# THE SOUTHWESTERN MONUMENTS MONTHLY REPORT

## JANUARY, 1935.

Although the national monuments constitute the largest numerically and most widely scattered group of the national park and monument system, their exact meaning and purpose is not always understood. In order to insure the protection of places of national interest from a scientific or historic standpoint, Congress in 1906 passed a law known as the "Antiquities Act," which gave the President of the United States authority "to declare by public proclamation historic landmarks, historic and prehistoric structures, and other objects of scientific interest that are situated upon lands owned or controlled by the Government of the United States to be national monuments." Now there are 67 of these national monuments. The exhibits in them run the gamut from ruined dwellings of the Indians who lived a thousand or so years ago to the historic areas of the middle nineteenth century; from trees and plants petrified--apparently turned to stone--millions of years ago, to magnificent groves of living trees.

By far the greater number of monuments are rich in human associations. Those in the Southwest in particular are a vast storehouse of treasures of antiquity. Research constantly brings to light new facts about the people who lived on that part of the Continent long before the footsteps of the first white man were recorded only temporarily in the shifting desert sands.

From Glimpses of our National Monuments, 1934 edition.

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## SOUTHWESTERN MONUMENT PERSONNEL.

HEADQUARTERS Southwestern Monuments, Coolidge, Arizona. Frank Pinkley, Superintendent. Robert H. Rose, Acting Assistant Superintendent. Walter G. Attwell, Associate Engineer. Dale King, Junior Park Naturalist. Hugh M. Miller, Chief Clerk. Robert Cole, E.C.W. Clerk.

GENERAL FIELD MEN: Harry Langley, Assistant Landscape Architect. Charles A. Richey, Junior Landscape Architect. J. B. Hamilton, Assistant Engineer. Eugene Gordon, Assistant Engineer. Andrew E. Clark, Topographer. J. H. Tovera, Assistant Engineer. J. H. Leslie, Transitman. Harry F. Brown, Ray Hitson, A. B. Pinkley, Rodmen.

FIELD STATIONS.

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, Custodian.
4. Canyon de Chelly --Chin Lee, Ariz. Robert R. Budlong, Custodian.
5. Capulin Mountain-- Capulin, New Mex. Homer J. Farr, Custodian.
6. Casa Grande--Coolidge, Arizona. Hilding F. Palmer, Custodian. Louis R. Caywood, Park Ranger.
7. Chaco Canyon-- Crownpoint, New Mex. Thomas C. Miller, Custodian.
8. Chiricahua--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 Mex. V. 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--Moccasin, Arizona. Leonard Heaton, Acting Custodian.
17. Rainbow Bridge-- No Custodian.
18. Saguaro-- Tucson, Arizona. No Custodian.
19. Sunset Crater-- Flagstaff, Arizona. J.W.Brewer in charge.
20. Tonto Cliff Dwellings--Roosevelt, Arizona. Charlie Steen in charge.
21. Tumacacori--Tucson, Arizona. Box 2225. George L. Boundey, Custodian. Martin O. Evenstad, Park Ranger.
22. Walnut Canyon--Flagstaff, Arizona. J.W.Brewer in charge.
23. White Sands--Alamogordo, New Mex. Tom Charles, Custodian.
24. Wupatki--Flagstaff, Arizona. J. W. Brewer in charge.
25. Yucca House--Cortez, Colorado. No Custodian.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
SOUTHWESTERN MONUMENTS

Coolidge Arizona, February 1, 1935.

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

Dear Mr. Director:

The first several pages of this report will consist of a resume of activities over the whole Southwestern district.

## SOUTHWESTERN MONUMENTS GENERAL

### WEATHER AND TRAVEL

Old King Winter has been laying a heavy hand on the Southwestern region for the past several weeks. More rain and snow have fallen during January than for an equal length of time in the past two years. Sub-zero weather has prevailed in the Pipe Spring locality while conditions in northern New Mexico in the vicinity of Aztec and Chaco have not been as severe.

Stockmen have been highly pleased with the brighter outlook ahead now that really beneficial rains and snow have come. Cities and towns which have for many months depended upon imported water are now using their own water from their replenished reservoirs. The increase in waters impounded behind Roosevelt and Coolidge dams amounts to thousands of acre-feet.

Roads out to El Morro have been practically impassable for several weeks. For a day or so at a time the roads into Bandelier have been impassable except during nights when frozen. The January 1935 travel has been some what greater than the figures for the same month of last year.

### FIELD TRIPS

Several field trips were made to Tumacacori during the month in connection with the research and development project being pursued there. The work is progressing most satisfactorily. We are beginning to know a great deal more about where paths, and landscaping should be located. Maps of the various walls and structures revealed through excavations are being carefully prepared as the work progresses.

### ENGINEERING ACTIVITIES

Engineering crews have been working on topographic mapping at White Sands and at Saguaro. At Tumacacori they have kept progress maps of the research project. At Chiricahua a trail was surveyed to the top of Sugarloaf Mountain. At Gran Quivira the situation relative to resuming work

on water development was reviewed. At Bandelier a general progress inspection was made on ECW activities.

Excellent progress in preparation of maps has been made during the month. Maps on the proposed headquarters and road post-construction at Chiricahua; fence at Bandelier; ruins stabilization at Wupatki; entrance road and parking area at Sunset Crater; and parking area and trail at Walnut Canyon, are among those completed by the engineers during the month.

CONSTRUCTION

Contract time on the Aztec Ruins Administration Building and Museum ran out during the month with some 10 days work yet to be performed. Custodian Faris reports that shortly after the first of February the structure will be completed.

ECW ACTIVITIES

From the reports of project superintendents Chase of Bandelier and Hammond at Chiricahua the following itemized progress reports have been taken:

Bandelier:

1. Completion of the fifth horse bridge across El Rito de los Frijoles, just opposite hotel entrance.
2. Start on campground tables with some 15 now completed.
3. Pouring concrete and transportation of building materials to the concessionaire's utility area. Barn wall construction started.
4. Trail constructed and landscaping done about Ruins "H".
5. Completion of stone curbing of parking area; surfacing of driveways and walks with tuff gravel is in progress.
6. Walls of public campground comfort station completed to vega height. Ceiling started and building will be ready soon for plumbing installation.
7. Concrete work on one septic tank and footing on another done.
8. Planting progressing at rate of 8 large trees and many small ones daily in vicinity of Park and Army headquarters.
9. A crew of 15 men has chopped down and burned many beetle infested trees within working distance of the camp.

Chiricahua:

1. A gain of 1,000 feet on Sugarloaf Trail construction has been made making 2,600 feet now completed.
2. Work is progressing on clearing out new public campground area in Bonita Canyon. Materials have arrived for the septic tank, water and sewer lines.
3. Roadside cleanup among Bonita Canyon continued and considerable brush and rubbish burned. Project is well toward completion.

4. A cement masonry magazine for explosive supplies was completed.
5. Shop buildings were completed with shower bath and plumbing facilities for the shop workers.

The topographic mapping project under Mr. Clark, employed by Field Headquarters, has been progressing most satisfactorily during the month.

VISITING PARK SERVICE OFFICIALS

Mr. T. B. Plair, Forestry Technician of Western Division Branch of Forestry, was a headquarters visitor during the month. He dropped in to discuss his work of making type forestry maps at Chiricahua. Work of similiar nature has been done at Bandelier under Mr. Plair's supervision.

Resident Landscape Architect Harry Langley was with us part of a day toward the first of the month to discuss landscaping problems connected with ECW projects at Chiricahua.

In the index of this report will be found references to ECW work at Bandelier and at Chiricahua. Inspections, full accounts of progress, and other details of interest will be found in the progress reports of project superintendents Chase and Hammond. Assistant Engineer Gordon's report is also on ECW progress and engineering crew activities; see index.

MUSEUM AND EDUCATION

The usual guided field trips and museum service have been maintained during the month. A tabulation of travel as far as records are available will be of interest especially in view of severe weather that has prevailed in the northern regions.

| | |
|---|---|
| Aztec Ruins----------298 | Canyon de Chelly----------9 |
| Bandelier----------233 | (Inaccessible much of time) |
| Capulin------Approx.------400 | Pipe Spring----------148 |
| Casa Grande----------2,327 | Tumacacori----------888 |
| Chaco Canyon---------- 361 | White Sands---------- 65 |
| | (65 registered; only very small portion of entire travel registers) |
| | Wupatki---------- 60 |

Dr. H. C. Bumpus, President of the American Association of Museums, was a visitor at several of the monuments during the latter partof January and the first week in February. During his visit at Tumacacori and at headquarters, we received his valuable comments on the proposed exhibits scheme for the museum contemplated at that monument. Since the visit of Dr. Bumpus' party which included also Mrs. Bumpus and Mrs. Gay, extends into February, we will refer to it again next month.

I think you will see from the individual reports that follow that the boys over the district have a great deal to think about and are very busy despite the fact that the weather man frequently hangs out his Sign "Road Closed to such and such monument" for a few days at a time.

A SHORT LOOK INTO THE FUTURE

In connection with the future C.C.C. work, we want to urge upon you that you do all in your power to get the rules and regulations in regard to spur camps relaxed a little bit. We have many,many miles of trails to build in Bandelier National Monument and it will be all straight pack-work to keep the spur camps going. We do not expect to start this until the spring weather opens up, and we would like to be relieved from the necessity of packing in lumber for floors and side walls in tents, hot water equipment for shower baths, etc. A lot of people will come into Bandelier this summer and camp with tents on the ground and not have hot water for showers and yet they will keep healthy and have a good time and pay out good money to do it. It looks like the C.C.C. boys might stand some of this rough living without injury to their health if we could shift them from the barracks to the spur camps and back about once in two weeks.

