

MUSEUM OF
NORTHERN ARIZONA
FLAGSTAFF, ARIZONA

SOUTHWESTERN MONUMENTS MONTHLY REPORT NOVEMBER, 1934

LAST YEAR we had 193,392 visitors of whom we reached 109,081 with our educational and information service. This left 86,301 to whom we could not give service and from whom we could not protect certain monuments because of LACK OF PERSONNEL.

IF YOU THINK we wanted these 86,301 visitors, you are badly mistaken. We didn't ask them to come and our only advertisements were satisfied visitors who urged their friends to come. We have no big hotels, no railroads, no travel bureaus pulling for us. Yet in the next twelve months we are going to have about 90,000 visitors where we cannot protect our monuments from them because of LACK OF PERSONNEL.

You just can't put ten or 15 national monuments, some of them the finest of their kind in the United States, under the bed and tell people not to go and look at them. The people are coming.

THE ONLY ANSWER I can see is to PUT MEN IN CHARGE and deliver protection and service at the same time.

CHACO CANYON
NATIONAL PARK SERVICE
P.O. Box 26176
Albuquerque, New Mexico 87125

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

SOUTHWESTERN MONUMENTS

REPORT FOR NOVEMBER

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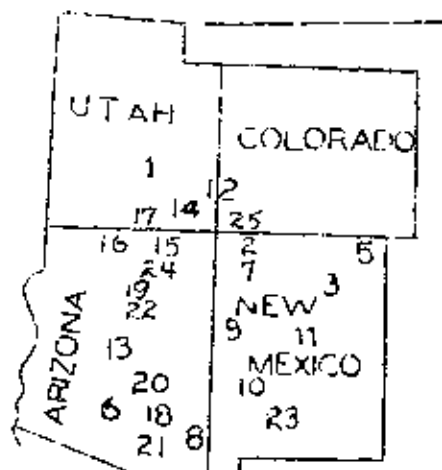
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LOCATION AND PERSONNEL OF SOUTHWESTERN MONUMENTS

HEADQUARTERS----Southwestern National Monuments Office, Coolidge, Arizona. Frank Pinkley, Superintendent. Robert H. Rose, Acting Assistant Superintendent. Dale King, Junior Park Naturalist. Hugh E. Miller, Chief Clerk.

1. Arches ---Moab, Utah. J.J. Turnbow, Custodian.
2. Aztec Ruins ---Aztec, New Mexico. Johnwill Faris, Custodian.
3. Bandelier ---Box 669, Santa Fe, New Mexico. Earl Jackson, Cust.
4. Canyon de Chelly ---Chin Lee, Arizona. Robert R. Budlong, Cust.
5. Capulin Mountain ---Capulin, New Mexico. Homer J. Farr, Custodian.
6. Casa Grande ---Coolidge, Arizona. Hilding F. Palmer, Custodian.
Louis H. Graywood, Park Ranger.
7. Chaco Canyon ---Crown Point, New Mexico. Thomas C. Miller, Cust.
8. Chiricahua ---Wilcox, Arizona. No Custodian.
9. El Morro ---Ramah, New Mexico. E.Z. Vogt, Custodian.
10. Gila Cliff Dwellings ---Cliff, New Mexico. No Custodian.
11. Gran Quivira ---Gran Quivira, New Mexico. W.H. Smith, Custodian.
12. Hovenweep ---Cortez, Colorado. No Custodian.
13. Montezuma Castle ---Camp Verde, Arizona. Martin L. Jackson, Custodian. Frank Fish, Park Ranger.
14. Natural Bridges ---Blanding, Utah. Zeke Johnson, Custodian.
15. Navajo ---Kayenta, Arizona. John Wetherill, Custodian.
16. Pipe Spring ---Moccasins, Arizona. Leonard Heaton, Acting Custodian.
17. Rainbow Bridge ---Kayenta, Arizona. No Custodian.
18. Saguaro ---Tucson, Arizona. No Custodian.
19. Sunset Crater ---Flagstaff, Arizona. No Custodian.
20. Tonto Cliff Dwellings ---Roosevelt, Arizona. No Custodian.
21. Tumacacori ---Box 2225, Tucson, Arizona. George L. Boundey, Custodian.
Martin O. Evenstad, Park Ranger.
22. Walnut Canyon ---Flagstaff, Arizona. No Custodian.
23. White Sands ---Alamogordo, New Mexico. Tom Charles, Custodian.
24. Wupatki ---Flagstaff, Arizona. No Custodian.
25. Yucca House ---Cortez, Colorado. No Custodian.



UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
SOUTHWESTERN MONUMENTS

Coolidge Arizona, December 1, 1934

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

Dear Mr. Director:

The first section of this report for December will deal with a general resume of activities over the Southwestern Monuments region. Following this summary of three or four pages will come the individual reports from the various monuments.

SOUTHWESTERN MONUMENTS GENERAL

TRAVEL AND WEATHER

Our October report had very little consolation to offer on general drouth conditions in the Southwest. Little rain had fallen while weather continued to be exceptionally mild for the time of year. November, however, has brought a decided turn in climate. The month opened with the prevailing mild weather but during the third week a cold wave broke upon most of the region causing the mercury to skid down to lower levels ranging from 5 degrees to 20 degrees above zero. A blanket of snow up to more than a foot depth in some places covered the plateau and mountain areas while temperatures in the southern desert valleys have taken a decided tumble. In fact minimums of some 17 degrees here at headquarters compare with the 5 to 20 aboves reported as minimums elsewhere during the month. While there has not been any appreciable precipitation prior to the striking of this storm, the snow fall and colder weather give promise of a materially more severe winter than was last and it is hoped that there will be sufficient precipitation the winter through to really replenish springs, seeps, water holes and the great reservoirs.

Travel for November shows the usual decline in numbers compared with the previous month. Comparing November travel figures of this year with those of last, however, a decided increase is noted. Bandelier, Aztec, Montezuma and Casa Grande show the biggest gains. Interest in construction projects, improved facilities and new museum acquisitions account for some of the increase. Greater general travel must also be responsible for the greater part of this increase.

S. WESTERN GENL. CONTD:

CONSTRUCTION

All Public Works projects in the region are completed with the exception of the Aztec Ruins Museum and Administration Building which is being done under contract with Harry Gedney, now 30% complete, and minor interior work in the Great Kiva. Work has progressed nicely thus far with but little interruption because of inclement weather. With roofs over the structures it will be possible to continue inside work independent of outside weather conditions.

Work on the trail, trail approach and trail tunnels at Canyon de Chelly was finished in the latter part of the month. Clean up was performed and the tools were removed. Funds were provided through the Indian Service while engineering and landscaping were under the supervision of the Park Service. The Indians are already making good use of this trail and by next summer some good observations on the functioning of the trail in relation to visitor service can be made.

ECW ACTIVITIES

The remainder of construction work of any consequence done during the month was accomplished under ECW programs at Chiricahua and Bandelier national monuments. In order to present a brief and precise picture of what these camps have accomplished a listing of their activities will be made:

Chiricahua

During the month of November work has progressed on the following projects at Chiricahua:

1. Headquarters area landscaping
2. Sewage disposal system in administration area
3. Sewage system for Benito Canyon public camp ground
4. Telephone line Sugar Loaf Mountain to public campground.
5. Trail cleanup of horse trails in Rhyolite Canyon which were completed in October. This trail and scenery along it are of surpassing quality and beauty.
6. A truck trail from Massai Point to Sugar Loaf (lookout).
7. Some roadside cleanup work.

The remaining work of the month under ECW at Chiricahua was done on Forest Service projects.

Contracts have been awarded on the sewer tile, fittings, etc. for the sewer systems being constructed under ECW.

Bids have been opened on 1300 worth of culvert pipe which was secured under 4x391, Post Construction, Emergency Roads and Trails.

SOUTHWESTERN GENERAL CONTD:

At Chiricahua National Monument a topographic survey was initiated under the Forest Service some months before the official transfer of the Monument to the Interior Department. This survey which had advanced quite far along under the Forest Service has now been taken up by the Engineering crew of Field Headquarters. Surveyor Clark under whose direction the work was done as a Forest Service project has been secured to complete the job. The topographic map will be invaluable as a base upon which to do future planning, while also no geological and other research of a thoroughgoing nature can get very far without an accurate map.

On the 21st and 22nd of the month Resident Landscape Architect Harry Langley was at Chiricahua where he and Engineer Walter Attwell layed out the Sugar Loaf Mountain trail.

Chief Clerk Hugh Miller who is Procurement Officer for the M-28 Camp, and EC7 Clark Webb Cole, were at Chiricahua on the 21st and 22nd going over equipment matters and other details connected with the administration of the camp.

Bandolier:

Bandolier EC work has continued through the month with practically no loss of time because of bad weather. Work completed or in progress there during the month consisted of the following:

1. Five bridges for foot traffic
2. Administration-Campground area vehicle bridge
3. Completed three cattle guards
4. Guarding and hauling rock for parking area curbing
5. Campground comfort station wall under way
6. Tree and shrub planting on Canyon floor

GENERAL EQUIPMENT

The principal items of equipment secured during the month have been purchased under Emergency Roads and Trails Funds. Purchases listed by monuments include:

White Sands

- 1-one man power grader
- 1-convertible dump truck
- 1-standard pickup car

Bandolier

- 1-one man power grader
- 1-convertible dump truck
- 1-standard pickup car
- 1-"35" Caterpillar tractor
- 1-rotary fescue
- 1-scorifier

SOUTHERN GENL. CONTD:

For completeness we will list the Chiricahua Emergency Roads and Trails equipment purchases. These were made in October:

Chiricahua

- 1-one man power grader
- 1-convertible dump truck
- 1-standard pickup

PERSONNEL

The status of personnel as to custodians, rangers, temporary rangers and others of the regular force, remains the same as reported upon for October.

HEADQUARTERS PERSONNEL FIELD TRIPS

The field trip of Chief Clerk Hugh Miller and EOW Clerk Bob Cole to Chiricahua was referred to under EOW activities.

Engineer Attwell included an inspection of Yucca House and Hovenweep national monuments in his itinerary for the month. Studies relative to immediate protection needs and plans for ruins repair and protection were made. Attwell's other activities are covered in his section of this report which will be found by consulting the Index.

The Boss left headquarters on November 16th to attend the Park Superintendents Conference. Remaining over several days for special work following the general conference, he returned home the evening of the 27th. Elsewhere in this report he refers to the work of the conference.

MUSEUM AND EDUCATION

Lecture and field trip services at the various monuments during November were practically as reported in October.

A preliminary plan on the proposed White Sands Museum was prepared by Bob Rose during the month and copies have already gone forward to the Washington and Berkeley offices. The Supplement of this report contains a reprinting of the plan. On the basis of a similar plan submitted for Bandelier in October, a suggested sketch has been made by EOW Landscape Architect Morse. As a general thing he certainly drew up a fine sketch. A few minor changes, as would be expected, will be suggested before the final drawings are prepared.

Determination of wall details, plaza levels and uses made of various rooms and adjacent areas, are included in a research problem which is planned for Tumacacori in December. Field Naturalist G. P. Russell has arrived to work out necessary historical data on the Kino chain of missions generally, which is absolutely necessary to the presentation of the Tumacacori story in the proposed museum there.

We thus conclude the general report on an active and interesting November among Southwestern Monuments.

REPORTS FROM THE NEW EXCAVATION FIELD

DR. J. OLIVER, NATIONAL MUSEUM

By J. H. Smith, Custodian.

Report this approached again and I will try to record some of the happenings of the season for the last month. I have registered 299 visitors entering the Monument in 78 vehicles. These visitors came from seven states, namely, South Dakota, Oklahoma, Colorado, Texas, Arizona, Oregon and New Mexico. This shows a decrease in travel by this Monument for the same month of last year, but a slight increase over the previous month.

I have been given the new articles for the Museum collection this month. They are a bottle and, found about three miles north east of the Monument, and one bottle and one, found fourteen miles north of the Monument.

There has been some talk of a road to be built past here which will connect Garfield County and the Grand Canyon Arizona. Should this be built I believe that it will increase the number of tourists by at least 50%. The road is in the east of here and the principal cause of our not getting more tourists. I will not say a direct cause from the Government has picked up the larger part of those people that now go by El Paso and over the Rio Grande route. There is far more travel on the southern route than there is on the highway north of here.

I have talked with a number of hunters who hunted in the forest west of here this season, and from what they say, a short distance from here are a number of Indian Pueblos- one that was formerly thought to be in the region of the river. One that interested me, as described as being a compound and built of a hill by about two hundred feet long, and containing about thirty or thirty rooms. It was said that there are three places inside the inner wall that looked as though they had been springs in the past. This could be a good field for excavation, as there aren't any signs of mounds in this particular ruin.

The weather conditions for the last month, generally speaking, have been fine. There was a rain the night of November 12th, and another the 17th. The weather at present looks as if there will be no more rain. It has so far about half of today, but the ground is dry, and the air is still in the fall.

DR. J. OLIVER, NATIONAL MUSEUM

By Leonard Weber, Acting
Custodian

How time has flown! we are in to be recording something before winter sets in! I have been busy getting the place cleaned up and in good order for the winter. It is not to be done before the last of the season of the year. Our travel this month is still on the decline, as it was last month, and the count shows the fall in.

REPORTS FROM THE MEN IN THE FIELD
SPIRIT SPRINGS NATIONAL MONUMENT (CONT)

Visitors, other than local		Local travel only	
Arizona	11	Car, truck and horseback	329
Utah	5	Visitors, others than local	32
Illinois	1	Total for November	361
California	8	Total for last month	490
Texas	2	Decrease	59
Minnesota	2	Of this total there were	
Nevada	3	6 carriers.	
Total	33		

I do not look for much more travel as there is snow on the mountains and cold weather has set in with ice and frost lasting until about 10:00 each day. There will be the usual local travel all winter, but other than that this place will be lonesome until next spring.

Weather Report:

Up until the 15th we had very nice fall weather with plants still looking as if it were spring. Many weeds and flowers were coming up. On the 15th a north wind and a few clouds came up, in the morning of the 17th it began to rain lasting until 9:30 A.M. Another rain started about 1:00 in the morning of the 18th and kept it up until 11:00. Then we had another rain starting at 9:30 A.M. and lasting until midnight of the 19th; a very good storm which will help the live stock out a great deal, getting up the dry grass and weeds so that stock can get some strength and food from that they eat.

I have spent considerable time in going over the maps of the road and cattle-guard studying them so that I will be able to carry out the building of them as desired. I have also been planning and working how I can best accomplish this work with the money that I have to spend. Then so much of it has to go to buy material and get it delivered. I hope to be able to start work within two or three weeks as I think that I shall if the material is delivered as it has been planned.

Mr. A. T. Cornell will be out next week to do the surveying and staking out of the roads and marking the grade on the road as walking road.

Wupatki National Monument

James L. Becker, Jr., Ranger.

All, like our first one, the on Indians have come and gone. They have staked out enough trails to keep us in wire over all winter, now and I can get the trails built and no longer need the stakes. The harder I work on the trails the less I need to do on the next pile -- so my plan is this year, and everyone is happy.

From the 28th of October until the 13th of this month I trailed along with the engineering crew shooting the proposed new road from Highway 89 to Big Red Pueblo. It looks like a good straight shot from 89 to the Citadel, and then another right over the saddle between Mr. Donay's craters. At this point one gets a grand view of the Grand Canyon Desert and Little Colorado valley, and at close scrutiny Wupatki becomes discernable.

From the saddle the stakes cross Doudman's Wash and circle under the escarpment of Kana-a Mesa to the south unit of Mupatki. At this point on the North is the parking area and on the south the Administration building. The boys seem to have brought out and included the best we have to show.

From the 14th until now I have been working day and night to catch up on my Museum of Northern Arizona work. Although I have been on a Museum salary since November 1st I worked with the engineers because I believed it was what Dr. Colton would want me to do.

Included in our work has been a great deal of Mupatki material. In handling several hundred human bones from the site, some with very interesting informatics and scars, one's mind naturally turns to Museums and Displays.

I've been thinking about the Museum requirements of Mupatki and expect to submit our ideas within the next month. Our tentative outline needs a great deal of research because the old system of merely displaying hundreds of artifacts does not adequately explain the story we want Mupatki to convey.

