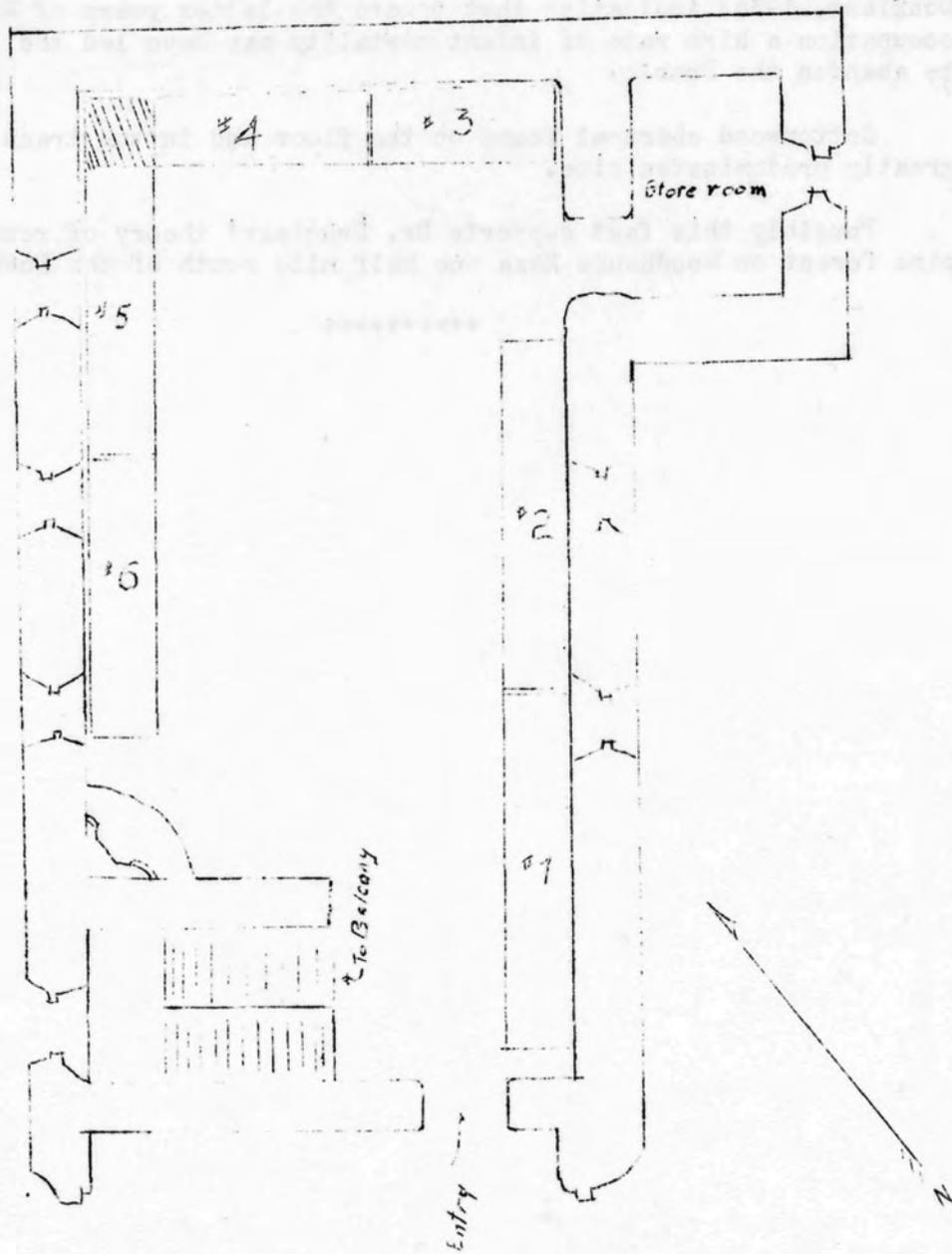
The latest tree-ring date yet obtained at Wupatki is 1205 A. D.

EXCAVATION OF ROOM 7 AT WUPATKI (CONT.)

(National Geographic Society, Pueblo Bonito Series #V, Dr. A. E. Douglass, 1935) indicating that toward the latter years of Wupatki occupation a high rate of infant mortality may have led the inhabitants to abandon the Pueblo.

Cottonwood charcoal found on the floor and in the trash pit greatly predominates pine.

Possibly this fact supports Dr. Douglass' theory of receding pine forest on Woodhouse Mesa one half mile south of the Pueblo.



Floor Plan - White Sands Administration
Building Lobby -

WHITE SANDS MUSEUM PLAN

By Charlie R. Steen, Jr.