We also need to fence the west side of the Bandelier National Monument and that is going to be a spur camp job. If these jobs are to be done, and they are very important ones, we will either have to be able to hold the costs within reason or will have to have considerable more money in order to operate the camp for the fifth and sixth periods.

Also, we could do a fine job of work in Northern Arizona if we could get a C.C.C. camp located near Wupatki National Monument and break spur camps off it for Walnut Canyon, Sunset Crater, and Montezuma Castle National Monuments. I doubt if any of these Monuments could handle a camp by itself in a satisfactory manner but the three of them, to say nothing of the fourth, could keep a camp busy for one and probably two periods. I cannot overstate the amount of good they could do in the matter of wall stabilization alone. By all means we ought to have this camp if there is a chance to get it.

We have seen the budget report and consider that we have been treated pretty fairly for such times as these, but are considerably exercised to find that we are still going to have several cases of dynamite lying around loosely among the Southwestern Monuments during the coming year in the way of some priceless ruins which will be open to vandalism. Again we are going to have to stretch our men and funds to the breaking point, work men overtime, cut out vacations, and so on in order to get the greatest protection possible.

With all this we will be unable to deliver adequate protection or adequate information service at several Monuments and are going to be in danger of one of those periodical explosions which occur when visitors reach our unmanned or our undermanned Monuments and commit some vandalism.

I don't want this to sound like a complaint; we don't whine in this Service. I intend it to be a case of looking the future squarely in the eye, telling our men exactly what we have to handle and then going into the future with the fixed idea of giving everything we have, and hoping our desert Gods will be kind to us and send us a minimum amount of fool vandals for the next fiscal year.

REPORTS FROM THE MEN IN THE FIELD
WHITE SANDS NATIONAL MONUMENT — Tom Charles, Custodian

Our new registration box at the end of the eight-mile road into the Sands is proving quite successful. On Saturday and Sunday, last, there were 65 registrations. Most of them were registered on Sunday. There were two each from Pennsylvanian, Missouri, Michigan, one from Mississippi, and three from Indiana. There were 20 from Texas and 35 from New Mexico. Twenty one of those from New Mexico were from Las Cruces and five from Alamogordo. This indicates that the home people do not register----my observation that day led me to believe that there were more Alamogordo cars passed the registration box than all others combined.

We were honored this month by a visit from Miss Horlean James, Executive Secretary of the American Civic Association, which organization is under the presidency of Mr. F.A. Delano, uncle of President Roosevelt. The morning was pleasant. Miss James in company with Dr. H.L. Kent, president of the A and M College and chairman of the land department of the State Planning Board, and Ralph Charles, State Land Consultant, made the trip from Las Cruces in the interest of the submarginal purchase of the artesian well and lake which are near the White Sands. They visited the points of interest along the White Sands road and drove up to the turnaround at about 1 p.m., really ready for a picnic lunch which had been prepared by local White Sands enthusiasts.

A thin cloud came creeping over the sands from the southwest and in a few moments it was sprinkling. In ten minutes it was raining, in 20 minutes it was pouring down. Water came down in sheets and in a deluge. It rained for four continuous hours. We finally ate our lunch in La Luz and after the storm cleared away, Miss James and party decided to return to Las Cruces by way of El Paso. When about 20 miles from El Paso they ran into a dust storm which made driving almost impossible and the flying gravel pounded the paint off of the car. This weather of ours is like a spoiled child----it acts up when we have our distinguished company.

You may remember that a footnote in the December Report cast an aspersion on the White Sands climate. That should have come up last summer when I was carrying a thermometer back and forth to the Sands and was ready to prove that the summer evenings at the Sands were 26 degrees cooler, on an average, than they were in Alamogordo. Now that winter is here I believe that I will begin carrying that thermometer again to show that the winter days are warmer at the Sands than they are in town. There will be no "flies in the ointment" so far as weather is concerned if you will permit us to figure it our way.

We make an occasional slip, however, on other things besides the weather. Recently I had a group of children in the Sands, where the local Chamber of Commerce advertises there is "no animal or vegetable life." Suddenly, one of the children began to scream, and investigation revealed that a big goat was approaching her. The poor animal had only kindly intentions---it was nearly famished for food and water. How long it had been in the heart of these Sands, I do not know. Visitors told me they had seen it there some days before. That goat is in a six-foot corral at the Charles homestead. Now, Boss, please tell me, if you will, what is the Park Service going to do with that goat?

The work program here is largely routine. We have two new trucks. The engineering crew is back on the job after being called away for a couple of weeks. The Chamber of Commerce continues to urge that the artesian well be added to the Monument. The Rotary Club presses the idea that the Three Rivers petroglyphs should be made a part of the National Park Service. The White Sand drifted across our road this month for the first time although it has been built for nearly a year. It took only a few hours to remove it. Scarcely a day passes but we get applications from men who want work at the White Sands if and when we get an appropriation.

So we are sailing along smoothly, hoping that legislative lightning may hit in this vicinity.

*****

And so Tom has a goat! We here at headquarters rather suspect it is Charlie Powell's goat that Tom has taken from Chiricahua as we knew he was trying to get it last summer. We suggest that Tom keep close watch on his goat---possibly it might turn red at certain seasons of the year like those lakes do when Tom waxes enthusiastic about their beauties.

*****

CANYON DE CHELLY NATIONAL MONUMENT Robert R. Budlong, Custodian

There were nine visitors to this Monument during the month. Four of these were from Keams Canyon, and merely drove to the rim of the canyon. The other five were local residents, all in one party, and were taken down the White House trail by the wife of the Custodian, he being confined to bed with an attack of "flu" at the time.

Roads leading to the Monument have been almost impassable much of the time. Continued rain during the first part of the month resulted in very muddy roads, full of deep ruts. During the latter part of the month snow and ice made roads even worse. We had a strong gale, accompanied by blinding snow flurries on the 19th, and much of the snow still remains on the ground. The temperature dropped below zero.

The canyons have been impassable for a long time, and discharge quantities of water and ice. No Soil Erosion has been done in them for some time. A meeting of Soil Erosion officials and Indians was held at the Thunderbird Ranch on the 11th, and work is to be resumed as soon as the condition of the canyons permits it.

Mr. J.B. Hamilton attended the meeting on January 11.

We have moved again. The teacher of Home Economics arrived on the 4th of the month, and, since we were occupying the Home Economics cottage at the time, we moved. We now occupy a room in the boys' dormitory at the school. Again we are indebted to the principal of the Indian school here for living quarters. In addition to a roof over our heads in this cold weather, we have spasmodic steam heat, which is most welcome.

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REPORTS FROM THE MEN IN THE FIELD
TONTO NATIONAL MONUMENT — Charlie Steen, Custodian

Winter time has come, and, we hope, gone. This is not news to you, of course, but for the record's sake let me state that on the morning of January 5 I was awakened by the patter of rain on my roof. That became a very common sound during the next three weeks. The skies finally cleared last Saturday afternoon, then three days of freezing weather set in, but now everything is balmy again on the Apache Trail. During our storm period Roosevelt Lake rose considerably and I am now able to see the lake from my cabin. Jupiter Pluvius evidently felt rather proud of his efforts at making the desert blossom as the rode for he put on a special act on Saturday morning. For 15 minutes tremendous claps of thunder reverberated through the canyons, and immediately after snow began to fall.

In spite of the bad weather, which kept people off the Trail for several days, 425 visitors appeared; of these, 206 visited the lower ruins but not a single sould expressed more thana slight wish to see the upper dwelling.

If, by chance, Vogt of El Morro reads this, here is some information for him. The Indians of ~~XXXXX~~ San Domingo get their turquoise from the mines in Los Cerillos hills, south of Santa Fe. These mines are on the San Domingo reservation and produce perhaps the finest grade of turquoise in the United States.

Boss, several months ago that man Jackson up on Beaver Creek made a crack at me in the report which I let pass. When he made a second last month I decided to do something about it, so I have written a short article telling the world, and Jackson, all about the Tonto Cliff Dwellings. It looks to me as though Jack were trying to start another feud such as that which raged last summer. I hope Budlong tears into him also. (See Supplement)

About once a month I receive a letter saying that one of you expects to visit me soon, but so far no one has shown up. I have nearly forgotten what you fellows look like, which will explain any bashfullness on my part which you may notice when you do show up.

*****

WUPATKI NATIONAL MONUMENT — Jimmie Brewer, in charge

Our monthly report is limited to Wupatki because the heavy snowfall has blocked the road to Sunset Crater, and, while the loop road to Walnut has been plowed, we were unable to get through to the cabin or out to the point. Our valiant attempt resulted in backing out 1½ miles to a suiteble place to turn around.

On the way to town we passed a large band of ewes near Citadel. The sheep men ~~XXXX~~ are grateful for range conditions. We have had three good rains, with snow on the higher levels, and the promise of spring feed is very good.

While the rain is doing well by the stock it is certainly not helping the pueblo ruin. A two-day rainfall has washed and gullied the ruin badly.

On Sunday, January 19, I had to re-adobe the roof on Room 36 and build up the walls to prevent further leaking. When the roof of Room 36 leaks, our parlor-bedroom-kitchen gets wet, you know.

The drainage from un-roofed Rooms 50 and 51 runs into the corner of Room 49 (kiva), where it had collected and seeped through until the northeast corner was undermined. To prevent further washing away of this important section of rooms built upon older walls adn midden, I found it advisable to install a tile drain in the northeast corner of the kiva. The floor level of the kiva is five feet above the present ground level on the north, so continued rains would eventually wash out the entire sector.

By digging through the kiva floor to the ground level outside and installing two lengths of tile pipe and one elbow, set in cement, in the northeast corner I was able to confine the drainage and divert the flow beyond the endangered area.

After so much trouble caused by rains you can understand how gladly I took to the good information you passed along via the last Monthly Report. I refer to the adobe preservative, and am making a plea for funds to purchase and apply this material.