The two ever-present questions of "why did they come here" and "why did they leave" can be beautifully illustrated from the past and present ecological conditions and to hope to bring this out by the geological and chronological correlations -- in other words just how Mupatki fits into the whole picture.

Our water system is rapidly becoming a problem. The only development (historic) of the spring has been done by local sheep interests. This has consisted of boxing the spring and piping the water three-fourths of a mile to the east boundary of the monument. The pipe is quite old and rusty; consequently the water is none too pure. I believe this question should be given prompt attention, and perhaps the first step is to determine the "water rights".

Lyn Hargrave of the Museum of Northern Arizona and Paul Bonshon of Walnut Canyon were overnight visitors on the 18th. Lyn set some traps and bagged some mouse specimens -- *Perognathus* and *Peromyscus*. I have taken and mounted several specimens, five of which are Pacific Pole Bat (*Antrozous pallidus pacificus*) that I have from the nest in the tank; a Western Red Tail Hawk and several varieties of mice. These complete the month's specimens prepared to date.

On the evening of November 14th we heard a car pass down below and thought it was some of the Engineering Crew. This, however, proved untrue because about an hour later Gene Gordon came up and said some guests (unintentional) are parking below. Captain and Mrs. Hudgins had been motoring down from the Grand Canyon when the altitude affected the Captain's heart. In an effort to reduce the altitude and rectify the ailment they turned into our road off 89. Fourteen miles later they found themselves at Mupatki -- too dark to see the pueblo and any signs of life -- out of gas and with no food or bedding. At this point (God bless him) Gene came along -- coffee and were in order at the Brother Home; then the Hudgins were put up for the night by the Gordons.

I guess that covers most of everything except the dozen Navajos who have been dropping in to keep us out of our \$5.00 per salary -- and I'm afraid I'll have to wait our travel figures for the month -- 79. It has been pleasant at Mupatki, but the snow on 86 evidently scared people away.

REPORTS FROM THE MAN IN THE FIELD

WHITE SANDS NATIONAL MONUMENT

By Tom Charles, Custodian

I have just returned from a visit to the White Sands. The cottonwoods are a gorgeous yellow, the leaves of the aromatic sumac a brown with the berries a brilliant red, and the stately yucca mounted on the tops of those snow white hills retain their vivid green. If you could but see that picture, Boss, you would better understand the reason I am a little "goofy" about the Great White Sands.

We certainly enjoyed the visit of George Grant, Chief Photographer of the Park Service, and judging from Mr. Grant's effusive remarks about the beauty of the Sands we are led to believe that he also enjoyed his visit here.

Mr. Grant was interested in the history of the country and gave us an entirely new conception of the value of local history to the Park Service. I wish it were possible for me to have a Park Service historian here for a few days. I would like to have him sort out the grain from the chaff. There is, in old road along the back side of the monument where occasional relics of the oxcart days are still found. Watson Ritch who has a ranch in that vicinity found two of the old carriage wheels some years ago-- they were hewn from cottonwood logs and were at least six feet high. Mr. Ritch, himself, is no newcomer. It was his father, W. G. Ritch, Secretary of State and Acting Governor from 1773 to 1884, who signed the papers which condemned Billy the Kid to hang. He never hung, however, for shortly before the date set Billy killed his two guards with their own guns and escaped.

The White Sands were in the very center of Billy the Kid's own range. This week Mr. Grant took some pictures of George Coe and Urm Blazer, the two remaining witnesses of the first battle of the Lincoln County War. Mr. Coe, who was on the side of Billy the Kid, lost his trigger finger in that fight. Are such things as these an appropriate part of the story of the Great White Sands? Should I, unofficially and unassumingly, gather the relics of the Lincoln County War and the old Spanish short-cut between Gran Quivira and El Paso for exhibit in the White Sands Museum?

People in this country claim that Geronimo de Vega crossed the lower part of this valley in about 1532 or 33. According to his own story they tie him in here pretty close. He was at least in the "barren" and piñon country. The short-cut on the old Butterfield trail also crossed a few miles below the Monument. There are literally scores of buried Indian pueblos in the valley, and even more Indian caves in the surrounding hills. In these caves are found baskets, sandals and burial bags. There are also scores and scores of unusual petroglyphs within a few miles of the monument and this display of petroglyphs is said to be the most remarkable in the United States. I am wondering if they are all a part of the story of the Great White Sands?

There are other things bothering me. Some of the evils which follow "civilization" seem to be creeping into these their hills of virgin sand. When we drove the last peg at the end of the road into the Sands nearly a year ago there was not a fly in a section, not an ant to a mountain. There was not a rodent or animal of any kind. Within a month or two there were found occasional flies at the picnic grounds; stray ants appeared; moths are now attracted by the lights of cars and a friendly pole cat almost begs the chicken bones from the tourists tables. This week we found an industrious gopher bulging up the ground at least five miles from his retreat neighbor. Are these things merely transient or must we count on them as part of the fixtures of the monument?

REPORTS FROM THE FIELD

WHITE SANDS (CONT'D)

We have had some unusual requests for white sands in the past month. Maude Helen Lynch, Lady about Town for KGOJ Radio Station, Sioux City, writes that she wants a ton of white sand for her fishing reel at the studio. She reaches half a million listeners and promises a favorable broadcast. We still had a little bottle of the real white sand, so we sent it to her with a couple of the sands. We hope that she will not think that bottle and release the hydrogen sulphide which seems to be a necessary adjunct.

The Mission Villagers in Los Angeles writes for 100 lbs of white sand to use in their Sacred Ceremony of their sun paintings. At the urge of the City Park Commission in Chicago, Senator C. H. McLean, Mayor of the New Mexico exhibit at the Century of Progress, gave his surplus white sand to the children's sand boxes in the city parks. The District Manager of the Ford agency in Denver has written their local agent at Albuquerque to bring a load of white sand to Denver on his next trip. They want it for exhibition purposes.

There is still no shortage of sand, however. The geologists report that there is a billion pounds of sand on every section and there are 175,000 acres. One third of the acreage is in the National Monument. The Albuquerque Chamber of Commerce sent 80,000 lbs of sand to Chicago and a few days later it was impossible to detect the place where it was taken out.

GRACE CANYON NATIONAL MONUMENT

F. C. MILLER, CHIEF

The activities of the Grace Canyon National Monument for the month have been as follows:

The approach roads have been expanded this month for winter travel. We have had enough precipitation to make the newly graded road to the north, but not enough to make the road slippery.

The weather has been excellent since the 15th, with sunny days and cool nights. There has been no snow since November 15th. A tabulation of the weather follows: The maximum for the month was 65 on the 1st and the minimum was 16 on the 15th. Precipitation was .67 inch, with 16 clear days, 9 cloudy days and 5 partly cloudy days.

Travel for the month included a total of 433 visitors, the majority in 172 cars from 10 states and Washington, D. C. Special visitors included Mr. and Mrs. L. H. Nick, Manitowish, Wis., who has been employed as Ranger at the Petrified Forest for the past two years. Mr. and Mrs. Chuck Richey and Mr. F. C. Carnes of the Grand Canyon and Mesas were here on official business Nov. 2. Mr. Paul J. Korman, National picture photographer for the Washington office arrived on the 3rd, shot 23 scenes of the ruins in the Grace Canyon reported for Canyon de Chelly on the evening of the 3rd. Ranger Markley of Las Vegas National Park arrived on the 3rd and departed on the 10th. Mrs. Caroline E. Stanley and party from the Grand Canyon (Abiquiu, N.M.) arrived on the 6th and departed on the 8th. Mrs. White Mountain Smith and Assistant Forester Mrs. C. H. Hall of the Petrified Forest arrived on the 20th and departed on the 21st. Mr. and Mrs. J. W. Correll, Grand Canyon National Park arrived on the 26th. Mr. Correll is an official U.S. Ambassador on the 26th.

During the month the Indians were given 10 head of cattle and as many muttons by the Federal Police. The cattle and muttons are butchered.

REPORTS FROM THE MEN IN THE FIELD

CHACO CANYON (CONT'D)

at the Chaco Canyon Trading Post near the Monument Headquarters. The meat was issued to the poorest families.

Mr. Stewart Hines, coal miner, was hired for 5 days during the month to mine 10 tons of coal for the Custodian's Office and Residence.

WALNUT CANYON NATIONAL MONUMENT

Paul Brumbien, Ranger-in-charge

Some winter has arrived. A few snow flurries and cold weather all but put a stop to sightseeing here for awhile. The last few days have been bright and warm with a corresponding increase of visitors. That is, if one can speak of increases with only 272 registrations in a month.

WITH FEWER VISITORS, I SUSPECT THAT THE HARVEST TIME FOR BOW-HUNTERS WILL SOON BE HERE. SEVERAL OF THE FINEST BOW-ARROWS WERE FOUND LIE IN DECEMBER OF LAST YEAR WHEN THE MONUMENT WAS DISCOVERED.

I was quite thankful when deer season ended. I have had to invite several parties to do their hunting some place else rather than in my front yard. Of course, I did not explain that said front yard was not on the monument. As it was, one buck was shot only 200 yards from the Ranger station.

THOMAS COOK NATIONAL MONUMENT

George L. Boudney, Custodian

Our records show 876 visitors for the month of November. During the first ten days of the month we were very busy with visitors, but later when the weather turned cold, windy and disagreeable there was a decrease. We can always depend on a good crowd for Sundays and holidays. Of course, these are mostly visitors from one hundred mile radius. We had one party of visitors from Washington who were very much impressed in the work done here under C. A. and F. R. They seem well satisfied with the results. The rain has filled up the water holes and the cattlemen are more encouraged than they have been in a long time.

There is more planting being done on the 100,000-acre Feedleton ranch than has ever been planted before; much new land is being broken up, giving employment to many of the neighbors who have long been out of work.

The wife earned 50 quarts of the peaches Father Line introduced into this country and the pomgranates were unusually large and luxuriant this fall.

TOMTO NATIONAL MONUMENT

Charlie R. Steen, Ranger in Charge.

In spite of four days of miserable weather, which was greatly appreciated, travel for November is nearly double that for October. Four hundred twenty-one visitors have braved the terrors of my entrance road; of these 248 walked up to the lower ruin and 13 to the upper.

No doubt every report letter you will receive this month will have a paragraph devoted to praise of the ruin last week. Just to be different I am going to cry the blues. The water used by road as a creek had and in one

place the ruts are now more than a foot deep. By a happy chance much of the surface gravel was washed near the highway so that near the turnoff the road looks almost like a boulevard.

During the rains Jack Snow came down from Flagstaff on his way to the valley so I locked up and took a few days off. He visited the Gila Pueblo diggings at Snake Town where we stayed over night. That evening the whole outfit went in to Chandler to hear a lecture by Doctor Douglas. The following morning we went to Sedledge and visited the monument, but missed you. After that, a day in the great metropolis where by chance we met Hossteen John Metherill; then back to the mountains.

During the month I located two small house sites on the monument so now we may advertise the Tonto as having five ruins. However I would dislike showing the last two to some skeptical tourist. The low waters of Roosevelt Lake have also exposed some petroglyphs at a red-on-buff culture site near the dam.

The weeks ago I ran across a rather gruesome story concerning the cliff dwellings. Years ago, before the dam was constructed, a rancher named Elivens lived in the valley near here. His two baby daughters died of diphtheria and were buried on the ranch. Subsequently Elivens moved out of the valley. While the dam was being constructed he heard that his old ranch would be covered with water, so saddled his horse, went back to the old homestead, dug up the bodies, and carried them to one of the two larger dwellings here on the monument where the bones were reburied. I have seen no traces of this recent burial, but have the story from two sources, so I am beginning to believe it to be true.

AZTEC RUINS NATIONAL MONUMENT

Jehudill Paris, Custodian.

November, 1934, is certainly a red letter month for the Aztec Ruins National Monument. Our visitors number more this month than any November since my arrival, five years ago. This month we showed through our Monument 266 visitors, an increase of almost 100 percent over each of the past three years. Of course none of the passes are closed as yet and the building program which has taken place this past year has given us more publicity than we have ever had before.

Sparking of our work program, it is certainly in its last stages. I have purposely postponed the painting of the Great Miva, and since our cleanup was completed our Public Works is at a standstill.

The contract, of course, is continuing precisely as well as could be expected. Mr. William Gehrhardt of the San Francisco office, arrived this month and is acting in the capacity of inspector for this unit. Both he and his wife we enjoy very much and I certainly appreciate being relieved of the technicalities involved in his work. The contractor has had fair weather although it has, of late, been threatening and we have every promise of one of our November snow storms. The lobby interior is approximately 80 percent completed.

as far as the stone work itself is concerned. I am much better pleased with the finished wall than I anticipated at the start. The contrast which I mentioned before is not nearly so noticeable now that the entire walls are nearing completion.

Some little difficulty has been experienced in our securing the proper appearance on our big ceiling beams, the tendency having been to cut too deep and destroy the appearance desired. Mr. Gebhardt is paying particular attention to these details and I have no fear but that the finished ceiling and the structure generally will conform to excellent standards as insisted upon by Field Headquarters.

It was certainly a pleasure to make the report on the use of our Great Kiva as a museum and has been a means whereby I could more or less record a dream that has come to be a leader in my secret ambitions. My only fear is that I have been unable to paint the picture as I really have it in mind and it is a responsibility to feel that its failure might hinge on my inability to get my ideas across. If I could picture the demand of our general public for something more or less in this line, I know that those in authority could not but give the feature a trial at least. Possibly in summing up the entire analysis we might condense a portion of my argument in just this brief quotation: "It isn't the taste of the fisherman that determines the bait to be used; it is the taste of the fish." I do not wish this to carry the inference literally that our visitors might be fish but after all, their desire should govern our actions to a certain extent.

We hope that you had a pleasant and profitable trip in attending the Superintendents' Conference at Washington. We trust also that through our accomplishments of the past year we might have contributed somewhat to your pride in the administration of the Southwestern Monuments as a whole.

Every good wish to your entire force and a hearty, merry Christmas and a sincere wish that 1936 shall serve as a season wherein we can enlarge on our efforts toward a grander service than even we now have.

CANYON DE CHELLY NATIONAL MONUMENT

Robert R. Rudlows, Custodian.

As I write this monthly report the snow is falling steadily. A week ago there was one light flurry of snow, and at night the temperature drops down into the 'teens. Cold weather is here, the roads are rather less passable than formerly, and our visitors very few. The past two weeks we have had but six visitors.

Visitors for the month numbered sixty-two. Twenty-nine of these drove into the canyons, thirty-three drove to the rim, and seventeen of these thirty-three descended the trail to White House.

The trail is completed. Work on the trail and upper tunnel and approach was terminated the afternoon of Saturday, November 17th. Tuesday, November 20th, was spent cleaning up the trail and tunnel. On Wednesday, the 21st, all tools

and equipment were removed from the job and sent to Fort LeFiance. The trail is 4,085 feet in length, the descent being approximately 548 feet.

Mr. Henry E. Cutler, Jr., who was doing ranger duty at this monument, secured a position with the Soil Erosion Service and left here for Gila Camp, near Silver City, New Mexico, the evening of November 3rd.

Mr. and Mrs. J. B. Hamilton were here a number of times during the month. Mr. Carnes and Mr. and Mrs. Chuck Richey were here the 2nd and 3rd.

I left Canyon de Chelly National Monument the afternoon of November 11th, on a trip to Headquarters, returning to this station November 22nd, via Prescott, Montezuma Castle, and Flagstaff. Several inches of snow fell in Prescott the night of November 19th.

I am greatly indebted to Mr. McCartain, Principal of the Indian School at Chin Lee, through whose kindness I am temporarily domiciled in one of the Indian Service cottages here. The problem of living quarters is acute, and twice I have had to change my place of residence.

Water is again coming down both canyons, and travel in them is very difficult, even in cars equipped with airwheels. I am now engaged in making photographic records of the trail and of some of the ruins, which I shall send you from time to time.

MONTESUMA CASTLE NATIONAL MONUMENT

Martin L. Jackson, Custodian.

I have the following to report for this monument for the month of November, 1934.

Visitors numbered 1,299, which is quite a substantial increase over the same month last year when we had 896. Even so, I feel that we are not getting as many out-of-state visitors as we should, which no doubt is due in part at least to the fact that there is a very bad stretch of highway between Gallup and Albuquerque and for that reason visitors are being routed the southern route. Several people along Highway 86 have told me of this condition.