As the new administration building for the White Sands National Monument nears completion, it becomes imperative that a tentative outline for exhibits in the lobby of the structure be made. The White Sands National Monument was created to protect an area of white gypsum sands which is unique; no other formation of its kind is known. Aside from the very interesting story of the formation of the sands is the striking effect that this large expanse of dunes has had on the small forms of animal life which live within its boundaries. The museum unit at White Sands is also the logical place for telling the ethnological story of the Mescalero Apache and part of the history of early European conquest of the Southwest.

At present, I believe it is safe to say that the combination lobby and museum at White Sands will be one museum in the Southwestern Monuments in which visitors will spend considerable time. During two thirds of the year the heat and glare of the sun in the dunes are excessive to human bodies and eyes. A large, cool room with comfortable seats and an adjacent rest room will be conducive to a feeling of quiet and rest. A large portion of the visitors to the sands are picnickers from southern New Mexico and west Texas; these people often arrive in the afternoon and spend a good part of the evening in the area. The combination of factors should cause many of these to spend more time in the lobby than in other museums in the Southwest.

In all probability there will be few guided trips into the dunes and equally few conducted museum parties; a ranger must be on hand, however, to furnish supplementary information. Six exhibit cases have been outlined in this plan; each case has been drawn up as a complete unit and with an eye to tell as complete a story as possible of geology or life in the White Sands area.

Design of the Cases

In keeping with the Colonial Spanish and early Mexican atmosphere of the region and of the administration building, cases of unpainted and unstained pine are suggested. The cases should be treated with hot linseed oil. Reading tables, benches and chairs on the lobby floor and on the balcony should be in harmony with the cases. An abundance of wall outlets for electric current make interior lighting for the cases feasible; shelves in the cases are to be of glass. In addition to lights on the lower shelf and in the top of the cases, display lights are to be fastened to the mullions.

As in the past, criticisms of this tentative museum plan are invited from all who might be interested.

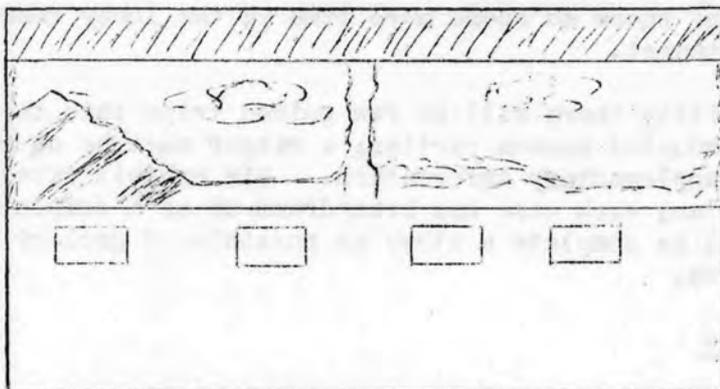
PROPOSED WHITE SANDS MUSEUM (CONT.)

Case # 1 - Geology

Location - southeast wall, to the right of the entrance.

Dimensions - length, 15 feet; height, 8 feet; depth, 3 feet

Proposed exhibit - A large exhibit showing an east-west cross section of the Tularosa Basin in bas-relief with the continuation of the mountains and valley shown by a painted background. Labels at the base of the exhibit to describe A- The action of water in carrying gypsum bearing soils of the San Andres and Organ Mountains into Lake Lucero; B- The gypsum being held in solution by the waters of the lake until the volume of lake water decreases due to excessive evaporation, causing crystallized gypsum to form on the lake shores; C- Erosive factors involved in breaking the crystals into sand; D-the prevailing southwest winds which have blown the sands into dunes and which are slowly moving the mass in a northeasterly direction; and E- the typical desert of the region extending east of the sands.



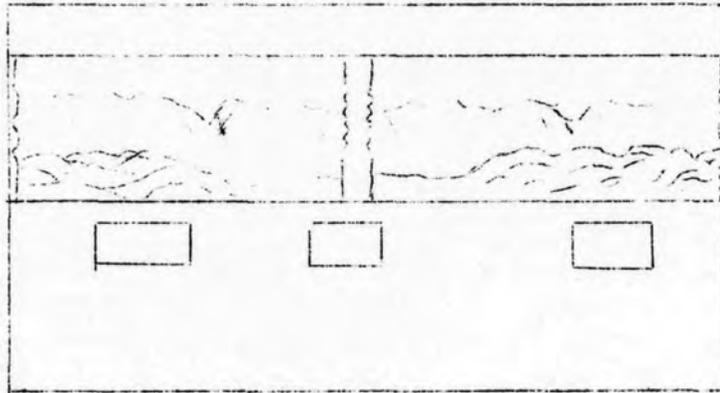
PROPOSED MUSEUM AT WHITE SANDS (CONT.)