There was a time early in my acquaintance with Southwestern National Monuments when I mistook the Monthly Report for so much interMonument chatter; but believe me, I can see the wisdom in it now and find inspiration and help in every edition; I regard it as a de luxe "House Organ."

In last month's report you narrate the latest episode of your local dumb-buddy. We have one here, too. About a week ago the weather was cold and clear, so he raised the east half of the hood of the pickup and expected the early morning sun to help warm the engine block and make the motor start more easily, thus taxing the battery less. The moon was bright and not a cloud in the sky, but before sunup the wind blwe in a nice little blizzard and filled the hood with snow and chilled the motor oil to frigid immobility. For the following day or two trail-building had to be carried on without the valuable assistance of the pickup. Perhaps the case should be referred to the Committee on the Safety of Custodians---or is it the Acting Committee on Acting Custodians?

Boss, did you notice the coincidence in last month's report? You were mildly riding someone's opinion about the proposed road with the overpass to Walnut Canyon and I was reporting an accident such an overpass would have avoided.

We can see increased travel from the Grand Canyon next summer because work on new Highway 89 has commenced northward from Citadel turnoff to Cameron. The new location is ½ mile east of the old and brings the traffic that much closer to Wupatki!

We have not had a visitor to the Monument since January 3; however our record shows 38 visitors to Wupatki since December 24. Mr. and Mrs. E.H.

Oldham of the Forest Service, Mr. Ten Broeck Williamson (CWA Project 10 archaeologist) and his bride, Dr. and Mrs. Colton, and son Farrell were our notables.

The register at Citadel contains 31 names, of which nine are duplicated at Wupatki, totaling 60 visitors to the Monument for January. I think a curve on the proportion of Citadel visitors who now come to Wupatki will be interesting; the ratio is changing greatly.

P.S. My Navajo informant tells me that with the coming of the next full moon the eagle lays "his" eggs. So what?

*****

CHACO CANYON NATIONAL MONUMENT T.C. Miller, Cust.

Following is the report of the Chaco Canyon National Monument for the months of December and January. From December 11 to January 2 the Custodian was absent from the Monument on annual leave. I had planned to return to Chaco December 26, but due to the sudden death of my father December 23 at Carlsbad, I was delayed a few days.

Mr. A.P. Springstead, who runs Chaco Trading Post, looked after the Monument in general, during my absence. I found Mr. Springstead had things running nicely when I returned.

Travel for December 361 persons entered the Monument in 119 cars. Seven states were represented.

January Report. General: The approach roads remained in good shape the first part of the month despite plenty of rain and snow. From January 11 to the time this report is made the approach road to the south that joins U.S. 66 at Thoreau has been almost impassable. I have spent considerable time pulling cars out of the mud, and have been pulled out once myself by the Highway Department.

The Chaco River has been strutting her stuff since January 7. A two-foot rise was recorded on that date, and it has been going strong ever since. The revetment work at Pueblo del Arroyo suffered a slight loss by washing away some more of our wall. This revetment work was put in by the CWA Project here last year.

The telephone line that is being put in by the Indian Service from Crown Point to Kimbetoh has lengthened. That line crossed the Monument about three quarters of a mile west of the headquarters area, or between the ruins of Yellow House and Casa Chiquita. The postsetters have crossed the Monument and are well on their way to Kimbetoh. If this good weather holds out we will have a telephone by February 15.

Many Indians attended a Sing here on the Monument at the hogan of Tomasito, January 9 and 10. This old Indian has lived in this vicinity for

the past 80 years. The Sing was to cure a sick daughter. Their wishes must have been granted as the daughter is now up and going strong.

Weather Maximum, 53 on the 10th. Minimum, 5 below on the 21st. Precipitation 1.24 inch of rain and melted snow was recorded for the month.

Travel 332 people entered the Monument, coming in 108 cars. Only six states were represented: Arizona, California, Colorado, New Mexico, Texas and Utah. State Road No. 55, to the north from Cuba to Bernallilo, has been impassable the entire month, due to heavy snows and rain. Consequently, a big part of that travel came through the Monument and on to Thoreau where they would join U.S. 66 to Albuquerque and all points east. Since January 15 our roads have been in such poor condition the travel has turned by way of Ship-xxxxxx rock on Highway 666 to Gallup.

Special Visitors Mr. Hugh Calking, Regional Director, and Mr. R.V. Boyle, both of the Soil Erosion Service, arrived on December 29 and departed on the 30th.

Wedding Bells in the Chaco: TEMPORARY RANGER GRIFFIN NOW PERMANENT: Miss Jean Griffen, daughter of Mr. and Mrs. Gus Griffen, and resident of the Monument for the past 14 years, was married to Mr. Chester R. Markley, Park Ranger, Mesa Verde National Park, on December 26 at the home of the bride. The couple departed on the same date for their honeymoon down to Florida, then to Baltimore, Md., where they will visit an aunt of the bride, Mrs. Fred Stieff, and on to Philadelphia to visit the bridegroom's parents. The Markleys will reside at Mesa Verde Park after January 26.

Miss Griffin has been a very active and interested member in the Chaco Canyon National Monument family, and for several years she has acted as Ranger. Also her contributions to our museum, consisting of several charts of pictographs were greatly appreciated. We shall miss Jean very much. We are glad her position in the Service is permanent.

*****

CHIRICAHUA NATIONAL MONUMENT E.C.W. ACTIVITIES H.O. Hammond, Proj. Supt.

The month of January at Chiricahua has witnessed continued progress on ECW work projects, notwithstanding cold and some snow and rainy weather.

Foreman Ed Riggs and his trail workers steadily have pushed ahead with the Sugar Loaf Mountain horse trail. We now have 2,600 feet of completed trail, with an additional 300 feet cleared ahead. The gain for the month was 1,100 feet of new trail. With another month's work we hope to have this job about completed.

Work has been started on the laying out and clearing of the new Public Campground area in Bonita Canyon, Landscape Foreman Cook and Engineer Harris have their crews busy at the site which embraces about 10 acres immediately adjacent to the Bonita Canyon highway. Some materials have arrived for the

construction of the septic tank, sewer, and water lines.

Roadside cleanup along the Bonita Canyon continued, and during the wet periods considerable accumulated brush and leaves were burned. This project is now well along toward completion.

A small cement-masonry magazine, for the storage of the electric blasting detonators, was completed during the month at a location near the mouth of Rhyolite Canyon. The dimensions inside are 4 x 6 x 5 feet high; the door is of steel boiler plate and the roof of native pole slabs covered with composition roofing paper and a thick layer of earth.

All shop buildings have now been completed and are constructed of corrugated iron. These structures replace the former tents and flys. A shower bath with heater and water boiler, and a latrine, were added for the shop workers. Warehouse space has been made available for such materials as cement, lime, lumber, pipe, and reinforcement steel.

The new enrollment brought us some 70 new workers who are now beginning to take hold. We were as sorry to lose our old men, who had completed their length of service, as they were to leave us. We now have about 180 men available for work projects and a total of 205 enrolled.

Lieutenant Fullenwider, our former camp commander, has been transferred to the Rucker Canyon Camp and Lieutenant Machen has been assigned to replace him here. Landscape Foreman Wilbur D. Cook arrived the first of the month to assume his duties with the technical division.

Tourist visitors to the Monument during January have been at a fairly low ebb because of cold weather and several stormy periods. Official visitors have been as follows: Jan.3, Engineers W.G. Attwell and Gene H. Gordon of the National Park Service. Dec. 7, L.A. Brisbin and Tom Bentley of the Forest Service. Jan. 15, Fred Winn, Forest Supervisor. Jan. 21, R.L. Hughes, Forest Service Engineer. Jan. 24, Assistant Engineer Gene H. Gordon.

Mr. L.F. Cook, NPS inspector, was here early in the month going over the work projects. Mr. Plair, Berkeley headquarters forestry technician, also spent several days on the Monument making type maps.

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BANDELIER NATIONAL MONUMENT Earl Jackson, Custodian

Visitors Visitors numbered 233, coming from 24 states and three foreign countries, arriving in 50 cars. England, Germany, and New Zealand were represented. The six highest staes by travel were: New Mexico, 130; Colorado,11; Illinois, 6; Minnesota and Wyoming, 5; Ohio, 4. Travel as compared with 72 visitors for January, 1934, was more than trebled.

Weather Conditions and Roads The first half of the month was very cold

and wet. Several storms started out to snow but capitulated with drenching rain mixed with snow, leaving water and mud everywhere and the roads in a deplorable condition. For ten days the road out from Santa Fe was practically impassable.during daylight hours. Travel was safe only at night when the road was frozen. A week ago the road dried out enough for grader work, and it is now in good condition. The weather is clear now, and practically no snow remains below an elevation of 7,000 feet.

Special Visitors On January 4 Walt Attwell and assistant Gene Gordon arrived for a three day stay. They checked over construction progress, and Gordon checked with me on estimates for ruins stabilization, covering repair work which is needed in the event funds should be made available.

On January 20 Dr. Edgar L. Hewett, Director of the School of American Research and of the State Museum, with 20 archaeology students from the University of New Mexico, paid a visit to Bandelier. They spent a worthwhile half day in Frijoles Canyon. Dr. Hewett feels more or less of a paternal interest in Bandelier, for it was he who directed the extensive research program which took place here 25 years ago. Among development features upon which he commented favorably was the new trail system in Frijoles Canyon (a result of ECW labor).

On January 24 a very interested visitor was Mr. Henry A. Yates, Vice President of the National Union Fire Insurance Co. With his party he spent an afternoon with us, and left completely sold on Bandelier National Monument.