There are four C.C.C. camps within a radius of 12 miles of the Castle, which no doubt has played quite a part in the number of visitors holding up as well as it has. Speaking of the C.C.C. boys, I want to take this opportunity to say that they, as well as the personnel, have co-operated with us one hundred percent while on the grounds, and while being shown through the Castle and Museum. These boys usually visit the Monument on Sundays and come in parties of 50 to 75. As you know, we do not consider it safe to take parties of more than 12 through the building at one time and as it takes 25 to 30 minutes to show a party through, it simply means that some are required to wait their turn. On one or two occasions people have had to wait for an hour or so, which was done very cheerfully. There must be something to this C.C.C. business.

Mrs. Fish and little daughter Shirley ("The Minnow") returned the first of the month from New Mexico where she has been visiting for some two months. Mrs. Fish is the wife of Ranger Frank Fish.

Mrs. Jackson, wife of the custodian, has returned from a four-weeks trip through the different Indian reservations where she has been making purchases for her curio shop located here. She reports that good quality Indian hand work is quite scarce and is higher in price. She says further that the Indians all look more prosperous than usual. She spent several days visiting at Bandelier National Monument and she agrees that Bandelier ranks next to Montezuma Castle as a National Monument. Bandelier must have a lot of merit.

Custodian Rudlong from Canyon de Chelly, accompanied by a brand new wife, spent a night here during the latter part of the month. Needless to say, we enjoyed their visit a lot and we predict big things for the Canyon with Rudlong in charge and a wife that is greatly enthused about the Southwest.

CAPULEN MOUNTAIN NATIONAL MONUMENT

Homer J. Farr, Custodian.

I have the following report for November: This month has been pretty nice from the weather man's standpoint and we have had a fair run of tourists. I would estimate probably about fifty per day, possibly a few more, or around eighteen hundred this month. The weather has been so warm this fall that I have seen many campers over night there during the month. An old couple from North Dakota was apparently making a general round of practically all of the National Monuments in the Southwest and they told me they were enjoying their visit immensely.

Our weather got bad as usual November 20th and we had our usual snow flurry of about two inches of snow and plenty of wind. We also had a very nice rain about the tenth and with the two together some moisture has fallen. Both the rain and the snow were quite general.

Roads in general are in better condition near and around here than is common for this time of year and travel is holding up good every day.

We are expecting a possible free stocking of elk on our monument this month as the big elk hunt is on just about fifteen miles west of here and elk will travel that far some times when they are molested. There are between three and five hundred just about fifteen miles west of here and the State Game Department is staging a grand elk hunt this week in that vicinity.

EL MORRO NATIONAL MONUMENT

E. Z. Vogt, Custodian.

I have the following to report regarding my enjoyable custodianship of El Morro:

Weather and Travel Conditions:

It has been a wonderful fall month with the exception of a snow storm which

fell on November 19 and continued blustery for several days. This snow was a great help to stockmen who needed moisture to freshen up the ranger and supply water in valley tanks for sheep and cattle to drink. The snow did not pile up so as to stop travel, though it stopped the less venturesome from driving. At El Morro the runoff from the crevices in the cliff over the water holes was sufficient to raise the water level of our storage supply by several inches. The cold has been below freezing at nights, once as low as 4 above, but not intense enough to freeze down the oats planted in our filled area in the old camp cove. In fact it still is very green in this favored spot.

I had my greatest thrill of the month when Mrs. Vogt and I walked into the Harvey House at Gallup and met Robert Edlong, Canyon de Chelly Custodian, and his charming fiance just arrived from Washington to become Bud's bride.

Visitors:

A total of 250 visitors have gone to El Morro during the month and I have contacted an average of four parties every Sunday that I have been at the Rock.

Among the most interesting visitors was the group of descendants of Isaac T. Holland, who camped at El Morro July 8, 1858, with the first emigrant train over the Seale Route. In the party which visited us on November 1st there were Laura Belle Bentz, daughter of "Isaac Holland, from Missouri, 1808," J. D. Ruckman of Lardanella, California, who said he was the son of the E. T. Ruckman, first Indian Agent at Zuni (though I thought T. D. Graham was the first agent at Zuni). E. T. Ruckman married Adeline Daly at Zuni. Nancy Daly, Mrs. Bentz's aunt, married Lieutenant Simpson in Albuquerque, New Mexico, January 1, 1859. Lieutenant Simpson is the author of course of the War Department Report which covered the discovery of the old Spanish inscriptions on September 17 and 18, 1849. We got a thrill out of the visit of these people who journey back to camp where their ancestors camped and carved some 75 years ago. I intend to follow up this contact in search of more interesting history.

New El Morro Folder:

Through Miss Story we have received a generous supply of the little folder about El Morro which supplies a long needed want, often asked for by visitors. These have been judiciously placed in our visitors registration book, at El Navajo Hotel, Gallup, and with the Chambers of Commerce at Gallup, Grant, and Albuquerque.

Indian Dances:

During the month I attended the combination Fire Dance and Yehichi Dance near Otis Trading Store half way between Aztec and Chaco Canyon. Approximately 2,000 Navajos took part in these ceremonies, which, owing to the driving snow storm and earnest devotion of the dancers, was the most impressive I have ever seen. At this dance were Mr. and Mrs. Herbert Gebhardt of the San Francisco office, Custodian John Will Faris, Custodian Tom Miller of Chaco Canyon, and his gracious wife. We had to wait until 3 A. M. to see the climactic spectacle of

the Fire ceremony but it was entirely worth while and I wouldn't have missed it for anything in the world. The Shaleko Dance of the Zuni Indians will take place on December 10 and promises to be a largely attended affair and one of the most gorgeous owing to the prosperity of the Zunis.

Nature Notes:

Coyotes are singing their winter snow songs, but trappers are after them. I saw a native trapper with 3 coyote skins on a burro going to a trading store to sell hides. One night I almost ran over two jack rabbits kissing in the road. If they were not kissing, they were at least rubbing noses. Deer hunters have not done so well as usual.

BANDOLIER NATIONAL MONUMENT

Earl Jackson, Custodian.

Following is the report for Bandelier National Monument for the month of November:

Visitors:

Travel is gradually but surely going into its winter decline, but compared with previous years is still very encouraging; visitors numbered 632, as compared with 155 for November of 1933, being slightly better than quadrupled. Thirty-six states, Washington, D. C., and three foreign countries - England, Sweden, and British Guiana - were represented. This high winter-time number of states was due partly to the fact that a National Highway Engineers' convention was held in Santa Fe this month. These 632 people came in 173 cars. The six highest states, in order, were: New Mexico, 420; Colorado, 37; Kansas, 25; California, 25; Illinois, 16; Missouri, 15.

Weather Conditions and Roads:

Weather was quite mild this month until the evening of the 19th, at which time a slight snow fell. On the 20th about two inches of snow fell, and much of this is still on the ground. There is considerable snow on the higher mountains. Frijoles Creek is running briskly, although the weather has been rather cold. In the canyon the days are comfortable, and nights feel quite chilly, although the thermometer has not registered more than seven degrees below freezing. Roads are poor, being rough and corrugated, although not washed badly. One is taking his life in his hands to attempt to go to Santa Fe without chains during a snow storm. I tried it. After wisely telling other people they should not attempt this trip by auto through the snow-covered road without tire chains, I promptly drove out without any, in the midst of a snow storm. I got halfway up a 14% grade eight miles from here before I slid off the grade. Of course I slid to the inside instead of to the outside, or I might have been playing the harp along with all the rest of the defunct government employees.

Special Visitors:

October 30: Paul R. Wilkerson, EXW motion picture photographer for the

Park Service, plus Mrs. and son, appeared. Before departing at noon the next day he had shot twenty-one scenes of ruins groups, scenic points in the lower canyon, and of ECW activity here. November 3: Walt Attwell arrived. November 5: Wildlife Technician A. E. Borell plus better half arrived for a ten-day stay. On this same day Bill Carnes and Chuck Richey, of the Branch of Plans and Design arrived for a stay of just a few hours. November 7: Lester Moe, a photographer working with the Forestry Division, came in on this day to take panoramic shots for fire lookouts. November 10: Chief Engineer Kittredge, attending the National Highway Engineers' Convention in Santa Fe, was in for a day and a half. November 24: Chuck Richey in again on inspection. On October 27 Mr. and Mrs. Frederick Law Olmstead were my guests for the day. I believe they were favorably impressed by the beauty of the Canyon. On November 3 Mr. R. W. Rogers, Corps Area Educational Advisor for the CCC camps, was an interested visitor. On November 11 a party of engineers visited. Among these gentlemen were the following: A. G. Bruce, District Engineer, US Bureau of Public Roads; Wilbur H. Simonson, Landscape Engineer, US BPR; E. W. James, Chief of Division of Highway Transportation, US BPR; John E. Slye, Senior Highway Engineer, New Mexico, US BPR.

Improvements:

CCC Work has continued with the loss of only one-half day due to inclemency of weather. Five foot bridges are under construction; two will be finished in a week. The vehicle bridge connecting camp ground with new administration area is practically done, but some rubble masonry on the wing walls is yet to be completed. Three cattle guards are complete. Considerable quarried rock for parking area curb is now on hand at the site. Excavation for sewer and two septic tanks is well started. The camp ground comfort station is under way, with walls three feet high. Approximately 125 shrubs and trees have been planted on the canyon floor.

Fires:

No fires are reported this month. For a while during the early part of the period, a fire lookout was stationed at St. Peter's Dome as a precaution; the weather was exceedingly dry until the snow storm came. Now the lookout has been removed, and we anticipate no fires for some time.

Nature Notes:

Following is a list of birds observed by Adrey E. Borell, Wildlife Technician, on the nature walks which we made together through the monument:

1. Kingfisher, one, Frijoles Canyon, Nov. 7, 9, 12.
2. Goshawk, one, Frijoles, Nov. 6; one, north rim of Frijoles, Nov. 13.
3. Blue Heron, tracks at mouth of Frijoles, Nov. 7.
4. Sharp-shinned hawk, one, Frijoles Canyon, Nov. 6.

5. Red-tailed Hawk, one, South Mesa, Nov. 8.
6. Merriam Turkey, tracks at various places on South Mesa, and along Frijoles Creek, Nov. 6-13. Between 15-25 were seen by Custodian Earl Jackson on Frijoles Creek, one-half mile below the upper boundary, Nov. 11.
7. Red-shafted Flicker, one, Mouth of Frijoles, Nov. 7; one, South Mesa, Nov. 8.
8. Rocky Mountain Sapsucker, one, Alamo Canyon, Nov. 8.
9. Rocky Mountain Hairy Woodpecker, one, South Mesa, Nov. 8; one Frijoles Canyon, Nov. 13.
10. Long-crosted Jay, several, various places on Monument, Nov. 6-14.
11. Woodhouse Jay, several, lower portion on Monument, Nov. 6-14.
12. Raven, one, Frijoles Canyon, Nov. 8, 10, 13.
13. Clark Nutcracker, one, South Mesa, Nov. 8.
14. Chickadee, common in canyons, Nov. 6-14.
15. Bushtit, flock of 20, mouth of Frijoles, Nov. 7.
16. Nuthatch, Rocky Mountain, one, South Mesa, Nov. 8.
17. Nuthatch, Redbreasted, one, Frijoles Canyon, Nov. 13.
18. Nuthatch, Pigmy, common over monument, Nov. 6-14.
19. Rocky Mountain Creeper, several, Nov. 6-13.
20. Pipper, several, Frijoles Creek, Nov. 6-14.
21. Canyon Wren, several, various canyons, Nov. 6-13.
22. Western Robin, several, Frijoles Canyon, Nov. 7; South Mesa, Nov. 8.
23. Townsend Solitaire, several, Nov. 6-14.
24. Ruby-crowned Kinglet, several, Nov. 6-14.
25. Grace Warbler, one, mouth of Frijoles, Nov. 7.
26. Brewer Blackbird, one, mouth of Frijoles, Nov. 8.
27. English Sparrow, several, Lodge, Nov. 7-13.

28. Pine Siskin, several, Nov. 8, 9.
29. Crossbill, few, south Mesa, Nov. 9.
30. Canyon Towhee, few, lower portion of Frijoles Canyon, Nov. 7, 9, 13.
31. Shufelt Junco, common, Lodge, Nov. 6-14.
32. Red-backed Junco, common, Lodge, Nov. 6-14.
33. Gambel Sparrow, one, South Mesa, Nov. 8.
34. Song Sparrow, one, Lodge, Nov. 7.

General:

While Mr. Kittredge and Mr. Attwell were here this month they followed out a line which had been recently surveyed for the tentative relocation of State Route 4; this is the re-location mentioned in previous reports, where the possibilities of cutting 26 miles off the distance between Bandelier and Santa Fe were suggested. Naturally, Park Service engineers could not participate in state road developments, but it was possible for them to make very good suggestions to those engineers representing the state of New Mexico. No report is at hand as to what the State will plan relative to this route - which route was found to be satisfactory as far as construction would be concerned - but we hope to hear something soon. I know local interest is high in favor of the development.

Mr. A. E. Porcell's stay here was much enjoyed and very educational for me. After we had walked about 75 miles over the different portions of the monument, certain ideas came graphically to the front; his report covers these ideas, but the most important suggestion should be covered here.

Bandelier National Monument covers over 26,000 acres of land along river bank and mesa surface; it is a great sloping tableland which gradually falls off into the Rio Grande. This area is transected by three large canyons, and farther on in the Valle Grande, that the Meria; turkeys have their breeding grounds; also, that region is the summer home of deer and other game.

Mr. Lester Moe came to Bandelier without previous notice, and I was unable, during the short time he was here, to go with him on location of suitable fire lookout points from which to shoot pictures; since I was bound by other work at that time, I asked Mr. James Fulton, Forestry Foreman here, to accompany Mr. Moe and show him any good points. Mr. Moe reported himself satisfied with the results of their search. Of course, we have no fire lookout on Bandelier National Monument; Forest Service lookouts have taken care of fire spotting through their own observation posts. I understand the function of Mr. Moe's work was to so photograph the monument area that panoramic pictures of its territory would be available for lookouts in the event that the Park Service might develop a location system here.

And then, of course, you have heard the one about the colored boy who entered the drug store and asked the clerk if he might use the 'phone, as he wanted to ask a man about a job. The clerk told him to go ahead, and so he took down the receiver, and after a moment got his party.

"Oh, is dat you, Mistuh Pinkley? Well, suh, I'se lookin' for a job. Does yo'all need a cullud boy to clean yo' garden, or to wash yo' cah?"

"No, I don't," was the reply. "I have a colored boy doing that work for me, and he is quite satisfactory."

"Is yo' shuah?" asked the boy again. "Quite sure," came the answer.

As Sam walked out of the drug store the clerk asked him if he had any luck getting his job.

"No, suh," came the answer. "I wasn't lockin' for no job. You see, Mistuh Pinkley is my boss, and I was jost checkin' up on mah self."

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CASA GRANDE NATIONAL MONUMENT

Hilding F. Palmer, Custodian

The month of November brought a slight increase of visitors over the same month last year. The registration this month was 2389 compared to 2026 for the same period last year. These visitors came in 717 cars from 43 states and the District of Columbia, Mexico, Canada, Germany and England were also represented. These visitors were contacted by 303 personally conducted ruins trips and 277 museum trips. Besides the visitors who were personally contacted and given educational service there were 301 visitors who used the facilities offered at this monument.

The weather during November took a decided turn toward winter. The morning of the 16th was cloudy and cold and at 12:15 P.M. it began to rain and hail. It settled to a fine rain which lasted until 8:00 P.M. The total fall amounted to .78 of an inch for that day. Again on the 17th it rained intermittently giving a fall of .06 of an inch for that day. The 18th was cloudy with no rain, but on the 19th there was a fall of .17 of an inch making 1.01 inches for the month. The first killing frost came on the 20th which was the beginning of a decided cold spell. The mercury dropped from 41° on the night of the 19th to 30° on the night of the 20th. The mean maximum for the month was 73.3 and the mean minimum 37.2. The maximum temperature for the month was 92° on the 12th and the minimum was 22° on the night of the 27th. There were 16 clear days, 2 partly cloudy and 12 cloudy days.