Case # 2 - Ecology

Proposed location - Southeast wall, between Case #1 and storage room door.

Dimensions - Length of case, 15 feet; height, 8 feet; depth, 3 feet.

Exhibit - A north-south profile of the valley showing: A - The Sands; B - the typical desert north of the sands; and C - the lava beds west of Tularosa. The background to be a painting of the San Andres Mountains. On each of the three divisions of the exhibit to be shown specimens of the small fauna of the region. The purpose of this case is to illustrate the effect of the Sands and lava beds on the protective coloration of the rodents, lizards and insects of the region, normal examples of which are to be shown in the central section.



PROPOSED MUSEUM AT WHITE SANDS (con'd)

Case # 3 - Archaeology of the Tularosa Basin

Location- Northeast wall

Dimensions- Length 8 ft.; depth 3 ft. ; Height 8 ft.

Proposed exhibit - The archaeology of the Tularosa Basin is not particularly important but Folsom points have been found here and one, or possibly two other cultures are in evidence. Along the east side of the valley are the remains of a peripheral Pueblo culture, studied by Mera, and near water-holes and around the White Sands are campsites of possible nomadic groups. It is not proposed to do much more than exhibit examples of artifacts of each culture in this case with models of the pueblo houses if the necessary measurements are available and explanatory labels.



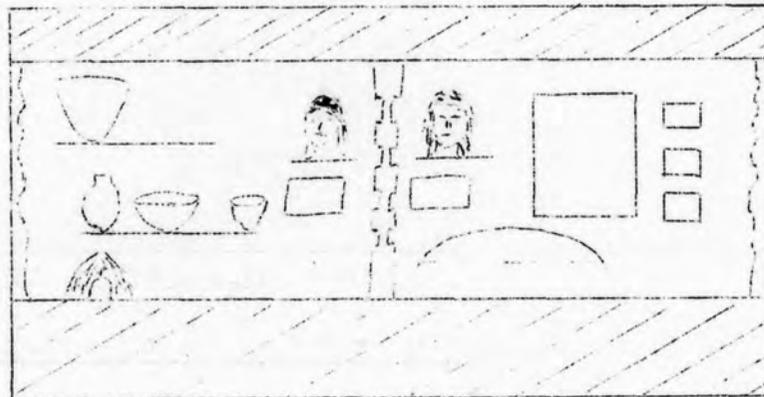
PROPOSED MUSEUM AT WHITE SANDS (CONT.)

Case #4 - Ethnology of the Mescalero Apache

Location - Northeast wall.

Dimensions - Length, 16 feet; depth, 3 feet; height, 8 feet.

Proposed exhibit - Centerpiece of the exhibit to be busts of a Mescalero man and woman. Flanking these, examples of the material culture of this branch of the Apache; baskets, pottery, wooden objects, weapons, house models. A map showing the range of the Mescalero and old photographs of the Indians and their villages against the back panel.



PROPOSED MUSEUM AT WHITE SANDS (CONT.)

Case #5 - Spanish and Mexican History of the Tularosa Basin

Location - Northwest wall

Dimensions - Length, 12 feet; height, 8 feet; depth, 3 feet.

Proposed exhibit - It is quite possible that permanent loans or donations of early Mexican and some Spanish material will be made to the museum so it is suggested that no definite plan be made for this case. The rather large tools to be supplemented with scale models of house types, farm implements, carretas, etc. A map showing routes of early explorers of the valley, the later Mexican trail to form part of the background. Small panels describing important events in the region up to the signing of the Gadsden purchase to flank the map.



PROPOSED MUSEUM AT WHITE SANDS (CONT.)

Case # 6 - American History

Location - Northwest wall - between Case #5 and the fireplace.

Dimensions - Length, 12 feet; height, 8 feet; depth, 3 feet.

Proposed exhibit - Leading off with the mediations for the sale of the strip of land along the United States-Mexico border to the United States, which took place at the nearby town of Mesilla; this exhibit is to show the gradual replacement of the early southern culture by a northern. The establishment of the Blazer lumber mill, the Lincoln County war, early mining activities and the efforts to exploit the gypsum of the White Sands are some of the fascinating stories to be told of the final chapter in the history of the region.