Improvements E.C.W. activity has progressed efficiently, despite cold weather. A considerable light epidemic of influenza laid as many as 30 workmen off at one time, but this condition lasted only a few days. The detailed construction report is submitted by Superintendent of Construction Chase, and so I shall not repeat it here.

Fires No fires this month, and little danger for some time.

Nature Notes Mr. George H. Ellis, Deputy Game Warden, delivered me 500 pounds of corn for turkey feed, gratis. Have not used any, and do not plan to unless considerable snow falls. I know the turkeys are hungry, but they will not starve as long as the ground is exposed.

With the coming of the dull travel season here I started a card index system for the cataloguing of every known specie of bird and plant seen to occur in this reserve. Am listing common names, and technical names, with interesting facts or common uses. On plants, all uses by aborigines are being listed as they are learned. This is turning into a fascinating job, and I believe it will be a very worthy record. The worst handicap is lack of reference material, but in the sublime faith that virtue will be rewarded it is felt such material will be eventually forthcoming.

General The custodian took a portion of his annual leave over the Christmas holidays and betook himself on an archaeological reconnaissance to

to the coast to see and observe the life habits of the cliff dwellers of Oakland and San Francisco. As a result of this inspection, he returned considerably impressed with the culture of the Anglo-American peoples, their elevators, electric trains, ferries, etc., but was sorely troubled by the alarming speed which these people manifest in their desire to get to no particular place in a hurry. It was with relief that he returned to his own land of the peaceful cliff dwellers of long ago and to the restful tempo of a clime where the Americans still grind their corn in a metate, cook in an earthen pot, and wear shoes only when they have to. That's a great country on the west coast, no doubt of it, but an archaeologist belongs in the time-hallowed dust and lore of the countries, in a land where empire held when half of the white man's ancestors were eating their meat raw and dominating their wives.

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BANDELIER E.C.W. ACTIVITIES H.B. CHASE, PROJECT SUP'T

Little work was accomplished from the time of the last report until about January 2, that being the date the second group of CCC enrollees returned from their Christmas vacation.

Today we completed the fifth Rito de Frijoles horse bridge, it being located directly opposite the entrance of the hotel.

Recent approval of the campground table project has offered a good project for a number of men during cold weather. We also had considerable "cutoffs", etc., from timber structures which allowed us to proceed at once with the actual table construction, and to date we have some 15 tables completed.

This month the footings have been poured and considerable building material hauled to the site of the concessionaire's utility area. Wall construction of the barn was started today.

A snowstorm on January 7 shut down all projects; the following day the entire camp was pit on group "H" ruins trail and same was completed that day with the exception of some landscape features, which were immediately carried on. All features of the group were completed January 10.

January 22 saw completion of the stone curbing of the parking area. Surfacing of driveways and walks with tuff gravel is in progress now and will be completed this month.

Walls of the public campground comfort station have been completed to viga height and a portion of the vigas in place with aspen ceiling construction started. We expect to have wall and roof completed to turn the building over to the plumbers for the "roughing-in" plumbing by the first of February.

The concrete work of one septic tank and the footing of the sceond has

been completed this month; removal of the forms and backfilling of the completed structure will be completed this month.

Planting has gone forward this month with an average of eight large trees per day together with a large number of small plants and shrubs. Planting development this month has been principally within the area lying between the present Park Service office and Army headquarters.

An average crew of 15 men have chopped down and burned a number of beetle infested trees located within a distance accessible of camp. This work is being carried on under the project "pest control."

This camp and work projects was visited and inspected by Engineer Walter G. Attwell in company with Assistant Engineer Gordon January 6 and 7

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TUMACACORI MISSION NATIONAL MONUMENT George Boundey, Custodian

Visitors for January, 888.

We have had some rain during the month but very little real cold weather. The indications are there will be plenty of pasture for stock this spring and that the desert will be in full bloom.

The excavation going on here at Tumacacori under the supervision of Mr. Beaubien is proving to the public many things which some of them have had a tendency to doubt. Some of the old timers in Nogales have made the remark that I tell a good story if true. One of the main so-called authorities told me the other day that the excavations have proved to him beyond any doubt that we are correct in claiming Tumacacori to be an old Jesuit mission and not a recent Franciscan building. What pleases me most is that Mr. Beaubien is making these discoveries and not I.

Last week a man who claimed to be an authority on Jesuit missions and is making a study of the southwest Missions gave us for our future museum at Tumacacori an old photograph of San Xavier which he says shows the Jesuit insignia on the arches ay San Xavier and proves it to be a Jesuit and not a Franciscan mission. The lettering on the plaque is A-M-D-G, which he says means "Ad Majorium de Gloria".

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(Editor(s Note: See Supplement for notes written by Mr. Beaubien on progress of excavation at Tumacacori).

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AZTEC RUINS NATIONAL MONUMENT Johnwill Feris, Custodian

If the balance of the year holds up like the first month of 1935, Aztec is due for a banner year. Visitors for the month total 298, which is the largest January since I have been in charge of the Monument.

Any large increase can be traced to the construction. I doubt very much if the percentage of out-of-state visitors is any greater than in an ordinary year, but when one considers the fact that about the only Federal work of any consequence in the county is right here in the Ruins, that the papers have been playing up our work a lot, and then on top of the whole thing we get some $3,000 for museum equipment, etc., the local people begin to wonder what it is all about.

It is gratifying to witness the manner in which the public is taking all the improvements that are occurring. On the whole, they feel that it is most fitting that the government, when times are as they have been, should take the opportunity to improve and develop their natural resources. We are proud of the way we are being accepted by the public and wish to pass on this feeling to all of you that are making possible all the work and the improvements that it represents.

The number of visitors were handled in probably less time than any like number in an long time. This is due to the fact that zero and subzero temperatures make our museum most disagreeable for any long stay. I believe that the average party is not spending more than about teb minutes in the museum. You know, of course, that it is almost impossible to give them a comprehensive idea of the artifacts in this time, but I do think that I have been reasonably successful in inculcating a desire for a return trip.

Other than the low temperatures (only a minus 5 up to date and only one night of that) the weather has been better than we can ordinarily expect for this time of year. Up to the middle of January all the passes with the exception of Wolf Creek were open. This year, I do think, we will find exceptional in the amount of rainfall for winter months. This is snow in the mountains, of course, but the passes were kept open. It is only natural, however, that the volume of travel is not coming this far north this season of year.

Our regular Monument routine was broken into somewhat this month by the necessity of digging a long drain ditch for the new building. It is going to be quite a blow to our meager allotment, but is just one of those things that come up and demand a solution.

The big thing at Aztec is the Museum and Administrative Building. It is beginning to take shape to the extent that we can hardly wait the time when the contractor will turn the place over to us. We had hoped that he would be able to finish within the time allowed, but it will be another two weeks before we can take over the entire work.

Mr. Gebhardt is doing a fine job of seeing the government gets all the contract states we should, and I only wish the entire staff of officials could see the product when it is completed.

Iam getting anxious to see the portion of the museum in place, and no one realizes more than yourself that it has to be good for me to want to see a part of our museum moved in.

Some of the old timers that saw the Monument as it existed for so long can hardly believe the change that is occurring. For a time I was afraid that the change was coming too fast and that the local people especially could not adapt themselves to so rapid a change. I was fearful that the improvements might cause an antagonistic attitude, but feel now that the public is adjusting themselves even faster than some of the folks within the Service, myself included!

The building will certainly be finished within the next two or three weeks, and with the Berkeley Office working with us as they are, I have definite hopes of presenting to our regular seasonal visitor a partial glimpse of the finished product. If Mrs. Rogers and myself do not do a better job of guide service this year than has heretofore been possible, It is certainly not because the Park Service has not cooperated and aided us in every way. Even though we have not the completed museum as outlined, I feel that we will be able to present for this summer as complete and modern museum and administration unit as can be found in the entire Southwest.

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PIPE SPRING NATIONAL MONUMENT Leonard Heaton, Acting Cust.

Here is the report for the first month of the new year from Pipe Springs, and what a month it has been since my last report! The weather surely has played tricks on us here, giving us rain and summer warmth, making the grasses and early weeds grow----buds on the trees swelling almost to the bursting point----pussy willows comingbout in full bloom.

Then suddenly a cold west wind came on the 18th, bringing snow and sleet, continuing until the evening of the 19th. I believe we would have had 2" of snow here if no wind had come and drifted it. As it was, there was no snow in places and drifts up to three feet in ~~xxxxxx~~ others.

The night of the 19th all clouds disappeared and a cold north wind knocked the Mercury down to 18 degrees below zero. As I have no accurate thermometer, the foregoing is a theoretical statement----I have adopted several things Nature has provided me with here on the Monument. The best I have is the west pond in front of the fort. If the ice forms around the edges out 12" or so, the temperature is 15 to 20 degrees above. If it gets out three or four feet, the temperature is getting down to around zero. But when ice forms 1½ to two inches thick all over the pond except a place six feet by twelve feet where the water runs in and out, then we have cold registering around 20 below. That is what we had the morning of the 20th, and not until the 23rd did the ice show any marked degree of melting. Today a north chinook came and most all the ice and snow has vanished.

Our travel has not amounted to very much this month, other than local. I have had only three Utah visitors, and two from California. Total travel I estimate at 148.

I regret to have to report that some of the people that have loaned us

some of their pioneer relics are calling on me for their return, which I very much dislike to do, becuase there has been so much of this old pioneer furniture destroyed and lost the last few years.

We can only hope that these people will come to realize that the Monument is a permanent thing and that more people will be able to see and enjoy the workmanship of the early pioneers if the relics are placed here at Pipe Springs.

The following is a report of the construction work carried on this month. Mr. Rizell from Zion Park's engineering force with two helpers came out December 28 and staked out the east cattleguard. Since it was cold and stormy, they did not do anything for the west guard.