Among the Park Service employees the most important event of the month was the marriage of Robert Rudlong, Custodian of Canyon de Chelly National Monument, to Betty French of Washington, D. C. The event took place the evening of the 15th in the desert east of Florence. Dean Lane of Phoenix officiated at the ceremonies. Just after the sun had set the bride and groom were solemnly united in holy matrimony beneath a spreading ocotillo

and amidst all kinds of cacti--saguaro, cholla, cholla and prickly pear.

John Wetherill of Kayenta was among those who visited us the past month. Fr. C.F. Russell, Field Naturalist from Berkeley, dropped in for a couple of days just before this report was being written. He was on his way to Tumacacori to do some historical research.

A survey was made by the engineers for a 12-foot service road from the present parking area to the proposed utility area. It is planned to make a new topographic map of Compound A. Due to grading for drainage last winter, the elevations were changed.

REPORTS OF THE ENGINEERS

WALTER ATTWELL

Leaving Casa Grande National Monument on November 2, I visited Petrified Forest on my way to Bandelier National Monument arriving there on the evening of the third, for an inspection of the monument with Mr. Carnes.

From November 6th to the 11th I made a reconnaissance of the the proposed road from Santa Fe to the Monument.

Chief Engineer Kittredge arrived enroute to Washington, on the 12th and accompanied him on a visit to Governor Hochenhull and the convention of the American Association of State Highway Officials.

On the 14th I visited Yucca House National Monument to help form plans for more adequate protection of the ruins against erosion, stock and vandalism. On the following day I inspected the ruins of Hovenweep. My reports on both Monuments are in the files.

With Chief Clerk Miller and Assistant Clerk Cole I made an inspection trip to Chiricahua National Monument on the 19th to the 22nd of the month.

The remainder of the month was spent in the office on plans and designs for future construction work in the Southwestern Monuments.

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C.H. Gordon

November 1. Left Mupatki National Monument at 8:45 AM and arrived at Coolidge at 6:00 PM.

2. I left Coolidge at 4:00 PM and arrived at Phoenix at 5:30, where I stayed overnight, it being necessary for me to contact the State Highway Department there regarding their new location of Highway 49.

3. I left Phoenix at 8:30 PM and arrived in Flagstaff at 11:30 PM. From this date until the evening of Nov. 11th I was on the study location of the entrance road, trail location, and

n on ruin stabilization.

- 12 Left Tuzigoot National Monument at 9:45 AM and traveled to Walnut Canyon, arriving there at 1:30 PM, when I took a group of pictures of the present trail around the Island.
- 13 Left Flagstaff at 9:30 AM and arrived in Coolidge at 5:30 PM.
- 19 I left Coolidge at 11:30 AM and traveled to Chiricahua National Monument via Douglas, Arizona. Arrived at Chiricahua at 9:30 PM.
- 20 Entire crew was on location of proposed trail to summit of
- 21 Sugar Loaf Mountain and on same location at proposed site
- 22 of public camp ground.
- 24 Finished at Chiricahua National Monument and left for Coolidge at 4:00 PM.
- 25 Arrived at Coolidge from Chiricahua at 12:45 AM. Until the end of the month, the time was spent in the office of the Southwestern National Monuments.

Our results for the month being approximately six miles of entrance road located, mapping of the ruin, topography taken over three areas, approximately two and one-half miles of trails located and all field work put on paper.

J. B. HAMILTON

WEATHER---Snow the latter part of the month, but scarcely enough to affect the work much.

TRAVEL---Three quick trips were made to Canyon de Chelly National Monument; the rest of the time was spent at Mesa Verde National Park.

WTEC---I called at Aztec National Monument for about an hour on November 28 on my way back to Mesa Verde from Canyon de Chelly. My main purpose was to get an asphalt heater for the sewer job at Mesa Verde, but I noticed a good job of clean-up had been done at Aztec. The area around the excavated ruins looks spick and span. Work on the headquarters building is progressing somewhat slowly.

CANYON DE CHELLY NATIONAL MONUMENT---The White House trail was completed November 27 except for a little work hauling away tools and excess materials.

The Indian Emergency Conservation Work funds set up for trail work and erosion control work will be continued by funds furnished by the Soil Erosion Service.

The erosion control work has been pretty well completed for about three miles in Canyon de Chelly, beginning at the White House and continuing up stream. Posts, fascine and other materials have been distributed for a distance of about twelve miles along Canyon de Chelly.

Mr. Murphy, who has been doing the work at Canyon de Chelly and keeping time and other records, says the trail work had the misfortune to rock the

Park Service car assigned to him and to injure himself slightly. He was coming into Gallup Saturday afternoon November 10 to get some materials needed on the trail work. Outside of Fort Defiance he collided head on with an Indian Service truck driven by a Navajo. The collision occurred inside a dust whirl where visibility was practically nil.

The Park Service car was cracked \$325 worth, the Indian Service truck not nearly so badly. Murphy suffered an injured knee, a sprained thumb and a split nose. A man riding with him was badly bruised; the Indian driver of the truck was not hurt.

I spent some time in Gallup circulating bids for the repair of the car and collecting them, and at Canyon de Chelly and Fort Defiance investigating and reporting the accident.

EL MORRO NATIONAL MONUMENT.

The following is a report which comes in late from Mr. Vogt on the work done at El Morro during the S.E.R.A. Program from July 1 to October 1, 1934. It is a very interesting report and so file it here for future reference.

TRAIL BUILDING AND GRAVEL CONTINUED.

a. During the period some 75 tons of gravel was hauled a distance of nine miles and placed on the dirt portions of our trail. The gravel placed on the level ground was handled directly from the wagons to the trail where it was dumped in piles and then with slips or wheelbarrows it was spread along the trail to a depth of about 3 inches.

b. The gravel placed on top of the mesa was handled by pack animals which took about 200 pounds of gravel in gunny sacks each trip. About 200 trips were made with horses packed with gravel. About 100 feet of trail on top remains unfinished and approximately 50 yards down on the valley trail is still without gravel.

c. Twelve rock drainage dips were built into the trail to handle the water which might otherwise wash the trail.

d. Twenty-five additional steps were carved in the solid stone mesa thus completing the carved work which was begun under C.F.A. work last winter.

e. Stone monuments for trail markers were built along the top of the cliff between the two prehistoric ruins to guide the visitor safely over the heights of the cliff.

f. At one place a stone bridge was built over a crevice.

GROUP AREAS UNDER THE INSCRIPTIONS.

It was impossible to undertake this important work of making level areas in front of each inscription so that some 25 people could view the inscription while they were being explained and interpreted by the ranger.

This work involves taking away the old oak railing in front of the inscriptions and the planting of natural stones and native yucca, brush and other repelling plants to act as a protective wall against possible defacement of the inscriptions.

PRESERVATION OF THE INSCRIPTIONS.

The Governor Manuel de Silva Kieta inscription, 1629, was effectively

protected from the wash of the rain water across the first line by the careful carving of a diagonal trench two inches deep above the inscription. Thus the water coming down over the face of the inscription heretofore is now directed around the end of the inscription.

RESTORATION OF VEGETATION IN FILLED AREAS.

The problem of bringing back vegetation in the area on the south side of the cliff where the deep arroyo used to be and which was made into a low scale during the C.I.A. program by moving 15,000 cubic yards of dirt, was partially solved by the planting of squares of gramma sod at intervals of about 15 feet. Hauling the sod from the valleys about a mile away we succeeded in planting 1475 squares of gramma sod in the ground. Holes were spaded out for each block of sod which was carefully tamped in place and immediately watered by buckets of water from our reservoir. This gramma grass grew and a large part of it went to seed and we believe it will result in regressing the entire area, thus establishing a root system which we hope will prevent further soil erosion after the area is well grown over.

CLEANING OF RESERVOIR.

By syphoning out the water from the reservoir we were able to clean the debris out of the great catch basin in the historic "rincon come una narenja." The water we took out was used for irrigating the gramma sod we had planted, little ditches being dug to guide the flowing water from one square to the other.

ROCK WATER CONDUIT.

Finding that the rain water running from the great cliff just south of the reservoir gathered such a momentum and volume after rains to start erosion, we built a stone acquia or ditch 60 feet long from a stone dam. These stones were laid in cement against the cliff which at places served as the inner side of the ditch. A hole 18 inches square was chiseled through the cement and stone reservoir dam so that this water could enter the reservoir. Thus was erosion prevented and more water caught for use.

ROAD WORK.

Eastward, toward Grants, we placed men in camps to work out the lave rocks which interfere with travel. Several hills were worked down with men working with picks and shovels and teams with plows and scrapers.

West, toward Ramah, low places were furnished more adequate drainage, three culverts were placed and some filling done with frescos.

ROAD SIGNS.

About twenty road signs were painted and placed on roads approaching El Morro from Gallup, from Atarque, and Tschado as well as from Grant to El Morro.

FROM the preceding reports from the men in the Southwestern field, I think it will be apparent that things are moving along pretty well in this district.

Franklin P. Lindberg
Superintendent.

SOUTHWESTERN MONUMENTS SUPPLEMENT TO THE MONTHLY REPORT

BEING THE PAPER EQUIVALENT OF THE TAURIAN SESSIONS SO OFTEN HELD WHEN SOUTHWESTERN MONUMENT FOLK GET TOGETHER.

IN WHICH WILL BE FOUND VARIOUS BITS OF SHOP TALK, GOSSIP, AND INTERESTING THINGS ABOUT THIS AND THAT: THE WHOLE CONTAINING SOME INFORMATION AND NOT MUCH MISINFORMATION ABOUT WHAT GOES ON IN THE SOUTHWESTERN MONUMENTS.



A SOUTHWESTERN MARRIAGE.

Chief, the first thing I want to tell you about in the Supplement this month is our most recent marriage.

Bob Sudlens, known from Santa Fe west as 'Bud', came out from the east and joined on with us just about a year ago. He made good all right and, after a course of sprouts here at headquarters, went out into the field and took charge of Canyon de Chelly National Monument.

A couple of days after he landed here he told me there was a young lady back east who would join on with us later in the capacity of Honorary Ranger or Custodian Without Pay, which, as you know, is one of our regular ratings down here in the Southwest, and so we all came to know about Betty and to like her even before we met her.

Skipping the next ten chapters we come now to the climax of the story.

Betty came west and Bud, meeting her at Gallup, brought her down to Headquarters. This was a change in their plans caused by my having to go to the Washington Conference, for they had planned to be married on the rim of Canyon de Chelly opposite the White House Ruin. As it worked out the whole thing went off just as nicely down here in the desert, though we nearly missed out on getting an Episcopal Minister. The girl on the switchboard over in town proved a good scout and she and I canvassed five towns over the telephone before we finally located Dean Lane over in Phoenix and obtained his promise to be present. Then Sylvia and I, who were to be Patron of Honor and Best Man respectively, went up east of here about 25 miles and picked out an ideal setting for the ceremony, went over to Phoenix and saw about flowers, etc. In the meantime the girls around headquarters, from Mother down to the youngest apprentice, put their heads together over the matters of presents, dinners, accommodations, etc. so everybody had a good time planning for the event.

On the night of the 14th some 19 or 20 of us sat down at seven o'clock to the prettiest dinner you ever saw, built around an 18 pound turkey and winding up two hours later with ice cream. We parted for the night at midnight and by that time Betty knew she had acquired a new family.

In the late afternoon of the 15th, leaving one man on duty for late visitors, the rest of us shut up shop and migrated up to the appointed spot.

Does all this sound to you like some stunt marriage, Chief? Well, take it from me, it wasn't. No church in the world could have furnished a high altar equal to the sunset the Great Architect hung in the western sky that evening and toward which this group faced during the ceremony. No bells made by man could have matched the forty miles of mountain scenery which ran along our right and at our back, beautifully tinted by the setting sun. No furniture, however fine, could have looked as magnificent as the ten or fifteen square miles of thick set vegetation which surrounded us as far as the

eye could carry. It was a beautiful ceremony in a magnificent setting, make no mistake about that.

After the impressive marriage service was read and congratulations were over we all drove back to Headquarters and later in the evening the bride and groom drove to Phoenix.

Late letters from Betty and Bud say they are temporarily settled in one of the Indian Service houses at Chin Lee and the Honorary Custodian Without Pay is as much in love with her new Monument as she is with her new Southwestern Monuments family.

Conference Notes.

It was a great Conference, Chief, and I enjoyed every bit of it even if you did whittle us down to a pretty small point with the work you put on us. What with meeting all day and spending the evenings in the social events, with committee meetings crowded into the odd hours and a Rump Conference of 'Educators' or 'Educational Reservations' running as a sort of side show, my mind is still in sort of a whirl as to just what happened at certain stages of the game. I don't know just when 'Ding' dropped in to get his idea for that cartoon he donated for the program cover, but I suspect he ran into the latter end of a session of the Uniform Committee. As a member of the Uniform Committee I was present at, and sometimes took part in many lurid arguments. A proposed change in uniforms is a sure fire provoker of discussion and you may be sure your decision on some of the recommendations of the committee will be awaited with much interest. As a member of the Personnel Committee I thought we made a couple of important recommendations in the mazy we offered and I hope they will be put into effect.

As a member of the Conference, I brought away much more than I took in. I believe it was a well planned and well executed meeting and that it did a lot of good. It certainly built up my morale and I think the others went home feeling something better than when they arrived.

That side meeting of the 'Educational Reservations' was a mighty interesting and important one. I was surprised to find that a close tie in we of the Southwest can get with the historical parks and monuments back there, and more than pleased to find so much common ground with the fine man who has those reservations in charge. I sincerely hope you do not allow that idea of a separate meeting for this division to die out. There are so many problems connected with the work of this division only that a three or four day conference would be none too much to spend on them alone, these of course being aside from those of the General Conference and not suitable to be carried in on the floor of that meeting.

And one of the comforting things of the Conference was to find that Cernie Kirth was not a partly middle aged man with a Van Dyke beard!

During the last month Bob Rose has been working on a museum plan for White Sands National Monument. The following preliminary outline was forwarded by him to the Field Division of Education at Berkeley:

PROPOSED MUSEUM AT WHITE SANDS NATIONAL MONUMENT

It seems that any museum study should begin with an analysis of the broader phases of the problem. Some of the leading questions that should be considered in the analysis are:

1. Location of the museum in reference to the educational features exhibited in the monument.
2. The nature of the visitor traffic the museum must accommodate.
 - a. Whether as a general thing the museum will serve small groups of 2 or 3 up to 15 people at any one time, or larger ones of 40 to 60 or more.
 - b. Whether the museum will serve as a place of visitor concentration preparatory to conducted field trips and automobile caravans, or will serve merely as a place of orientation and information where visitors will generally come and go at their own pleasure.
3. The fields of science, history, and nature which will be covered in the subject matter of the exhibits.
4. The approximate extent of floor and wall space which will be required for displays in each major subject.
5. The flexibility of the structure, or the extent to which it must allow of being enlarged through construction of new wings, rooms, etc. The answer to this question must be sought through determining the extent to which a mass of new exhibit materials are likely to be discovered or collected.
6. The extent to which it is desirable that the proposed museum unit function as a self-guiding arrangement.

A discussion of the problem at White Sands based upon the six points listed above should get us much nearer the solution to the final arrangement than we are now. How can it be possible to crystallize satisfactory final conclusions on a museum plan before the question of visitor traffic has been analyzed? It seems that a study on the basis of visitor traffic, location, etc., constitutes the most important step in museum planning.

The six points above will now be discussed in the light of conditions which will probably obtain at White Sands National Monument. In a general way, we know something of the present and future visitor traffic at White Sands. Some fairly definite ideas on locations of physical improvements also have taken form. The possibilities in exhibit materials available together with the story to be told there are also fairly well known and

understood. Hence it seems that we have sufficient general data at hand for the preparation of a preliminary plan for White Sands.

LOCATION OF THE PROPOSED MUSEUM:

What is the most practical location for the White Sands Museum? The following locations have been proposed:

1. At the entrance to the monument just off the main traveled Alamogordo-Las Cruces-El Paso Highway.
2. At the end of the Entrance Road, about eight miles into the area of the Sands where the finest of the sands are found.
3. At an intermediate location about half way between the highway entrance and the end of the eight-mile spur road into the Sands.