January 2 I started excavation for the guard with five men and one team. Making a pit 12' x 14' x 42", a total of 43⅓ yards of dirt had to be moved. The last 1½ feet was very dry and hard and had to be picked, but by the 5th the forms were all set and ready for cement. Because of stormy weather I waited until January 11 before pouring concrete.

Mr. Cowell and Rozell came out the afternoon of the 11th and gave me the lines for the west cattleguard, and on January 18 I started four men excavating. At 4 p.m. January 18 the work was 80% finished when the storm came which suspended operations.

If the warm weather keeps up as it is now I hope to have the cement poured by the last of the month and then have the welders come in during Febraary so that I can get this part of our building program out of the way.

As an afterthought about the weather, if one can go by the signs, spring is not far off, as I saw today four mountain bluebirds, one killdeer, one catbird, and one robin.

January 7 and January 21st I spent away from the Monument in connection with the Boy Scouts of the Kanab district, trying to get some of them interested in qualifying for the Jamboree at Washington, D.C., in August.

In closing will say that we have wintered well so far, not much loss of livestock as yet, and looks as if we will continue receiving good weather.

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NATURAL BRIDGES NATIONAL MONUMENT Zeke Johnson, Custodian

Once more I will tell you that all is well with me and mine.

Our state legislature is in session here now and I am still working to get something put over to help boost the scenic wonders of San Juan. A memorial has been sent to our senator and congressmen to work for the hookup road between Mesa Verde and the southern Utah Parks. I have a fine letter

from Senator King telling me that they are all working for the hookup. I was told by the Chiarman of our state road commission, also by B.J. Finch who is Chief Engineer of federal roads for the state of Utah that the road from Blanding to the Natural Bridges had been made a National Forest project and that they were now endeavoring to finance it together with several other small projects in eastern Utah. So it looks to me that something will be done in the not very distant future.

There has been lots of precipitation and not much cold in and around the Monument---looks like San Juan would fare very well for water this coming season.

I expect to have lots of travel to the Bridges this year so I will be obliged to preare to take care of them with beds and cots. I must do that this spring if possible.

I begin to long to get back as I am tired of the city. With kind regards and best wished for all the bunch, I am as ever....

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CAPULIN MOUNTAIN NATIONAL MONUMENT Homer J. Farr, Custodian

January has pretty well left us and we are glad to take stock and note that we have considerable more moisture than twelve months ago. The fore part of the month gave us one inch of rain and four of snow. The ground was warm. The snow is now all gone and the everlasting southwestern wind again has begun to blow.

Some three or four hundred visitors have called to see our Monument this month and found some snow and many drifts high in the road on the Mountain, but it is all clear at present. A couple of days good work on the road have cleared all the snow catchers and the fallen rocks.

One of the fellows from the Forest Service made us a very pleasant two day visit this month and went carefully over the dead and dying trees on our Monument. A Mr. De Leon, a very nice chap and knows his bugs. He has recommended a beetle control project for the Monument, which we hope to begin next month.

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MONTEZUMA CASTLE NATIONAL MONUMENT Martin Jackson, Custodian

Have the following to report for this Monument for January. Our register book shows that we have had 321 visitors which is only three more than we had in January, 1933, and 53 less than we had in January, 1934. January is usually our worst month for weather and road conditions. This year and in 1933 it was stormy throughout the month, while January 1934 produced good weather and you noticed how the number of visitors jumped.

Cattlemen and farmers of this section are plenty tickled about so much rain and snow during the month, and it is quite natural that they would be as it is the first precipitation for two years in some parts. Some fairly high water in the streams.

The United Verde smelter at Clarkdale resumed operations on a small scale the first of the month after being closed down for almost four years. Reports have it that no new men are being employed, so it will not mean a great deal to the unemployed of the district.

The local Dude Ranches report business as only fair for the month, but they all expect things to be much better during the next three months. So we are all set and ready for them when they arrive. Most all the guests at the nearby ranches pay us a visit during their stay, and we list some of our most enthusiastic boosters among them. The majority of these visitors are from the east and a great many of them have not paid a visit to a Southwestern Monument before. We are conceited enough to think that we are getting the Monument over pretty well with them.

The new revetment wall along Beaver Creek had its first real test of high water during the month. Quite a lot of silt was deposited behind the wall as was to be expected, and a section of some 25 or 30 feet of the wall was undermined and settled some two or three feet. This settling was also expected and is not due in any way to faulty construction.

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EL MORRO NATIONAL MONUMENT E.Z Vogt, Custodian

Roads and Weather All travel to my Monument was stopped this month by the continuing downpour of moisture which has filled the ground with more water than the region has ever known.

For a few trips the mails from Ramah to Atarque was packed through by horseback as the mail car was unable to buck through the drifts. No known visitors came to our Monument. Here and there the snow is broken by the track of a stealthy coyote and along the edge of the cliff wildcats have made nightly trips endeavoring to catch birds or rabbits off their guard.

The snow has melted now on south slopes, the road is drying, and one can reach Gallup from El Morro, Ramah, or Zuni by starting early and making it through before the warming sun thaws out the ground.

Paul Wilkerson Mr. Wilkerson, expert knight of the cinema camera, who was to visit our Monument over a weekend in order to get movies to include in the film he was making for the Park Service, was evidently waylaid or lost in the storms. He reached Gallup after leaving Coolidge crossing the mountains in a storm, but I have been unable to trace him from Gallup, The conclusion is that the formidable roads kept him, perhaps wisely, from undertaking a perilous journey. This was very disappointing to me as I had thought out a series of shots I was going to suggest to him which I thought

would show up the historical, archaeological and scenic values of El Morro and bring us in for some real publicity. I am hoping Mr. Wilkerson will try again this spring to penetrate the hinterland far enough to visit us and El Morro.

Governor's Inaugural Address In the first paragraph of Governor Clyde Tingley's Inaugural Address the Governor mentioned the "Paso por Aqui" (Passed By Here) phrase used by most of the old Spanish conquistadores in carving their immortal messages in the lasting stone surface of El Morro. The governor urged that the people of New Mexico during the next two years record, as did the Spanish conquerors over three centuries ago, every phase of human endeavor the indelible mark of achievement.

Coronado Anniversary Celebration The Governor is taking steps to plan the celebration of the 400th anniversary of Coronado's entry into New Mexico which will come in the year of 1940. I am pleased to note the Governor's interest in the wonderful history of New Mexico.

Runoff of Melting Snow in Reservoir The great fall of water and snow in the giant pockets above the reservoir in the Water Cove of El Morro has given us a great amount of water in our reservoir. Warm days this runoff is continuing like a waterfall.

This brings up the problem which we may have to face during the dry spell of May and June which always comes to worry the ranchmen living near our Monument. As you know they have been unable to develop their own water wells owing to poverty and the depth of water, some 300 feet. When all the surface tanks have dried up they are likely to look on our storage reservoir with insistent yearning. Last year we were able through loan of Indian Service pipe to syphon this water out to a point so they could come in their water wagons and trucks and get thewater without driving over our newly planted sod, thus starting erosion.

Query---What are you going to do about getting this water out so as to be available in case it seems advisable to permit them to haul water from El Morro? It is sad but true news that the wells started for them under FERA have not produced a gallon of water nor have the dams they were to build been effective.

I will need your help in solving this problem as we will need 200 feet of pipe or hose to bring this water out where it can be put into wagon tanks without the need of damaging the valley we made where the great arroyo formerly scarred the terrain.

Vacation in Bed While attending the conference of sheep and cattle men in Albuquerque January 13 and 14 on the Grazing Administration of the Public Domain I suddenly succumbed to the flu which had been gnawing at my morale for some weeks. I spent eight days in a hospital and came out to the ranch again on the 23rd with a profound respect for doctors, nurses and hospitals and their great need in the scheme of things. I am all well now and proud of the fact that the liquid diet reduced my belt two notches.

New Books I have secured recently two very helpful books. One, "Mammals of New Mexico", by the Department of Agriculture, and the other "Flora of Nevada and Utah", by the U.S. Herbarium. Both are most useful in informing me about things I should know in line with my duties as Custodian.

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CASA GRANDE RUINS NATIONAL MONUMENT Hilding Palmer, Custodian

Travel for the month of Janucry was rather feeble until the mast part of the month when a sudden burst of trevel brought the registration up and passed that of January, 1934. The early period of slow travel is accounted for by the cold and rainy weather.

For this month there were 2327 visitors which is a slight increase over 2272 for the same month last year.

All states were represented except Delaware, South Carolina, and Vermont. Arizona ranked first with 987 visitors, California second with 273 and Illinois third with 99.

Canada, Alaska, Cuba, China, Sweden, India, Belgian Congo, Philippine Islands and Ecuador were represented.

These visitors were taken through the ruins on 316 guided trips and through the museum on 283 guided trips.

The temperature range for the month was great. Maximum was 89 on the 29th, while minimum was 20 on the 21st. The greatest daily range was 51. Mean maximum was 64 while mean minimum was 35. Total precipitation was only .32 of an inch. This rain was accompanied by a hail on the 19th.

Kay Heaton, brother of Leonard Heaton of Pipe Spring National Monument, visited us to see the ruins during the month. Mr. and Mrs. T.B. Plair visited the ruins for the first time on January 6 when they passed through here on their return to San Francisco from Chiricahua. Mrs. W.H. Robinson, whose husband, Will, wrote "Under Turquoise Skies", visited is on the 10th. Harry Langley of the Landscape Division spent several hours here the last of the month. Custodian Earl Jackson of Bandelier was here January 21.

Several crews of FERA laborers have been working at the Monument recently. They have graded a road to the utility area and made a general cleanup in that vicinity. Proposed work for them will be the making of adobe bricks and landscaping of several small areas.

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ENGINEERING REPORT G.H. GORDON, ASSISTANT ENGINEER

Transmitted herewith will be found the monthly report covering activities of myself and Field Engineering crew for the month of January:

The first two days of the month were spent at CasaGrande National

Monument.

January 3 I left for Bandelier National Monument with Mr. Attwell, arriving there January 5. Examined ECW work of past year and next ECW program.

Left Bandelier January 7 for Headquarters, arriving January 9.

January 10 I made a trip to Saguaro National Monument where the Field Party was making a survey to be used in the ECW program for that Monument.

Until January 16 I was at Headquarters, and on that date I made another trip to Saguaro National Monument.

From January 17 to 23 my time was spent at Headquarters completing plans for ECW programs. During this period the Field Crew moved the White Sands National Monument.

January 22 I left Headquarters on a field trip taking me to Tumacacori National Monument, Chiricahua National Monument, Silver City, New Mexico, White Sands National Monument, and back to Headquarters on January 28.

January 29 I went to Phoenix where I met Mr. Langley, Landscape Architect, and from there we went to Chiricahua.

January 30 we went to Nogales, Arizona, and the following day visited Tumacacori, leaving there at 10:30 A.M. and proceeded to Phoenix, stopping at Casa Grande.

The field crew was located at White Sands National Monument from January 19 until the end of the month.

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Just a word in closing, Chief, to say that it seems to me from these field reports that things are moving along all right in this district. We have had an unusual lot of sickness through the Southwest during the month, flu being the principal variety and most of the fellows refusing to give up, several of them have been dragging around about half sick but continuing to run the job. They all act like they thought the world would promptly go to pieces if they quit work for a few days,---not that I blame them for I feel the same way about it myself; it's funny how easy it is to fool ourselves that way.

However, we haven't lost our sense of humor and can still get a lot of fun out of the work and those are saving graces that carry us over the rough spots. My general idea is that we ought to be serious in our work and plans----but not too serious.

We certainly have more visitors at the winter resorts of the Southwest than for several years and I believe the outlook for an increase of visitors this coming spring and summer is good in this section of the country at least.

Cordially,

Frank Pinkley.

Superintendent

# THE SOUTHWESTERN MONUMENTS

## SUPPLEMENT TO THE MONTHLY REPORT

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

SHOP TALK, GOSSIP, AND OTHER INTERESTING THINGS ABOUT THIS AND THAT: THE WHOLE CONTAINING SOME INFORMATION AND NOT MUCH MISINFORMATION ABOUT WHAT GOES ON IN THE SOUTHWESTERN MONUMENTS.

# PROCEDURE TO BE FOLLOWED IN INSECT CONTROL WORK IN THE SOUTHWESTERN PARKS AND MONUMENTS

by

Donald De Leon
Entomological Technician

Where an infestation is at all heavy or where a preliminary sample cruise has shown that the infestation is sufficiently severe (at least 50 trees to the section) to warrant control work, a hundred per cent spotting program should be used to insure complete coverage by the control crews, to determine the actual infestation per acre and to show the distribution of the infestation.

Briefly, the spotting program should be as follows. A spotting crew composed of a compassman and two or three spotters, depending on the density of the stand, start at a known point, where possible a section or quarter corner, and cover completely the entire area in which treating is to be done. The compassman runs a compass line either due north and south or east and west, keeping his distance by pacing and checking his pacing by tieing in on section lines or corners and mapping in on a treating plat (Exhibit E) the salient points traversed, such as streams, roads, trails, gullies and rock out-croppings, change of type, or anything that will help the treating foreman to locate the spotted trees.

Each spotter works a strip two and a half or five chains wide on each side of the compassman and examines all trees that may possibly be infested. When a spotter locates an infested tree, he calls out "bugs" or some similar term agreed upon. The compassman then calls back the number that should be put on the tree, say, one, and also places the location of the tree, and its number, on the map that he is making. The spotter then makes out a tree tag (Exhibit A), cuts a slit in the bark and places the tag in the slit. The spotter also calls out the tree species, D.B.H., number of logs, and the beetles killing the tree. This information is recorded by the compassman on a spotting record (Exhibit B) in case the tree tag is lost, or in case the treating foreman can not locate the tree he can be told what size of tree to look for. This record is also used for another purpose, given later. Besides placing the number on the tree in black crayon, the spotter also blazes the tree on three or four sides so that it can be easily seen from a distance. When the tree has been blazed and numbered and the tree tag made out and placed in the tree, the party proceeds until the next infested tree is located, when the same procedure is gone through. This time the compassman will call back to the spotter locating the infested tree, Number Two, and so on. When the compassman comes to the end of the strip, he offsets and returns. For example, the compassman has been running due east and the width of the strip covered by each spotter is five chains, making a total strip covered of ten chains. When the compassman comes to the section line, he turns off due north ten chains, then turns and goes due west, leaving a strip to his south of five

chains which have not yet been covered. This strip is taken by the man who had the strip to the north of the compassman when the line was being run east, so that in going back (west) the spotter will be covering the edge of the strip which he covered in going east. He will then be acquainted more or less with whet he has and has not covered.

In this manner the compassman goes back and forth across the section until it is completed, which will be four times east and four times west, if the total width of the strip covered by the spotters is ten chains.

When the section has been completed, the compassman will have made a complete field map of that section showing the position of all the infested trees. He then makes a copy of this map and hands it to the treating foreman, who can see at a glance the location of each infested tree and can thereby plan his work in an efficient manner.

The spotting crew covers each section in the same manner so that when the job is completed, a map will be had of each section showing the location of each infested tree.

In the evening the spotting foreman or compassman records on the Daily Camp Spotting Record (Exhibit C) the number of trees spotted for the day, the acres covered for the day, and the total number of trees spotted to date.

The spotting foreman should also make a master map that is kept in camp showing the location of the infested trees. These, when circled in red, indicate that the trees have been treated.

The treating foreman, when he comes to treat a spotted tree, takes out the tree tag placed there by one of the spotters, marks on it the date of treating, the infested length, and puts the tree number on the stump of the treated tree; in the evening he turns in the tags of the trees that have been treated that day to the spotting foreman, who then checks these off on the spotting record (Exhibit B). By glancing down the spotting record the spotting foreman can tell what trees, if any, have been over-looked by the treating foreman.

The treating foreman also fills out the Daily Camp Treating Record (Exhibit D) so that there is a record of how many trees and (or) board feet he has treated that day, how large his crew was, and how many more trees there are left to be treated.

When such a procedure is followed, there is available an accurate record of the entire control operation that is of value in estimating costs for later control operations and of value scientifically, as it shows the size of trees infested, the infested length, the beetles killing the trees, and the distribution of the infestation as well as the infestation per acre.

The numbers given the trees should run consecutively from section to section so that no tree will have the same number. The spotting records, however, should be kept by sections so that the number of infested trees and the board feet per section can be quickly and easily compiled.

In recording the number on a tree, or on the stump after the tree has been treated, it is best to record the year the tree was attacked. This is easily done by recording the number as a fraction with the numbrator as the tree number and the denominator as the year of attack, as 98/34, which means that the tree number was attacked in 1934. If the number is placed on the side of the stump, especially the north side, it remains legible for a good many years. Black (graphite) crayon is much more permanent than red or blue crayon.

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The above instructions are run here as a matter of general interest to all the Southwestern Monuments forces whether the individual monument over which you have jurisdiction may have trees or may not have them.

Of course the instructions will have especial interest at Bandelier, Capulin and Chiricahua. White Mountain Smith is welcome to use them but his trouble will be to find the stumps upon which to put his record. A hundred thousand trees and only half a dozen stumps! The only saving grace about that situation is that thus far he hasn't found any bugs in his trees.

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We want to congratulate Editor-in-chief Story on her fair statement of what constitutes a national monument which we have lifted from pages three and four of the recent edition of the Glimpses of our National Parks and run on our front cover. The following paragraph is also lifted and run here under the impression that not many of our readers of this report would find it or notice it in the Glimpses;

> "When the consolidation of the various park units into the one system occurred, a duplication of type was found to exist in the various classes. For instance, in addition to Morristown, the one national historical park, there are historic areas classified as national parks, as national military parks, and as national monuments. The National Park Service is studying this situation and proposes later to recommend a desirable reclassification plan for the approval of Congress."

May the day come soon when we of the monuments may be able to get not only the general public but some of our own Park Service people as well to understand that national monuments are not a group of small parks which are the leavings of selecting the big scenic areas, but that they are a very definite class apart and that under a scientific classification we would take some second rate monuments out of the park class and some third rate parks out of the monument class and thus get the situation straightened out to where the general public as well as ourselves could understand what was meant when we said national monument or national park. The rub will come, of course, in trying to take a monument out of the park classification, due to the idea that parks are more important.

## SOME STATISTICAL ASPECTS ON THE SIX MONTH CASA GRANDE VISITORS RECORD

On page 313 of the Supplement to the Monthly Report for December 1934 a series of tabulations was made from which data were determined on the basis of Time Clock records covering about 2,000 groups of visitors over a period of six months. These 2,000 groups comprise nearly 10,000 visitors who received Ruins and Museum guide service in parties ranging from only 1 person, up to a few 25-person parties.

| No. people per group | No. of groups | Av. Minutes stay | Increase of decrease | |
|---|---|---|---|---|
| 1 | 72 | 46.9 | | |
| 2 | 487 | 50.1 | 3.2 Min. | 6.8% |
| 3 | 271 | 52.5 | 2.4 Min. | 4.7 |
| 4 | 247 | 55.7 | 3.2 Min. | 6.0 |
| 5 | 181 | 53.1 | -4.6 Min. | -8.3 |
| 6 | 134 | 60.2 | 7.1 Min. | +13.4 |
| 7 | 82 | 58.6 | -1.6 Min. | -2.1 |
| 8 | 58 | 57.5 | -1.1 Min. | -2.0 |
| 9 | 45 | 65.1 | 7.6 Min. | +14.0 |
| 10 to 25 | 35 down to 3; | -65 to 85 | | |

(For details, see December Report, page 313)

## NUMBER OF CARLOADS MAKING UP DIFFERENT SIZED PARTY GROUPS.

A. All of the 72 parties of 1-person each, came in 1-automobile per party and received guided Ruins and Museum service as individual groups.