Location (3), for reasons too long to present fully here, seems to be the least satisfactory and logical proposal of all. Analyzing this proposal, we become aware of the following objections: (a) This location is by no means in the most beautiful part of the White Sands; (b) A stop here would have to be 'inflicted' upon people by the construction of artificial facilities which would either invite visitors to stop or require them to do so; certainly there is not superior scenic or scientific quality about this particular location in the Sands that attracts people to stop voluntarily at this intermediate location; and (3) the thought that the proposed museum should be at this intermediate location because of convenient Comfort Stations,---or even the idea that the needs of the public require stopping at this special place---is relatively unimportant when one considers that the driving time required to traverse this entire 8-mile entrance road is between 10 and 15 minutes. And, surely, in no instance does it seem that convenient Comfort Station location should determine the location of the center of administration and public contacts for the thousands of visitors for years to come!

Location (2) clear out in the heart of the White Sands has also been proposed. This location does not seem as desirable as (1) on the highway. In fairness, however, we must point out some of the desirable features possessed by (2) location. (a) Here the museum could be visited and revisited during the time of the people's stay in the area; (b) From here field trips afoot could start. It should be observed that few or no caravan possibilities would exist here, this point being at the end of the road, unless a radiating system of roads leading further into the Sands were ever desirable. Another objection which presents itself to this location lies in the fact that some sort of contact or "Greeting Station" would have to be built at the highway anyway, and the rangers here would be having to answer a lot of questions and do a lot of explaining which visitors could get much more effectively if only the whole museum were at the highway. Thus, at the Greeting Station on the highway we would have to duplicate much of what we would be doing at the Museum clear within the Sands area.

Location (1), all in all, seems much the best location for the museum

at White Sands. The following advantages present themselves:

1. Finding the museum and administration building very close to the highway would impress tourists from the very beginning with the feeling that surely what is beyond is the 'heart o' the Sands' is most worthwhile.
 2. The monument would better impress tourists with the feeling that the area is sufficiently administered and controlled.
 3. The museum would serve as a collecting place for people preparatory to starting out for the Heart of the Sands on scheduled caravan parties. The museum would afford an interesting place for people to spend a good half hour to hour waiting for caravan groups to collect whereas if these people were asked to wait beside a "Greeting Station" in a parking area, the delay would be tiresome, lack interest, and they would become restless.
 4. Visitors for miles before actually reaching the entrance to White Sands see the glistening white dunes which billow off into the distance. These vast sands, together with the rugged mountains to the west, lend a feeling of mystery and arouse curiosity in the minds of visitors before they reach the real objective of their business. I BELIEVE THIS IS JUST WHAT WE WANT TO HAPPEN WHEREVER POSSIBLE for in these National Park Service units, we want to satisfy that intellectual curiosity by bring people in contact with the real natural wonder or scientific feature itself. Having the museum at the highway entrance will serve to help answer questions already aroused in visitors' minds as they approach from north and south. Seeing the museum here at the entrance should merely help explain part of the mystery to the visitor making him more anxious than ever to proceed to the heart of the area.
- a. An arrangement whereby in approaching a monument, visitors see just enough of the strangeness and mystery of the scenery or scientific features to stimulate their curiosity to the point of making them eager and anxious to see an explanation such as a museum would afford, seems most logical from the educational standpoint. After getting some of the explanations and interpretations in the museum unlocking part of the mysteries, then people would leave the museum for the finest views and features coming in first hand contact with the scientific and natural phenomena.
 - b. Location (1) would be similar in arrangement with respect to interesting scenery and scientific features to what we now have at Petrified Forest National Monument. At that monument people see first just enough of the scenery and petrified wood to arouse their curiosity almost to the "breaking point"; they then visit the museum; and, finally, they have access to the finest the area has in order to search out some of the facts and principles for themselves, or with the assistance of a

ranger or naturalist guide. The Petrified Forest arrangement has worked most successfully, particularly during the past two years since the construction of a beautiful and harmonious building and a system of nature trails and caravan roads. Thus, it seems that a similar arrangement at White Sands would be guaranteed of success.

- c. Also, unless people are definitely contacted at the entrance to the Sands and made feel the worthwhileness of a trip within the area, they are likely to drive on down the highway and away feeling that they have seen all there is to see.
- d. All in all, at White Sands we want the museum to be situated such that it is an introduction---a very necessary adjunct---to the real objective, the Sands IN THEIR NATURAL SETTING.

NATURE OF WHITE SANDS VISITOR TRAFFIC:

White Sands National Monument is situated alongside a heavily travelled highway. In this respect its situation is similar to that of Petrified Forest National Monument. Observations by Custodian Tom Charles reveal that well over 100,000 people yearly tour past the White Sands entrance. Even under present circumstances of no signs, no buildings of any sort, no "Greeting Station" and no educational services or field trips whatever, nearly 35,000 people toured the road into the heart of the Sands last year. With some degree of service, a museum and other facilities provided, we must count on a minimum of 50,000 people yearly driving into the Sands with this number approaching 75,000 to 100,000 as the Sands and our service there become better known. I WOULD SAY THEREFORE THAT WE MUST BE PREPARED IN BUILDINGS AND EDUCATIONAL ORGANIZATION TO HANDLE HEAVY VISITOR TRAFFIC AT ALL TIMES. We cannot expect a little 1 to 5 visitor run to be the general rule at any time. Thus, again we see in the White Sands a problem similar to that at the Petrified Forest.

The museum at the Petrified Forest National Monument serves as a place of visitor concentration. Here visitors secure information on the story of the petrified forest and become oriented to the whole problem. Only limited personnel stands in the way of a splendid system of caravans there throughout the year. Automobile caravans have already been tried there enough to prove the soundness of making them a permanent institution in service to the public. The White Sands Museum in like manner should serve as a place of orientation, information, visitor concentration and caravan organization.

In view of the heavy traffic into the Sands and the exceedingly heavy traffic past the entrance to draw upon, we will say from the start that the proposed White Sands National Monument Museum must be designed to accommodate as high as 100 people at a time as the usual run. This fact must have an important influence on (a) room sizes; (b) room arrangement; (c) installations of individual exhibits; and (d) size of entrance parking area. We must expect carloads of people to be arriving every few minutes. Some people will have been in the museum a half hour to an hour before caravans start; others will have arrived but a few minutes before. Therefore, even though it may be the rule that the caravan naturalist will give a little lecture

and guided museum tour before starting, we should also plan the installations such that the museum will serve as a self-guiding unit for (1) people while arriving and waiting for curvans; and (2) for people who make hurried stops at the museum and have to rush on their journey without going into the Sands. The smaller the personnel the less individual attention we will be able to give to arriving auto loads of tourists during their visit.

FIELDS OF SCIENCE, HISTORY, NATURE, ETC.:

Geology would certainly have a most important place among exhibits at White Sands National Monument. The snow white sands have a mysterious appeal just as the Petrified Forest arouses curiosity. Therefore we must answer such common questions as: "How did it happen?"; "What is the composition of the Sand?"; "How long has the sand been there?"; "Is the Sand of any commercial value?"; "How extensive are the Sands?"; "Are there other similar areas in the world?". Of course there must be something on the regional geology of that entire section of New Mexico in order to lend proper perspective.

Flora and fauna would also occupy an important place in this display scheme. Unless exhibits are designed showing the peculiar adaptation to environment on the part of plants and animals of this area, thousands of visitors will not learn of this interesting phase of natural history. Nor would merely telling the visitor "We have white mice; the roots of the shrubs increase in length as dunes build up and these plants struggle to keep branches, leaves, and trunk exposed, etc.", suffice. It is always about ten times better to have drawings, displays, and first hand examples than to rely merely upon "telling" about these things.

The question "How do the plants and animals survive in these Sands?" is a very common one. Here in the White Sands we have one of the finest places in the National Park Service system to teach that principle of "Adaptation to Environment". Here we find the operation of certain natural laws which can be brought to the layman's attention in a manner that cannot fail to impress him. These white mice, nocturnal snakes, shrubs with extensive root systems and other interesting things may not be seen by all visitors --- especially the mice, snakes, etc. Therefore it would appear to be highly important that some exhibit groups be made up for the benefit of visitors. We have a bibliography on White Sands and there are a great many references which will be of value in working out this phase of the installation.

History and archaeology should be given some consideration in this museum. Neither subject would require extensive treatment. Both subjects might well be taken up in the same room or part of a room. The Custodian has a considerable collection of archaeological materials native to that area. The Mesquero Apache Indian Reservation is in the mountains just east of Alamogordo, the gateway city to the White Sands. Therefore, unless some archaeological national monument reasonably close to the Mesquero Reservation can lay stronger claim to a full and complete treatment of the Mesquero Apache, then these modern Indians should be made the subject of exhibits in the proposed White Sands Museum. Most certainly, they should not be left out of the monument's museum scheme entirely..

In the Mountains near White Sands are many pictographs, or petroglyphs.

These might be the subject of an exhibit in the museum.

FLOOR SPACE AND ROOM SIZES:

Room dimensions in any instance should not be smaller than the minimum required for handling the continuous and heavy visitor traffic this museum is sure to have through it. The various rooms, it seems, are going to have to be pretty large in any case to handle the visitor problem. In any case it seems that with the possible exception of the Gallery Room, the smallest room that will be practicable from the standpoint of visitor traffic, will be somewhat larger than is required for any one of the subjects that will be treated. Consequently, it seems that we are going to have to let the idea of ideal room size for each subject give way to the more important and fundamental need of rooms sufficiently large as to prevent visitor congestion in them.

FLEXIBILITY OF THE STRUCTURE:

New materials are going to be gathered from time to time; new ideas will be advanced on displays and illustrative material; and new relief models, charts and pictures will be secured or made. Therefore this structure should be designed such as to allow the addition of some two or more exhibit rooms without injury to the appearance of the exterior as a harmonious architectural unit. In other words, the initial building as well as the future layout, should not look like it is half completed, or that there is something missing.

In the case of the White Sands, the limit to the amount of really outstanding material available for display in the proposed museum is pretty well known. Therefore, a museum at this monument which is fairly adequate at the start will never need enlarging to some four or five times its original number of rooms. Provision for the addition of one, two, or three extra rooms it seems is about the extent of having to look into the future. In archaeological areas where anytime a new chapter may be added to the story or where new material unlike in individual pieces, or associations, may turn up, it would appear very wise to allow in the original plan for doubling, tripling, or quadrupling the number of rooms originally constructed.

FUNCTIONING OF THE MUSEUM:

As explained earlier in this discussion, this proposed museum will serve as (1) a self-guiding unit when necessary; (2) a guided trip museum when such service can be offered; (3) a place of visitor information and orientation; (4) a place for preliminary study before the visitor is introduced to the finest and best of the thing itself--the Heart of the Sands; (5) and as a place of visitor control for caravans or other special service.

PRELIMINARY CONCLUSIONS ON ROOMS AND DIMENSIONS:

The proposed White Sands National Monument Museum should contain the

following rooms exclusive of the Custodian's Office, files and storage and rangers' rooms: (1) Lobby; (2) Geology Room; (3) Flora and Fauna Room; (4) History, Archaeology, Modern Indian Room; and (5) Joint Storage and Preparation Room. We are limiting our discussion of needs here to rooms for museum use.

1. Lobby:

The Lobby will be a place of visitor assembly, registration, general orientation, relaxation and initial welcome. Here will be entertaining and instructive pictures, movies, relief models, paintings, and other introductory material related to the general locality. We want this room to be one of relaxation and rest for the most part. This theme ought to be uppermost in furnishing this room.

- a. Could have automatic film projector of monument-to-monument subjects.
- b. Could also have series of Southwestern Monuments views as well as views of national parks.

Suggested dimensions:---30 by 40 feet.

2. Geology Room:

The Geology Room will treat of the sands; their origin, extent, chemical composition, occurrence over the world; uses, etc. Charts, maps, relief models, pictures, graphs, specimens---all will find their place here. A clear and unified story ought to be presented here.

PROPOSED DIMENSIONS---20 by 30 feet.

3. Flora and Fauna Room:

In this room it is proposed to treat of the same environment of the Sands and its effect on coloration of plants and animals. A story of the struggle for existence by some plants in the region will be represented. Habitat groups might be used to advantage. Something of the comparisons of plant and animal life of the sand dune areas of the country and world would be interesting.

Suggested dimensions---About 15 by 25 or 30 feet, or included in Geology Room making one large room of about 25 by 40 feet.

4. History, Archaeology, Modern Indians:

This room would treat of discoveries, pioneer history, archaeology, modern Indians, and miscellaneous subjects. Some of the history of early Spanish explorations ought to be introduced. Too small a percentage of White Sands visitors also visit Tusasleopi and Gran Quivira to assume that White Sands ought not mention history.

Suggested dimensions----15 by 25 feet minimum.

5. Storage and Preparation Room:

Ordinarily two separate rooms would be desirable, but here, in the interests of economy and convenience one large room would be adequate. Here would be exhibits in process of installation; draughting supplies; museum preparation materials, paints, glues, etc. We would also want the reference books used in preparation work, in good cases, in this room. If this room is limited to too small a size then two rooms will be needed.

Suggested dimensions----One room 15 by 30 feet would fill these needs, or two rooms each 15 by 15 feet.

6. Custodians Office; files and storage; Rangers' Rooms, etc., not taken up in this strictly museum discussion, though final plans will have to include them. Administrative needs ought to be the subject of a separate study and communication to Field Headquarters.

MISCELLANEOUS COMMENTS:

It seems that the dimensions of the rooms cannot be cut below those indicated without making the proposed museum a constant problem of visitor congestion. If still larger rooms are desirable, then two or more subjects might be treated in the same room. This alternative is suggested in the case ~~that~~ of the Geology Room and Flora and Fauna Room. Where close relationship between subjects exists, this idea is not objectionable.

Geology and the environment making possible the strange plant and animal associations at White Sands are quite intimately related and could be unified into one larger story of the natural history of the White Sands.

People will be going in and out of the Lobby at all times. Considerable conversation will always be the rule. Visitors just arriving are going to be asking the ranger attendant questions while those just leaving will desire information on roads to other places. In short, it seems a Lobby should be a Lobby, and that it would be a mighty poor place to expect to give an organized lecture or to present a series of unified, related subjects or exhibits. Thus we should not attempt to put across a lot of solid subject matter in this room. A big fireplace; comfortable chairs; park-to-park and monument-to-monument maps; views and automatic movies; hotel folders; periodicals in nature; pictures on walls; and paintings it seem should be the material of this room. IN BRIEF IT SEEMS THAT THE FUNCTIONS OF A REAL MUSEUM ROOM SHOULD NOT BE EXPECTED OF THE LOBBY.

A building shaped something like a cross with the Lobby in the middle and two wings on either side, one for geology and the story of flora and fauna, the other for history, archaeology, modern Indians, and pioneer history, might serve nicely. Possibilities of rooms being added enclosing a patio at the back might be considered.

CLOSING:

Keeping always in mind that the rooms must be pretty large to take care of heavy tourist traffic, it seems now that a preliminary plan for the structure could be drawn. Getting this preliminary plan, we would have a basis for going into various phases of the subject matter more thoroughly. Perhaps with the subject matter organized very carefully we would be able to propose further refinements of the plan in the light of visitor needs and exhibits sequence.

Before preparing the final plans the further suggestions and comments of the Southwestern Monuments and Field Division of Education educational staff could be considered. Sometimes the general architectural style desired would allow incorporation of these ideas and at other times inclusion of them might not be advisable or possible. At any rate, it has been seen that by following approximately this procedure, a much more adequate museum will result than had we merely proceeded to draw up plans for a building with an arbitrary number of rooms, then tried to force our exhibits, visitor traffic and everything else, to fit into the scheme of this arbitrarily designed building.

Respectfully submitted,

Robert H. Rose

Acting Assistant Superintendent

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Last month Petrified Forest National Monument issued a limited edition of a preliminary paleontological report by Junior Naturalist M.V. Walker. This report is of such general interest to Southwestern Monuments personnel that we reprint the whole article below.

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A PRELIMINARY REPORT OF THE PALEONTOLOGY OF THE PETRIFIED FOREST NATIONAL MONUMENT, ARIZONA---BY PARK NATURALIST M.V. WALKER.

INTRODUCTION: WHAT IS A FOSSIL?