1. The time clock slips for 1-person parties are therefore a reliable record on just how long that class of parties spent because those tickets show actual time of arrival and actual time of departure for every automobile and every visitor included in those 72 parties of 1-person each. Therefore the 46.9 minutes is statistically sound provided that in examining the slips, no single extreme case of a visitor staying several hours more time than all others is found. Even should this be the case, the average remains sound unless the extreme was of sufficient magnitude as to produce a material change in the average. The more the number of parties involved the less likely a single extreme case is going to change the average.

2. For illustration: Suppose but one 1-person party stayed 2½ hours more than the averagefor all the remainder. The total time would be swelled by 150 minutes and the average per party with 72 such parties would be raised 2 minutes! Notice how double the number of parties would operate such as to give but half the error. Let us state the effects of numbers of parties, etc. in terms of statistical principles. Here they are:

a. We can conclude that for a given period of time, single

extremes of considerable magnitude together with comparatively few parties, will operate toward making the calculated average time per party, less rigidly accurate. Likewise we can turn that statement around and say that the more frequent the extremes occuring in a given length of time and the greater the number of parties involved, the more reliable and valuable the calculated average times become from a standpoint of statistics.

B. Groups of 2-persons each, appear to require 6.8% more time per group than do party groups of 1-person each. In addition to the suggestion offered last month in explanation, these additional ideas are proposed:

1. Groups of 2-persons each, might have arrived in:
   a. 1-car of 2-persons----------very common
   b. 2-cars of 1-person each----------occasionally
      a'. See later pages for probability graphs.

2. Often the group or party ticket is stamped the instant the first incoming car comes to a stop against the parking area curbing. It will require two people arriving in the same or in different cars a little longer to (a) get out of their cars; (b) walk to the registration desk; (c) write 2 names instead of 1; and (d) go to the washroom which one out of a 2-person party is about twice as likely to do as is 1 person of a 1-person party.
   a. Perhaps the first car to arrive and the last to depart are not the same car. Thus, the ticket will show not the average time each carload stayed as was true with 1-person parties, but it will show a time all the way from 2 or 3 minutes up to as high as 20 minutes, more than either carload was actually with us. This point will be illustrated later with examples.
   b. Note now also that as the number of carloads of people making up single parties increases, so also increases the probability that any one ticket will bear a stamped arrival time "TO RUINS" for one car and a stamped departure time "FROM MUSEUM" for an entirely different car. Again, we will note that this is apt to occur two or three, or even five or six, times as often for large parties as it is for parties of 2 and 3 persons; this cannot happen with 1-person parties where but 1 person and 1 automobile are involved.
   c. We realise therefore that these factors tend to push the average times for large party tickets up to higher and higher figures as the number of people per party increases WHEN ACTUALLY THE TIME CONSUMED IN SEEING THE RUINS AND THE MUSEUM HAS NOT DIFFERED MATERIALLY IN ANY CASE.

3. With parties of 2-persons and more, the same psychological factors are not present that exist with 1-person guided groups. Of course these factors vary from 1-person party to 1-person party as well as from guide to guide, but that they do present themselves is an important fact. These factors will tend toward lower average time per 1-person parties. What are these factors?
   a. First; many modest visitors showing up alone feel that they

command more than their individual due of attention from the guide who must devote an hour's time with him. Thus, 1 visitor will tend to keep moving, entering into fewer discussions of side issues; he will feel that the guide may have a party of several persons waiting, or apt to show up; and of course this 1 visitor is likely to have less questions coming up and will feel that he just wants the highlights of the story and be on his way.

b'. Point (a) above- the psychological factor as it affects the 1-person party-, operates regardless of whether it is, or is not true, that guides should make it a policy to use a minimum of time when he is guiding but 1 person around.

4. With 1-person parties, the performance of the guide himself is apt to be different from what it is with parties of 2,3, 12 or more. How will it likely differ ?

a. If a guide has 1-person somewhere in the course of a ruins or museum trip, and if he knows the other guide or guides are all occupied with 2 or more persons each, he may realize that carloads of people are arriving at the registration desk with no one to tell them what to do or where to go. He will consider it the lesser of two evils to choose to hurry with his 1-person trip than to let 5 or 6 times that many people scatter and get beyond immediate control.

b. While we give no formal speech, nethertheless, guiding 1-person around is not as conducive of enthusiasm, presenting a thorough, orderly narrative with all interesting sidelights, etc., as is the guiding of a larger group. That this does operate probably is a fact in the abstract, even though the guides themselves may always make a sincere effort to never "short-change" a 1-person just because he happened to show up alone. Exceptions to this statement are very numerous and hence it is not as important as (a) just above as a reducing factor.

C. Groups of 3-persons per party appear to take 52.5 minutes average, or 2.4 minutes (4.7%) more time than do parties of 2-persons, and 5.6 minutes more than 1-person parties. Can the matter of pure statistics, on our present basis of keeping records, really operate to cause stamped tickets for parties of 3-persons and more to show materially higher time averages when actuallyeach carload of people involved might have averaged the same or even less, time than carloads making up 2-person parties ? Consider the possibilities on how a 3-person party can arrive at our door:

1. Records indicate that automobile tourists average about 3 1/3 people per car. Therefore 2,3, and 4 people per car will make up the bulk of travel represented in our 2, 3 and 4 person groups. However, mush of this travel of 3-person parties will be composed of arrivals in:

a. 1-car arrivals with 3-people----------often.
b. 2-cars of 1 person in one and 2 persons in other----often.
c. 3-cars of 1,1,1, at one time; at three different times; or 2 at one time and one at another time----------rare.

2. Granting the greater frequency of 3-person parties arriving in 2 or more cars, and at different times, then we must conclude

the possibility of more time being consumed in several ways described as follows:

a. More time getting out of cars
b. More time in registering
c. More frequent occurrence of one or more of party going to washroom and being waited for.
d. Ticket being stamped for <u>first</u> car to arrive, with occasional 2nd or 3rd car arrivals being from 2 or 3 to 10 or 15 minutes late. Consider a 3-person ticket stamped for 60 minutes, made up of 2-persons arriving first, joined by an arrival 15 minutes later:

1-carload of 2-people----------60 minutes
1-carload of 1-person----------45 minutes

Actual average time per carload---<u>52.5 minutes</u>
Ticket stamped "3 Persons---------60 Minutes

a'. Thus, two parties averaging 52.5 each were stamped 7.5 minutes, or about 15% higher than actual average stay.
b'. We must conclude that if this happens very often, our 3-persons up to 25 person groups will show increasingly higher trip time with little or no change whatever in average actual stay <u>per carload</u> or <u>per person</u>

3. Three person parties do not usually feel conscious of monopolizing a guide's time although occasional instances have happened in which 3-person groups often remark"We're sorry to have taken so much of your time....etc". The 271 parties of 3-persons is sufficiently high as to give the number pretty stable statistical worth.

D. A 4-person party shows a time average of 6%(3.2 minutes) longer than 3-person groups. The 4-person party average for 247 parties is 55.7 minutes.. The 247 is high enough to have pretty reliable statistical worth.

1. One or two arrival and departure probability tables will be listed a little later to show the the vast number of chances of several cars making up party groups of 4-persons and of the number of chances that the first car to arrive and the last to leave will be different cars. This is probably the factor which, more than any other, causes the progressive increases per party-time as the number of people per group increases.

a. The more probabilities of the type described really enter the more nearly a given ticket becomes merely THE TIME THE GUIDE SPENT WITH THE PARTY and the farther the ticket gets away from being the average per carload staying time.

E. Groups of 5-persons per party show a decrease of 2.6 minutes or 4.6%. Notice that up until 5, the time increased.

1. With the most of the 1,2,3, and 4-person parties being composed of 1-carload arrivals, it is conceivable that only the figures on 1,2,3, and 4-person parties have statistical worth. 5-person parties begin to be made up of late arrivals and early leavers, but tickets showing only time of first to arrive and last to leave

a. The greater the necessity for joining people to parties late in the progress of a trip, the more the ticket-time increases above the average time per carload.

EXAMPLES

Ticket # 2084:
3-persons; N.Mex. car----------Arr. first 11:46
Same carload----------Lv. last 12:46

TICKET STAMPED ----------60 Min.

Later joiners:
4-persons; Pa. car----------Arr. 12:02
Same carload departed----------12:21
ACTUAL STAY ----------19 minutes

Also joined by:
2-persons----------arrived 11:54
Same departed---------- 12:46
ACTUAL STAY---------- 52 minutes
AVERAGE of 60;19; and 52----131/3 44 minutes.

AV. STAY PER CARLOAD ----------44 minutes.
(Ticket stamped 16 minutes too high to indicate true average stay of people)

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EXAMPLE II

Ticket 2086:
Texas Car (3)----------arr:--2:09---lv.---3:22 ---- 73
Mass car (2)----------arr.--2:09---lv.---3:36 ---- 87
Ill. car (3) hurried---arr.--2:55---lv.---3:08 ---- 13
2-others--(2)----------arr.--2:21---lv.---3:08 ---- 47
9-person ticket stamped----------87 Min.
CARLOAD AVERAGE is sum of 73;87;13; & 47 div. by 4.
----------55 Minutes.

Av. Per person $\frac{(3x73)+(2x87)+(3x13)+(2x47)}{9}$ or $\frac{453}{9}$

AVERAGE PER PERSON------50.3 Minutes.