There seems to be considerable misunderstanding as regards petrifications and fossils. The term "petrified" is used so loosely that its true meaning is lost. The word "petrify" literally refers to stone, so when we speak of something as being petrified we usually consider it as being "turned to stone." We do not stop to realize that a true petrification is a replacement process whereby the original cellular material, be it wood or bone, is replaced cell by cell by the infiltration of some mineral, such as silica, which is in solution in the water surrounding the object.

To become "petrified" an object must be of such a nature as to withstand decay for a considerable period of time in order to allow for the slow replacement cell by cell. Such materials must be of one of the following original types of cell walls: bone or osseous; shell or calcareous; trees or woody fibers. In this connection it might be mentioned that one never finds

petrified flesh.

Perhaps the word "fossil" should be used much more than it is, because it can be used quite loosely. It not only includes all petrifications, but also takes in impressions, casts, etc. Taken literally the word "fossil" refers to a depression or "fossile" which in all cases can be correct since all fossils leave their mark or depression in the surrounding matrix.

The following very broad definition appears to be the least confusing. "A FOSSIL IS ANY INDICATION OF THE FORMER EXISTENCE OF ANIMAL OR PLANT LIFE." This chart will perhaps make some of these points more easily understood.

ACTUAL FOSSIL REMAINS-----FROZEN MEAT IN ICE--NO REPLACEMENT
BONES, TEETH, SHELLS--REPLACED BY MINERALS
MOLDS OR CASTS-----SHELL, BONE AND BRAIN CASTS--NO REPLACEMENT
IMPRESSIONS-----LEAVES AND TRACKS--NO REPLACEMENT
FACIETA-(COPIROLITES)-----MOLDS AND CASTS--A FORM OF REPLACEMENT

It will be seen that some of these are direct fossils (petrifications) while others are indirect (not petrifications) but are fossils just the same even though the original has disappeared.

THE GEOLOGY OF THE PETRIFIED FOREST NATIONAL MONUMENT

The rocks encountered in this area are all considered a part of the Great Triassic series. There is some question, however, as regards their position in the Triassic series, but it seems probable that they are either middle or upper Triassic. The Triassic beds are here divided into two divisions. The lower portion known as the Shinurup conglomerate rests on the Moenkopi, and the upper bed known as the Chinle clays rests on the Shinurup conglomerate. The material making up these beds appears to have been derived (in part at least) from Permian, Pennsylvanian, and perhaps Mississippian formations. The pebbles in the Shinurup conglomerate and the pebbles in lenses of conglomerate in the Chinle if examined will be found to contain numerous Brachiopods, Crinoids, Bryozoans, Pteridophytes and Foraminifera.

Considerable volcanic ash is found in the Chinle mixed in the shale beds. There were probably active volcanoes far to the west and north, the ash was thrown out, caught and carried by the prevailing westerly winds far to the east, settled down in rivers and streams and carried back by the water and deposited on the low-lying flood plains that covered this area. This entire region was probably near sea level, marshy, swampy and traversed by numerous streams. Dense forests of pine, giant Cycads and myriads of ferns grew on the land areas and near the margins of streams. This all tends to indicate a very humid, semi-tropical region with an abundance of rainfall. The heavy rainfall can be accounted for by the fact that no mountains of any size were in existence to the west of the region at that time. The prevailing westerly winds carrying the moisture from the ocean across this area until it contacted a low range of mountains that probably existed to the east and north, the result being heavy precipitation on the western

slope. Slight uplifts in these mountains from time to time might have accelerated the erosion and thus explain the accumulation of so much conglomerate over so wide an area.

The rocks forming the slopes of these mountains must have been composed of Permian, Pennsylvanian and Mississippian beds, since the conglomerate pebbles contain many such fossils. The conglomerate and sandstone capping layers give rise to "mesa" formations but when removed the underlying shales quickly erode away and produce some beautiful "bad-land" topography.

PALYEOLOGY--FOSSIL ANIMALS

INVERTEBRATE PALYEOLOGY

There has been very little invertebrate material found in the Petrified Forest area, although there are indications of a varied invertebrate fauna. One reason perhaps for the scarcity of material is that these are all fresh water or at the most brackish water deposits. The only actual fossils that have been recorded to date are three forms of fresh water Palaeozooids, which are considered Unios, and one form of Gastropod, a Snail, which appears to be closely allied to the Viviparidae. The Unios are found in beds or lenses and may be collected in considerable numbers in these choice localities. The Snails were all collected from one exposure which not only produced snails, but also Unios, Phytosaur teeth, Phytosaur limb bone (femur) and other skeletal parts.

Besides the actual fossils, we have many very fine tracks and trails of Arthropods and worms or larvae which occur on some of the fine grained sandstones. These trails may be traced for some distance on these slabs (two to four feet) and surely merit describing in the near future.

On the outside of many of the fossil tracks are very fine burrows and "tunnels". These appear to have been made by some larvae such as attacks our forest trees today. In a polished section of wood in the museum one may see a fine burrow or trail which shows how the larvae simply "ate his way" through the wood. It is hoped that we may in future years find some actual impressions of insects or larvae on the fine grained shales of the Blue Forest.

It has been mentioned before that we find numerous invertebrate fossils, such as brachiopods, Crinoids, Bryozoans, Forifera and Verminifera in the short pebbles which make up portions of the sediments in the forest. These fossils must not be confused with the forms of life that existed here when the sediments were being deposited. They must be considered as "outsiders" that were carried in as washed sediment from these old Permian and Carboniferous deposits which we exposed to erosion on some mountain slope perhaps many miles away.

VERTEBRATE PALYEOLOGY

Several forms of vertebrate life have been found in the Petrified Forest area, and there are indications that several other vertebrate forms inhabited this region, although we have found no actual remains. Of the

several forms found only two have been given careful descriptions, the Stenoccephaliinae (amphibians) and the Phytosauri (reptiles). Very recently some interesting anodont (reptile) material has been found which will be carefully described in the near future.

There is evidence of a number of small vertebrate forms having been present, such as fishes, Lung fishes (Ceratodus), small amphibians and reptiles. These evidences, which are numerous, are in the form of small limb bones, small dermal or armor plates, many teeth and vertebrae and indirectly by numerous tracks, trails and Coprolites.

A description and catalogue of the described forms of amphibians and Reptiles found in or near the Petrified Forest National Monument follows:--

AMPHIBIANS (STENOCEPHALIANS) ¹

Family---Metoposauridae

Gen. and Sp.---Buettneria (?) major Bronson and Mehl

This species is based on an exceptionally large right clavicle of striking characteristics (No. 511 V.P., U. of Mo.) from the lower part of the Chinle near Joseph City, Arizona. A single vertebra (No. 582) from the same locality probably belongs to this species.

Gen. and Sp.---Kulaseikater pinkleyi Bronson and Mehl

This species is based on the posterior half of a delicately constructed skull (No. 554 V.P., U. of Mo.) from the Chinle formation about 8 miles northwest of Aluma, Arizona.

Gen. and sp.---Kulaseikater (?) fraasi (Lucas) Bronson and Mehl 1904. Metoposaurus fraasi Lucas, Proc. U.S. Nat. Mus., V.27, p.194, pl.3.

This species was based on a skull interclavicle very different from that of the European Metoposaurus in the absence of a marked posterior extension of the form here listed. This interclavicle is similar to that of the light-colored Borborophagus of Wyoming and is probably its counterpart in the southern province.

REPTILES (PHYTOSAURS) ²

Family---Phytosauridae

Gen. and Sp.---Machaeoprosopus alumnensis Culp

A skull with lower jaws, axial skeleton, ribs and dermal scutes. U. of C. Mus. Pal., No. 20699; found by Miss Louise Kellogg.

Type Locality---Blue Forest, six miles SE of Aluma, in Apache County, Arizona. Lower Blue Forest fossil horizon 209 feet above the base of the Chinle and Shinarump formations of the Triassic.

Gen. and Sp.---Machaeoprosopus lithodendron Culp

Type---A skull with lower jaws, cervical vertebrae, ribs, limb bones and dermal scutes; U.C. Mus. Pal., No. 20688; found by Miss Annie M. Alexander.

Type locality---Lithodendron (Carrizo) creek, six miles NE of Aluma, in Navajo county, Arizona; lower Carrizo fossil horizon, 348 feet above the base of the Chinle and Shinarump formations of the Triassic.

Gen. and Sp.--*Microprocopus tenuis* Cuv
Type--Skull and lower jaws nearly complete, with fragments of left scapulo-coracoid and two dorsal scutes; No. 27018, U. C. Mus. Pal., loc. 7043, found by E. L. Furlong.

Type locality--Six and three fourths miles due SE of Grants, in Grant County, Arizona, and about one and one half miles east of the NE corner of the Petrified Forest National Monument; lower Billings Gap fossil horizon, 275 feet above the Chinle-Moskovi contact, and 168 feet above the lower Blue Forest horizon, (type locality of *M. arizonensis*).

PALEOBOTANY--FOSSIL PLANTS

When the people of the territory of Arizona, about 1880, began to move west for the settling aside of certain land on which there were beautiful petrified logs, little did they realize there was such a variety of fossil plant life as has since been discovered. They were of course primarily interested in the great number of beautiful petrified logs, and when the area was established as a National Monument in 1906 it was then appropriately named "The Petrified Forest National Monument". Numerous studies since the establishment of the monument have made possible the identification of several different types of trees, and only recently there has been found a large number of very remarkable fossil leaf impressions.

These very beautiful impressions appear to represent a variety of plant life, ferns, cycads and/or seeds being recognized at once. It is hoped that these will all be studied and described in the near future, for here seems to be the most outstanding collections of fossil leaves ever found in the North American Triassic or perhaps in any North American formation.

A list of the described forms of trees and other plants found in or near the Petrified Forest National Monument follows--

FAMILY--*ARACARIACEAE*³

Aracarioxylon arizonicum Karstén, U.S. Nat. Mus., Proc., vol. 11, 1888, pl. 1, figs. 1-5; *ibid.*, vol. 13, 1890, p. 283.--Purdoll, Mem. B. A. Coy., 1907, p. 107.--Knollton, *Am. Forestry*, vol. 19, 1913, p. 210. Locality--Triassic, Chaco Canyon Park, Arizona.

Aracarioxylon sp. Platen, Sitzungsber. Naturf. Ges., Leipzig, vol. 34, 1907, (1908) p. 108.

Locality--Chaco Canyon Park, Arizona.

Aracarioxylon chiquito Purk., U.S.C.S., 20th Ann. Rept., pt. 2, 1900, p. 322.

Locality--Triassic; Little Colorado River, Arizona.

Aracarioxylon arizonicum Jeffrey, Boston Soc. Nat. Hist., Proc., vol. 34, 1900, p. 337, pl. xxxi;--Knollton, *Am. Forestry*, vol. 19, 1913, p. 210.

Locality--Triassic; Fossil Forest near Grants, Arizona.

References as listed in report.

1. Triassic Exhibitions From The Rocky Mountain Region, by Branson and Muhl. The University of Missouri Studies, vol. IV, No. 2, April, 1932.

2. A Study Of The Phytosaurs, by Charles L. Camp.
Memoirs of the University of California, vol. 10; University of California Press, Berkeley, California 1930.

3. A Catalogue of the Mesozoic and Cenozoic plants of North America, by F. H. Knowlton, Wash, 1919, U. S. G. S. Bull. 696.

***Note-- It is hoped that this preliminary report will serve its purpose. Numerous researches during the past year should soon appear in print. Among these reports will be descriptions of a new tree, a new Cycad and probably a new Stegocephalian. We hope to be able to make a much more detailed report soon, which will include descriptions of leaves and animal tracks.

---oOo---

In response to a request from the boss for an exposition of his plan for a museum in the recently restored Great Kiva at Aztec Ruins National Monument, Johnwill Paris writes as follows:

"In answering your letter of November 5th in which you ask for my comments on the Great Kiva as a museum, I would like to submit the following.

"To present my plans for the use of the Great Kiva as a Museum I would like to use the enclosed drawing, furnished me through the courtesy of Mr. Gehardt, our Public Works Inspector, and the view of a portion of our kiva interior.

"Entering the kiva proper through probably channel A, a few moments would be used in the explanation of the general uses of the kivas, explaining our purpose in the complete reconstruction of this particular kiva, etc. We would have very little direct light at this part of the game. Then to give a clearer story than I can possibly conceive in any arrangement we might adopt in our existing building, or even with the proposed museum, I would, by lighting a case at "b" continue in sequence to point "i" with only our Chaco culture involved. Stairway B being a natural break would serve as a final for our Chaco culture and also a logical point to take up the reoccupation by the Mesa Verde at point "k". Again in sequence Mesa Verde culture would be explained back to point "b" where, moving past the fire box and between the two larger pits toward exit B our party would enter the Alter Room which at present I intend to utilize as a burial room and explain details of burials as we find them. Peering out to the right through doorway C we would continue throughout the Pueblo.

"One fear often expressed is that the use of our Great Kiva would detract from the structure as a religious chamber to such an extent that any advantage would be minimized. I have taken particular pains in recent research to ascertain the visitor's point of view on this particular subject and I find that with few exceptions the magnitude and unusual feature of this structure

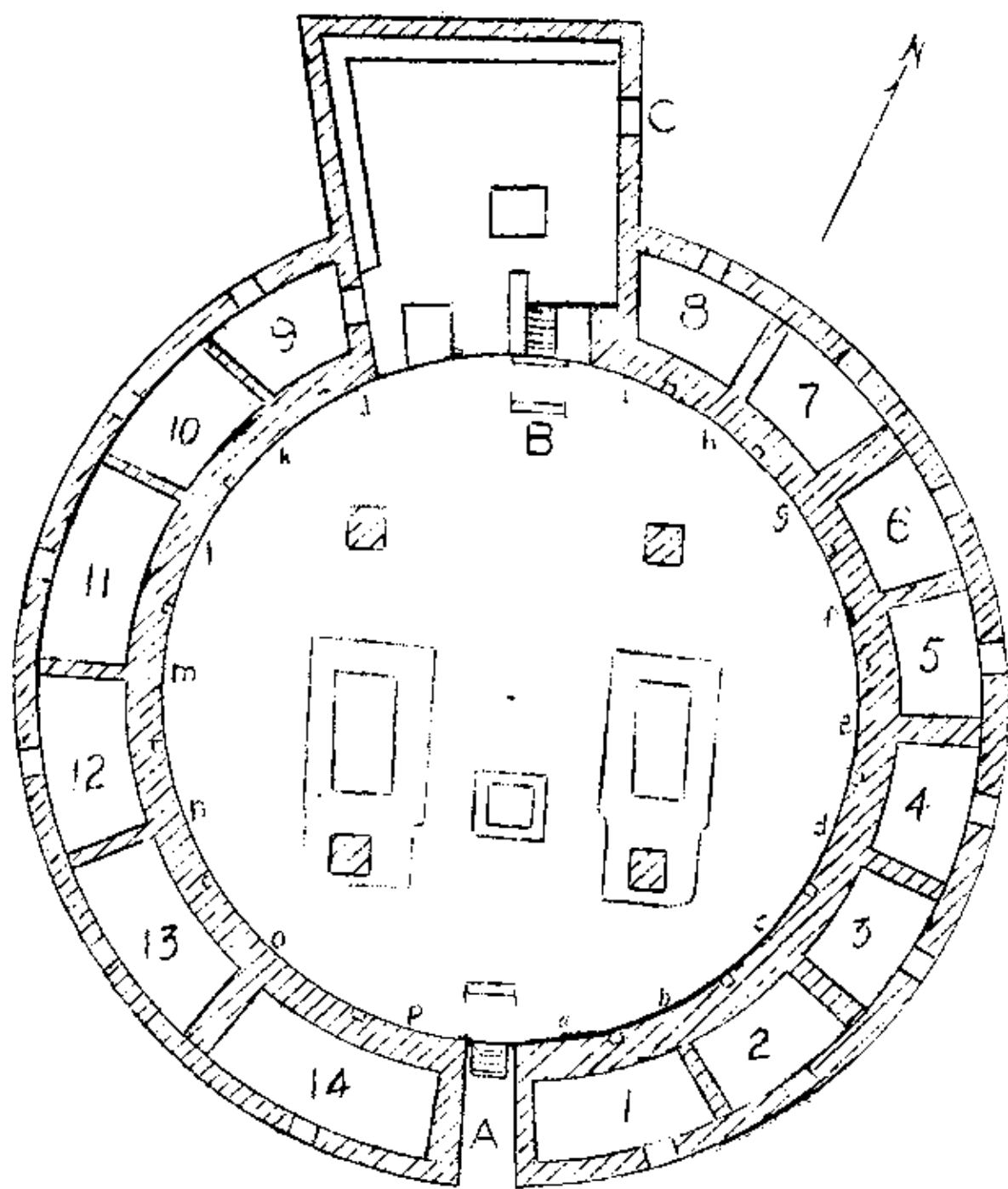
so firmly impresses it upon the individual that most any use would not detract from the first explanation of its being a religious or ceremonial chamber and fully 90% of our visitors have been very decided in the expressed opinion that they prefer our artifacts in a more natural setting than that of a standardized museum.

"With Mr. Tolson's letter of November 1st tentatively, I would place four of the 7x7-foot wall cases at possibly points "c," "f," "l" and "n." At least one of the pedestal cases 6x6x4' feet would be placed at approximately a point half way between stairways A and B. The other cases would be used in our present lobby and administration area. At points "b," "d," and "i," "g," "h," "k," "m," "o," and "p" I would seek a case approximately 18 to 36 inches in height and of average length totaling about 6 to 8 feet. Above each of these small cases I would very much prefer a more or less simple chart, giving the connections of the artifacts in the cases in accordance with Louis Shellbach's plan mentioned in the Proposed Plan of Museum Exhibits for the Aztec Ruins. I feel that no better handling of the situation would result than the plan Mr. Shellbach has outlined for us, and I wish it understood in the protest of the museum as outlined that I am not opposing the handling or arrangements of the artifacts unless it be in some instance the arrangements become a little complex for our average visitor.

"The peripheral rooms would be utilized for the less desirable of our collections and at the same time bring out very forcefully details of the following classes of specimens: first, stone implements, bone implements, wood and wooden artifacts, textiles and objects of vegetable and animal fiber, objects of unburned clay, pottery and beads and ornaments. Such an arrangement would not be altogether devoid of logic for after all these classifications have a much finer bearing upon the relationship of these people than one might first imagine and should definitely present endocrany in initial position in any explanation of the culture.

"I would not propose, at present, that these little rooms in any manner be connected with the general public but each would serve as a distinct laboratory for the particular objects contained therein and would be only for the use of the most interested, or for students. These rooms could equally serve as contact areas for individuals who desire more detailed information regarding geology, history, and plant and animal features of our National Monument.

"I might add in the tour as I propose it, that cases "a," "b," "c," "d," etc., would not be lighted until such time as attention is directed to that particular display. I can see in this arrangement the possibility of one guide handling very effectively a group of as many as perhaps thirty people and each getting a very clear view of the articles being described. This feature alone seems of paramount importance with the inevitable problem of vast numbers to be handled with minimum personnel. We could also, if worst comes to worst, light up our entire display and allow individuals, by the proper labeling (go easy on the labels) to get a complete story of all cultures and at the same time be forcefully impressed with the realization that we have two separate groups of people and that a very definite break occurs between these two periods.



AZTEC GREAT KIVA MUSEUM PLAN

"You appreciate much better than I that to actually incorporate these features into a practical working basis many changes will occur, some of these will be major and the majority probably minor features. The existing residence would be used as the Master Plan (provided) indicates with the Lobby as a medium wherein we can more or less orient our visitor, possibly register each party, and in this Lobby I would like very much some of our connecting charts showing cultures prior to those of ours. With such an arrangement I cannot see any alarm regarding the handling of visitors.

I do not feel that our problem is one of space and have not contended that we have not ample room in what we would have with only the existing building, but it does seem that we have certain questions to answer regarding the handling of our visitors. What do most people want to see? Where does the lightning of the people's choice strike? I know of no better qualified experiment for our consideration than those results which have been given us by the psychologists in their study of the millions of people passing through the last World's Fair. The find in the synopsis of this vast throng that underlying the exhibits for which the public registers its preference are fundamental principles of salesmanship, the understanding of which will prove invaluable in our contacts with the public. In commenting on the Hall of Science, Chicago World's Fair, one author makes this criticism: "Any effort must be a part of a simple understandable story. Here is the trouble with several well intended efforts to induce self-participation in the Hall of Science and elsewhere. The story is too complex for most of its participants The trouble with too many officials responsible for the selection of exhibits is that they are too clever, too intelligent. They overlook the educational limitations of their audience." (Their audience, or the thousands of people who are going to pass through our Parks and Monuments. . . Further, "Beyond simple directional information people simply will not stop to read or understand signs. If a story goes much beyond such elementary ideas as 'Exit' or 'Toilets' to tell your story to the passing throng, do not expect them to stop and read it. People are more interested in seeing than in reading." People want to see things dealing with people, hence a clue as to the possibility of our popularity in the parks and monuments. Individuals want to see things in a manner that is readily comprehended and since the general public is not going to use the mental effort to study or interpret arabesques it is our problem to present it in a manner that they will understand.

"In our present museum rooms we might also deal with some of our future problems in anthropology, ethnology, and elementary archaeology. I would also very much prefer our ring growth charts and exhibits to be contained in the rooms where original ceilings can be actually witnessed. As I understand it, our ultimate plan is to actually reproduce life size figures in natural surroundings within our present museum rooms.

"I should have mentioned, when talking of the rooms surrounding the kiva, that all the exterior doors will be closed as was the case when we discovered this vast structure. If general participation is to be followed to any great extent, an arrangement would have to be made whereby each of the inner doors to the little rooms could be closed off as well. This could be done with very little

difficulty.

"I feel that the plan as I have tried to submit it will enable us to please the most fastidious and yet not bore the most casual interest. By a minimum of output we can secure maximum efficiency and tell a story in such a way that I challenge the most technical expert to surpass, giving him any museum he may choose as a setting, using the average visitor as a judge.

"We have not gone into the discussion of the problems mentioned in Bob Ross's letter of October 9, 1934, since I feel that the majority of these criticisms were foreseen and mastered at the time the kiva was constructed. Both Dr. Morris and Jesse MacBain are my authorities on the fact that these problems were sufficiently handled and I might say that I do not consider any one really a major feature. True, our lighting is a problem that is more or less complex. In my arrangements, however, I honestly feel that in our kiva museum we could more efficiently display our artifacts by artificial light than is possible in the museum as planned. We have foreseen more problems in lighting in this kiva museum than have our architects in the museum and lobby as it is being constructed and offhand I can cite sixteen outlets in our Great Kiva at strategic points. Several physicians and doctors have concurred in my belief that our Great Kiva will present less problems in air conditioning than any museum we might build without special patented features. A party of fifty people could be handled in our kiva museum with less foul air than could possibly be cared for in any room of our existing building or that of the proposed unit.

"I trust that my plans are not merely air bubbles comprised of irresponsible theories. I have made every effort to be absolutely conscious of the fact that we are dealing with artifacts of the highest value and had I the least fear that any risk would result in using our Great Kiva I would be first to advocate some other procedure.

"I have no fear but that any party after leaving our Ruin for several weeks will know where it was they saw such and such an exhibit. The awe which is experienced on first entering the kiva, the unique manner in which our artifacts are displayed, the simple and complete explanation of the whole Monument, combined with the courtesy and service that is so characteristic of our entire Park Service will so impress our Monument in their mind that the Aztec Ruins will stand out as the one place they can remember what they saw and what they did see might mean.

"I sincerely hope that this plan is worthy of consideration. I would be glad to go into any details and realize that it is almost impossible to convey a very definite idea in a letter.

"It is not my intention to lay claim to many of these ideas I have incorporated in this letter. Mr. Earl Morris, Dr. L. Kidder, Paul Martin, Ansel Hall, Carl Russell, Louis Shellbach, and my temporary personnel have all contributed to the result outlined and I also trust that in my interpretation of these

ideas that I have done justice to the individuals who suggested them.

"With every good wish to the entire force and, above all, the understanding that I am in no way discrediting any individual or division within our service, I am

Yours very truly,
JOHN WILL FARIS, Custodian.

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BANDELIER MUSEUM PLAN

Again the Bandelier Museum moves forward one step. This time it arrives at the stage of a tentative plan; by no means final but a mighty fine foundation of a plan just the same.

It was hatched by Jerry Morse who writes of it as follows:

"The plan is approaching the final stages in finished appearance and I hope it will come close to that scheme which you had in mind for this important structure.

The effect I wished to produce with this plan, aside from the general museum circulation, is entirely transitional and I am sure after passing through a cool, spacious lobby to an open patio, which will present the canyon and all of its interests, the tourist will be in the mood for all that is before him. This plan was evolved around this one motif.

You will notice that I have shown no fenestration on the elevations. Some openings will be necessary on the administration side and perhaps a few windows can be placed advantageously in the Museum but I have given nearly all my time to the plan and will have to give considerable more study to these elevations before submitting the preliminary drawings.

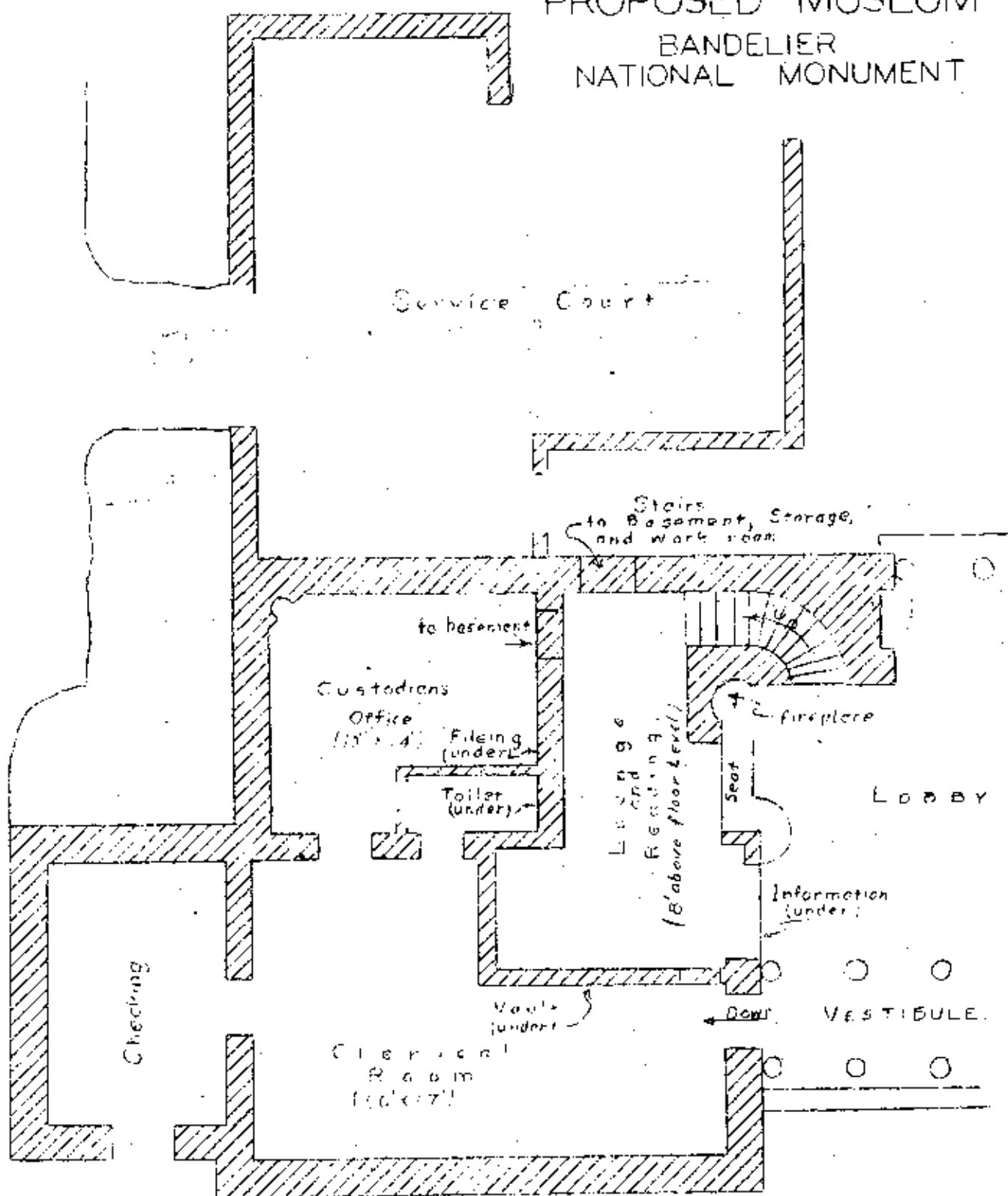
No work room, storage nor basement plan have been drawn but this will follow with the preliminary plan. The floor levels vary to fit the natural slope and these little variations, which add greatly to the plan value, always complete an exhibit unit.

Custodian Jackson, who admits he was not altogether idle when this plan was on the pen, has this to say in its favor:

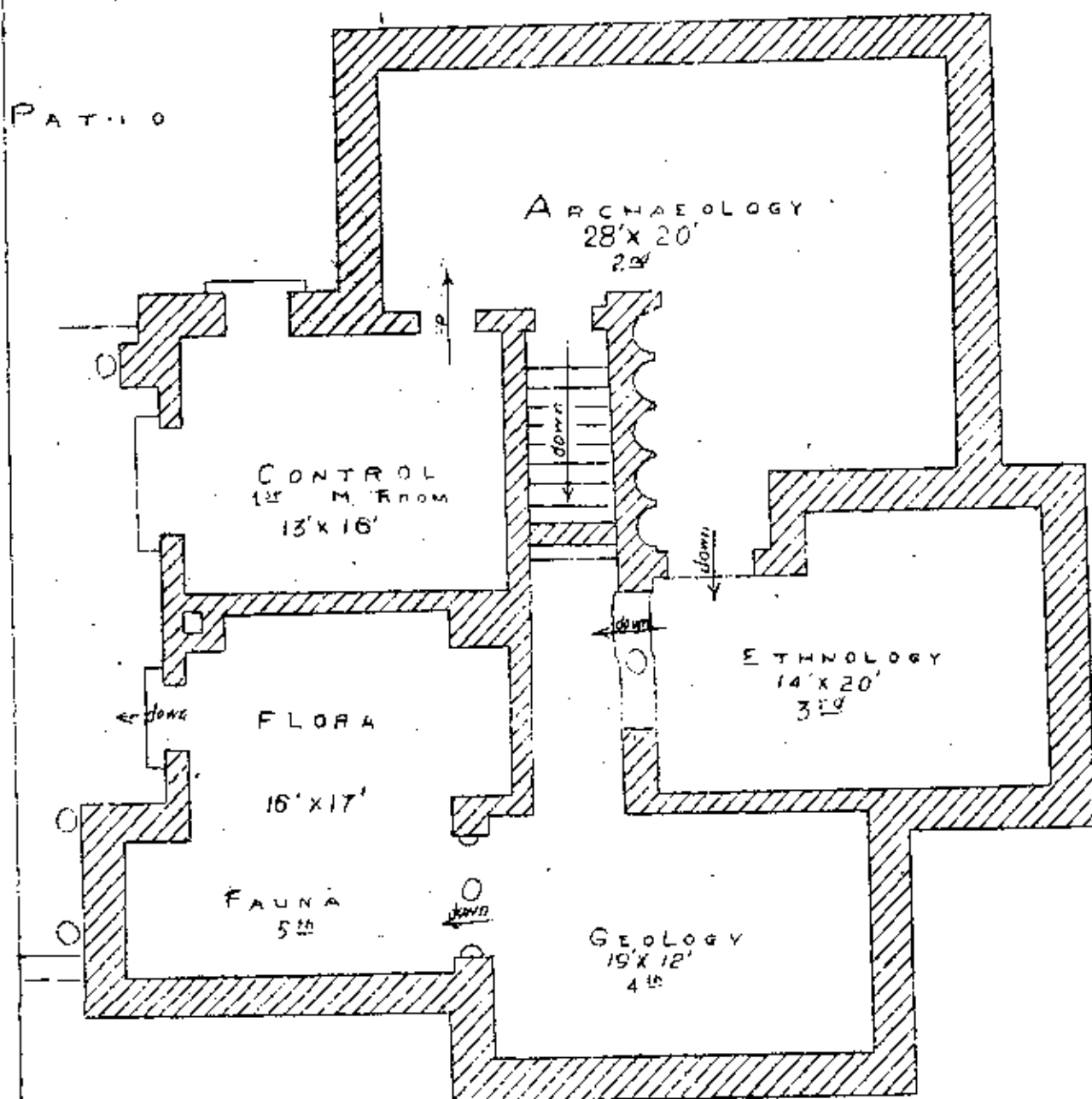
"By this same mail should arrive a museum study for Bandelier National Monument, prepared by Jerry Morse. This letter is to affirm that the plan coincides thoroughly with my museum ideas as set forth in the September issue of the Southwestern Monuments Monthly Report. Since those ideas to date appear to have been received with favor, high hopes are held that Jerry's study may be fairly closely held to in the ultimate plan.

The two of us have put in a lot of time threshing out opinions on this

PROPOSED MUSEUM BANDELIER NATIONAL MONUMENT



PROPOSED MUSEUM
BANDELIER
NATIONAL MONUMENT



museum, and he has torn up one sketch after another. We hope that after you and Bob Rose have checked this study over and criticised it you will send it back to Bendelier as soon as convenient; from here Jerry will attempt at once to clear it through the landscaping division.

You will note in the study that there is no second story; there is one half-story section, containing the reading room portion of the lobby. The basement portion has not been outlined yet, but will contain laboratory, work room, and storage space.

I like the circulation scheme through the museum very much; there will be no need of parties retracing steps in exhibit rooms at any point unless they choose to do so. That seems to me to be quite a problem solved.

The semicircular insets shown in the archaeology room at the side of the stairway which leads to the basement are for the purpose of containing miniature models of life groups dating from Basketmaker on down to Pueblo V.

The room for Flora and Fauna is so divided as to appear like two small rooms; this effect is produced by a large double-sided display case which will be a built-in feature. Space for a diorama is shown in both the Flora and Fauna sections.

One nice feature about the plan is its flexibility; it allows ample room for expansion without throwing anything off balance. Where we may have a pretty good idea on what administration space will be needed, it is beyond us to say exactly how large or how small the museum space will have to be in the future.

What is your opinion on lighting? I would much prefer sky-lighting to window lighting, myself. By dispensing with many windows we can have much more wall space, without having a room so large as to look like a barn.

The administrative side of the building in plan appears satisfactorily compact. A private office for the Custodian, with an outer clerical room having plenty of room for four desks is provided. Vault space is provided for the custodian's office, and vault and filing space for the clerical office should be sufficient. Of course there will be a vault in the basement for dead storage. A private toilet, opening from both the custodian's office and the clerical office, is situated under the lobby reading room. The information desk of the lobby, opening from the lobby of course, is under the reading room, adjoining, not the toilet, but the vault space. From the Custodian's office is a stairway leading to the basement. The checking station for visitors is on the corner opening off the clerical room.

All in all, we are naturally sold on this museum plan. Hoping you feel somewhat the same way, will close.

Earl Jackson, Custodian

Bendelier National Monument

CASA GRANDE NOVEMBER TRIP CHART

[illegible]

On page 269 appears the November Casa Grande trip chart---the fifth in a series which started in July. We hope that we aren't boring you with these apparently complicated records, because we want you to have them in your files for future reference.

Even a superficial glance at the chart will show that our visitors are coming in bigger bunches, and that they arrive within the hours of 8 A.M. and 5 P.M. Therefore, our starting and quitting times are causing us little trouble, now that the winter months are here.

During November, we handled almost 400 more persons than we did in October, yet the November chart is much less complicated. The only fly in the ointment is that occasionally (particularly on Sundays) we receive masses of visitors, running up as high as five and six simultaneous parties, which are manifestly impossible to handle with a guide force of two. Thus, on busy days we have to institute a system of grouping parties together---but we have to remember that too many people cannot be handled by any one guide. The very mechanics of getting more than 20 persons through the small doorways in the ruins and at the same time keeping their interest and attention present some difficult problems.

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THE SNAKETOWN DIG

Of general interest to all persons enthusiastic about things archaeological, and of exceptional interest to students of the Hohokam is Gila Pueblo's big excavation, started in October, near the village of Snake-town on the Pima Reservation 27 miles west of Casa Grande National Monument.

Planning the thorough excavation of almost 160 acres on which are scattered about 50 trash mounds, Mr. and Mrs. E. S. Gladwin have chosen Dr. Emil W. Haury and Mr. Ted Saylor to supervise the work. There is a staff of 7 in charge of excavation and a working crew of 20 Pima Indians. The method of excavation has been to divide the area into sections, then by sinking test pits every few feet and by trenching the more promising ground and by completely uncovering the areas that cover houses, cremations and other interesting phenomena the entire area will be worked over. Before this work is completed it is hoped that we will know a lot more about the people who lived along the Gila River many centuries ago.

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Of unusual interest to us in the Casa Grande Museum is a new map showing the canals of the prehistoric population. We are indebted to Dean Byron Cummings, Director of the Arizona State Museum at Tucson, for this map. Work was done on this survey in 1923 and 1924 by Byron Cummings, Neil Judd and A. Larson.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
PETRIFIED FOREST NATIONAL MONUMENT
HOLBROOK, ARIZONA

DECEMBER 1, 1934.

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

Dear Mr. Director:

The narrative report of activities in the Petrified Forest National Monument for the month of November is respectfully submitted.

GENERAL:

Travel figures for the month show that 985 automobiles brought 2864 people through the Monument during the month.

WEATHER:

During the early part of the month the weather was fair and warm. Later in the month there were three small snow storms, and the last part of the month was rather cold and blustery. A table follows:

Maximum 78 on the 6th. Minimum 11 on the 28th.

Mean Maximum 59.7. Mean Minimum 29.9.

Precip. .44 inches. Clear days 18. Cloudy 7. Partly cloudy 5.

ADMINISTRATIVE:

Administrative and office work has been kept well up to date. I have made inspections of the Monument and the various activities from time to time throughout the month.

PUBLIC WORKS:

Under F. P. 128.14A, a contract with Olds Brothers Lumber Company of Winslow, Arizona, for the construction of three checking stations was approved by the Secretary November 9, 1934. The contractor was directed to begin work November 21, and performance commenced on that date. No work has actually been done by the contractor at this time except to establish living quarters for the workmen.

This is the only active project under Public Works.

LABOR SITUATION:

The local labor situation remains about the same, rather poor.

POST CONSTRUCTION:

Under the Emergency Construction Act, June 19, 1934, one man has been kept busy with a power grader on the main highway. Two laborers were employed three days during the month.

EMERGENCY CONSERVATION WORK:

ECW Camp NM-1-A is now a well organized camp and is doing efficient work. The changes in the Supervisory Personnel which were made in October have had the desired effect and the work of the Project Superintendent and the Foremen is excellent. The various projects have gone forward in an able manner.

We note the fact that there has been a large number of enrollees in camp on the sick list, an average of 12% of the company has been reported sick, confined to quarters, or light duty for the entire month. A great many of these men have been kept busy working around the camp, but a condition of this kind cuts down the man power available for project work. An average of 135 men has been available for project work during the month.

Daily inspection and supervision has been maintained by Assistant Engineer C. M. Bell on all project work. Staking has been kept well ahead of construction and new planning has been carried on. A survey of the Blue Forest Scenic Road is nearly complete.

We are glad to report another month without an accident of any kind to report.

Projects under construction are the Rio Puerco Water Development, the Blue Forest Road, the Pictograph Footpath one mile from Headquarters, General Cleanup, and Building and Landscaping Parking Areas. Satisfactory progress is being made.

RANGER AND MUSEUM SERVICE:

The Park Naturalist is on duty every day in the Museum at Headquarters and 1756 people were given personal service there during the month. One ranger is on duty at the Rio Puerco Prehistoric Indian Ruins and one is on duty at U. S. 260 Checking Station. Park Ranger Frank J. Winess went on regular annual leave of absence November 29.

TRAVEL:

During November visitors registered from every state except Delaware, Wyoming, South Carolina, and Rhode Island. Hawaii and the Philippine Islands were represented also. Foreign countries represented were, China, France, New Zealand, Germany, Samatra, Ontario, British Columbia, England.

TRAVEL STATISTICS:

For the month.....	Cars	965	People	2854
Previously reported.....	"	1597	"	4540
Total to date.....	"	2562	"	7394

OFFICIAL TRIPS:

None to report.

VISITORS:

Among the visitors to the Monument we find the following:

Mr. Orr Yeager, Park Naturalist, Rocky Mountain National Park, Mr. Walter Atwell, Associate Engineer, National Park Service, Edwin C. Alberts who was Seasonal Park Ranger here for several seasons and who is now a Junior at the University of Arizona.

INSPECTIONS:

Mr. Adrey E. Borell, Wild Life Technician was in the Monument from the 1st to the 3rd. He recommended that several small pools and bird baths be provided for the birds and small animals and that the small spring on the east side of the Agate Bridge Mesa be developed and piped into a small tank or trough for the antelope and other mammals. His recommendations are very good and plans are being made to carry them out.

Resident Landscape Architect Harry Langley was in the Monument the 28th and 29th and made a thorough inspection of all work in progress.

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Very truly yours,

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"With sinuous, sweeping branches, uptilted at the ends and intricately interlaced, it dominated all the other trees with its dark foliage. Involuntarily I shuddered; the tree seemed to have a life and movement of its own.-----Inquiries revealed that this was *Araucaria imbricata*, the Chile pine, and that it is truly a ghost tree out of the unremembered past. Of lineage ancient as the ginkgo, it grew in the Dawn Age beside giant ferns, horse tails and cycads. Its remains have been widely traced in rocks of the Carboniferous era. Leviathan reptiles forms must have slithered about its twisted roots. Reptiles! Yes, it was the thought of them that gave the clue to the strange emotions *Araucaria* inspired in me. Those twisting branches, thickened at the ends and uplifted; those glossy leaves, overlapping one another like scales!"

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"It derives its scientific name from *Arauco*, or *Araucania*, the district in South Chile where it was first discovered, and its romantic history is intertwined with that of the Araucanians, a proud and warlike race of Chilean aborigines. Like them, it too has suffered at the hands of white conquerors. There once its stately forests flowed down the slopes of the snow-capped Andes, it is rarely seen today and may soon be extinct."

"The followers of Valdivia, famous conqueror of Chile, probably were the first white men to look upon this strange tree in all its majesty of lofty grandeur and age. -----Through sinuous mountain defiles, round the sides of dizzy ravines, past rivers that flung their waters furiously down the mountain sides, through endless forest and across desolate, wind swept plateaus, he had led his men through the wild Cordilleras into the Land of Arauco. It was at the hands of the freedom-loving Araucanians that Inca Yupanqui had met defeat and it was the Araucanians who, in 1551, meted out to Valdivia a death of horror. Perhaps in the very forests where the Chile pine then grew in its primitive splendor, Lautaro, the eighteen year old military genius of the Indians, led his warriors in fierce combat. For these were the forests most cherished by the Indians. This tree was their palm; it nourished them and succored them and it furnished drink for their festivals."

"The native habitat of *Araucaria imbricata* lies along the western slopes of the South Chilean Andes, about 37 degrees latitude. Large forests once grew on the mountains Caramavida and Nagualbuta, where the soil, though rocky, is wet and boggy in stretches due to plentiful rain and snow. -----They require plenty of air, sunlight and moisture and a climate not excessively cold. After they had slaked their thirst for gold, the Spaniards interested themselves in this rare tree. A century old volume tells how, in 1780, when they had settled in the vicinity of the *Araucaria* country, they employed Don Francisco Dondariarona to examine the forest and report the suitability of the trees for ship-building. The report must have been favorable because the account further related that timber from the mountain forests was used afterward to repair a Spanish squadron at anchor in the Port of Talcahuano. Abate Molina, at about this same time, catalogued it under the name *Pinus Araucaria* in his Civil and Natural History of Peru. In 1782 the Spanish Government commissioned Don Joseph Pavon to make researches. After a thorough study, during which he ascertained it to be a distinct genus, he gave the tree the name *Araucaria imbricata*. Specimen plants were sent to France and England."

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*(To be continued in the next report)

H. V. Walker

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
PETRIFIED FOREST NATIONAL MONUMENT
HOLBROOK, ARIZONA

DECEMBER 1, 1934.

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

Dear Mr. Director:

The narrative report of activities in the Petrified Forest National Monument for the month of November is respectfully submitted.

GENERAL:

Travel figures for the month show that 985 automobiles brought 2864 people through the Monument during the month.

WEATHER:

During the early part of the month the weather was fair and warm. Later in the month there were three small snow storms, and the last part of the month was rather cold and blustery. A table follows:

Maximum 78 on the 6th. Minimum 11 on the 28th.
Mean Maximum 59.7. Mean Minimum 29.8.
Precip. .44 inches. Clear days 18. Cloudy 7. Partly cloudy 5.

ADMINISTRATIVE:

Administrative and office work has been kept well up to date. I have made inspections of the Monument and the various activities from time to time throughout the month.

PUBLIC WORKS:

Under F. P. 128.14A, a contract with Olds Brothers Lumber Company of Winslow, Arizona, for the construction of three checking stations was approved by the Secretary November 9, 1934. The contractor was directed to begin work November 21, and performance commenced on that date. No work has actually been done by the contractor at this time except to establish living quarters for the workmen.

This is the only active project under Public Works.

LABOR SITUATION:

The local labor situation remains about the same, rather poor.

POST CONSTRUCTION:

Under the Emergency Construction Act, June 19, 1934, one man has been kept busy with a power grader on the main highway. Two laborers were employed three days during the month.

EMERGENCY CONSERVATION WORK:

ECW Camp NM-1-A is now a well organized camp and is doing efficient work. The changes in the Supervisory Personnel which were made in October have had the desired effect and the work of the Project Superintendent and the Foremen is excellent. The various projects have gone forward in an able manner.

We note the fact that there has been a large number of enrollees in camp on the sick list, an average of 12% of the company has been reported sick, confined to quarters, or light duty for the entire month. A great many of these men have been kept busy working around the camp, but a condition of this kind cuts down the man power available for project work. An average of 135 men has been available for project work during the month.

Daily inspection and supervision has been maintained by Assistant Engineer C. H. Bell on all project work. Staking has been kept well ahead of construction and new planning has been carried on. A survey of the Blue Forest Scenic Road is nearly complete.

We are glad to report another month without an accident of any kind to report.

Projects under construction are the Rio Puerco Water Development, the Blue Forest Road, the Pictograph Footpath one mile from Headquarters, General Cleanup, and Building and Landscaping-Parking Areas. Satisfactory progress is being made.

RANGER AND MUSEUM SERVICE:

The Park Naturalist is on duty every day in the Museum at Headquarters and 1756 people were given personal service there during the month. One ranger is on duty at the Rio Puerco Prehistoric Indian Ruins and one is on duty at U. S. 260 Checking Station. Park Ranger Frank J. Winess went on regular annual leave of absence November 29.

TRAVEL:

During November visitors registered from every state except Delaware, Wyoming, South Carolina, and Rhode Island. Hawaii and the Philippine Islands were represented also. Foreign countries represented were, China, France, New Zealand, Germany, Samatra, Ontario, British Columbia, England.

TRAVEL STATISTICS:

For the month.....	Cars	965	People	2854
Previously reported.....	"	1597	"	4540
Total to date.....	"	2562	"	7394

OFFICIAL TRIPS:

None to report.

VISITORS:

Among the visitors to the Monument we find the following:

Mr. Dorr Yeager, Park Naturalist, Rocky Mountain National Park, Mr. Walter Atwell, Associate Engineer, National Park Service, Edwin C. Alberts who was Seasonal Park Ranger here for several seasons and who is now a Junior at the University of Arizona.

INSPECTIONS:

Mr. Adroy E. Borell, Wild Life Technician was in the Monument from the 1st to the 3rd. He recommended that several small pools and bird baths be provided for the birds and small animals and that the small spring on the east side of the Agate Bridge Mesa be developed and piped into a small tank or trough for the antelope and other mammals. His recommendations are very good and plans are being made to carry them out.

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