GENERAL REMARKS AND CONCLUSIONS:

1. As the number of parties of a given class, such as 3-person groups, involved increases, the value of the calculations increase in statistical worth.

2. As the number of persons per party increases, so increases the probability that these persons arrived in more than 1-car. For example, each 5-person party during the past 6 months visited us in more different automobiles per party than did each -1-person, 2, 3, or 4-person party.
3. As the number of people per party increases, so also increases the actual time consumed in getting out of cars; registering; getting through gates and doors; and waiting for the return of washroom breakaways.
4. As the number of persons per party increases, so also increases the number of carloads involved; and in turn increases the probability that the individual cars arrived late(some of them) and departed early.
5. As the number of carloads involved in any given party increases, so also increases the chances that the time-clock slips will be stamped for one car arriving and a totally different car departing.
6. Sundays and other days having heavy travel, will by necessity have more late joiners and early leavers, and hence the tickets for persons in 3 to 25-person parties are apt to contain greater errors. Parties from as low as 2-persons up to 25-persons will show ticket-time increases with no actual increase in time per automobile load because of the variables described.
7. We might expect that if every carload of people arriving each had an individual guide the average time stay per carload would increase, but a list of tickets on big parties with their numerous late joiners and early leavers cannot prove this unlessthe times of arrival and of departure for every carload are known and compared with what actual averages for 1-carload parties show.
8. There are apt to be more carloads making up a given party, showing the same time of departure than there will be showing the same time of arrival for the "Gods of Chance" control the number of carloads who will arrive within any 15-minute to half hour interval. Nor is there any predicting how many are going to appear at any instant at any time of the day. The reason there will be more departure times the same than arrival times lies in the fact that once people at different times of arrival are here, only hurried and disinterested ones will leave. This makes for a goodly percentage who may stay until the entire ruins-museum trip is finished. However, some Sundays and busy days will see whole parties of sometimes 25 people, end with 10 or 12 people and even less, and such parties must have had at least 2 to 3-carloads as breakaways.

FINALLY:

1. It seems we must seriously doubt the statistical worth of average time-stays per party in all instances where the number of such parties is quite small, or whereone or two individual extremes of the same kind occur.
2. For all party groups of 3-persons up to the highest limit of 25-persons, where such parties begin to be composed of more and more carloads of people who will be arriving and departing at different times, the average times per group represent not the average time each carload stayed as it does for 1- and 2-person parties, but merely indicates the length of time the guide was busy with the group. It will represent the elapsed time between the first carload to arrive and the last carload to depart.

3. The examination of these tables from the standpoint of statistics merely points out the number of variables involved and indicates how these might operate to produce differences in average times per party as indicated in the table. While from the records we are not able to show the comparisons between carload-time averages and the average time stay per party group, isolated examples have been included whowing how in some instances the differences were great.

4. It seems that before we can conclude that the time-of-stay averages for groups made up of from 1 to 25-persons can indicate anything definite about whether individual caroads of people stay longer in one instance than in another, we must arrange to get the actual arrival and the actual departure time for every carload. This in turn amounts to saying that at all times the ruins and museum trips must be so regulated as to have 1 ranger or guide free to greet people, attend to registration, and keep the arrival and the departure times accurately. It seems we could not keep these records on one day, or part of day, and not on another for if we did that, we could not have much confidence in the accuracy of such records. We sometimes find that none of the 2,3, or 4 guides are free to keep this record of arrivals and departures for perchance 3 of them have guided parties and the 4th is joining new arrivals on, and when he is doing this, another carload or two arrives and gets into the museum or otherwise scatters and rectifying the record is thereby made just a little difficult and sometimes impossible.

5. It has been pointed out how the psychology of the situation tends to influence 1-person when he comprises one guided party, to cut his time a little short. There seems little doubt but what when a second person or a second carload is added, the psychology of the situation operates such that both the people and the guide will be inclined toward taking more time. However, for 4 or 5 people and above, it is doubtful whether this time-increasing factor continues to operate.

## CARLOAD ARRIVAL PROBABILITY TABLES

A. Groups of only 1-person each might have arrived:

I. Only as 1-person in 1-car

B. Groups of 2-persons might have arrived:

1. 1-car of 2 persons----------very common
2. 2-cars of 1,1;----------fairly rare.

C. Groups of 3-persons could arrive:

1. 1-car of 3 persons----------very often.
2. 2-cars of 2,1;----------frequent.
3. 3-cars of 1,1,1;----------very seldom, if ever.

a. Note how where more than 1-carload is involved, arrivals and departures times can occurat different times for all cars.

D. Groups of 4-persons each could arrive in:

(1) 1-car with 4-people ----------frequent.
(2) 2-cars; 3,1 - 2,2 ----------frequent
(3) 3-cars; 2,1,1 ----------seldom
(4) 4-cars; 1,1,1,1----------Rare or never.

a. Those underscored are probable occurrences. Underscoring will indicate this in the tables to follow.

E. Groups of 5-persons each could arrive in:

(1) 1-car with 5-people ----------frequent
(2) 2-cars; 4,1 - 3,2 ----------frequent
(3) 3-cars; 3,2,1----------occasionally.
(4) 4-cars; 2,1,1,1;----------seldom if ever.
(5) 5-cars; 1,1,1,1,1----------seldom if ever.

F. Groups of 6-persons each could arrive in:

(1) 1-car with 6-people ----------occasionally
(2) 2-cars; 5,1 - 4.2 - 3.3----------frequently
(3) 3-cars; 4,1,1 - 3,2,1 - 2,2,2----------frequently
(4) 4-cars; 3,1,1,1 - 2,2,1,1 ----------seldom
(5) 5-cars; 2,1,1,1,1 ----------rarely if ever.
(6) 6-cars; 1,1,1,1,1,1 ----------rarely if ever.

G. Groups of 7-persons each could arrive in:

(1) 1-car with 7-people----------rare
(2) 2-cars 6,1 - 5,2 - 4,3----------frequent
(3) 3-cars; 5,1,1 - 4,2,1 - 3,3,1----------Some frequent.
(4) 4-cars; 4,1,1,1 - 3,2,1,1 - 2,2,2,1 ----seldom.
(5) 5-cars; 3,1,1,1,1 - 2,2,1,1,1 ----------seldom if ever.
(6) 6-cars; 2,1,1,1,1,1 ----------rare or never
(7) 7-cars; 1,1,1,1,1,1,1----------Never

H. Groups of 8-persons each could arrive in:

(1) 1-car with 8-people----------seldom
(2) 2-cars; 1,7; - 2,6;- 3,5; - 4,4----------Last three common
(3) 3-cars; 6,1,1;- 5,2,1;- 4,3,1;- 3,3,2;-2,2,4-----Last four common
(4) 4-cars; 5,1,1,1;-4,2,1,1;- 3,3,1,1;- 2,2,2,2-----lined ones common
(5) 5-cars; 4,1,1,1,1;- 3,2,1,1,1;-2,2,2,1,1 --------All rare
(6) 6-cars; 3,1,1,1,1,1;- 2,2,1,1,1,1 ----------rare or never
(7) 7-cars; 2,1,1,1,1,1,1 ----------never
(8) 8-cars; 1,1,1,1,1,1,1,1----------never.

(Tables continued next page)

I. Groups of 9-persons each could arrive in:

(1) 1-car with 9-people----------very rarely
(2) 2-cars; 1,8;- 2,7;- 3,6;- 4,5 ----------fairly often.
(3) 3-cars; 7,1,1;- 6,2,1;- 5,3,1;- 4,4,1;- 3,3,3;- 3,4,2;- often.
(4) 4-cars; 6,1,1,1;- 5,2,1,1;- 4,3,1,1;- 3,2,2,2;- 3,3,2,1;- 2,3,4,1.
(5) 5-cars; 5,1,1,1,1;- 4,2,1,1,1;-3,3,1,1,1;- 2,2,3,1,1; 1,2,2,2,2
(6) 6-cars; 4,1,1,1,1,1;- 1,1,1,1,2,3;-1,1,1,2,2,2--------seldom if ever.
(7) 7-cars; 3,1,1,1,1,1,1;- 2,2,1,1,1,1,1;----------never
(8) 8-cars; 2,1,1,1,1,1,1,1----------never
(9) 9-cars; 1,1,1,1,1,1,1,1,1----------never.

A. Average times of stay can be resolved into the following:

1. Time the ranger began and the time he finished with a field trip group or party.
2. Average stay per carload of people.
3. Average minutes stay per person

B. Examples of (A) above will be here given to show how all three of the above may be either the same, or different, depending upon the circum stances under which each party or carload arrived.

1 1. Example:

3-people----------arr. 1:15--------depart 1:50------stay 35 minutes.
2-people---------- " 1:10-------- " " 1:50------- " 40 Minutes
4-people---------- " 1:10---------" " 2:15------- " 65 Minutes.

3 x 35----------105
2 x 40---------- 80
4 x 65----------260
9-persons----------445 person-minutes

AVERAGE MINUTES STAY PER PERSON--49.4 minutes

35 plus 40 plus 65 / 3 or 140 / 3 equals 47 minutes

AVERAGE MINUTES STAY PER CARLOAD ------47 minutes.

TICKET READ----------65 minutes

2. Notice that average minutes per carload, average stay per person and time spent by guide can all be different. Following is an example of where all would be the same.

2-persons----------stay 55 minutes.
3-persons----------stay 55 minutes
6-persons s----------stay 55 minutes
Av. per person; av. per carload, and stamped time-----55 minutes.

C. We will now show that where each carload making up a party, contains different numbers of people per carload, it does affect the average stay per person when it happens to be the carload with the most people that stays the least amount of time.

| | | | | |
|---|---|---|---|---|
| 3-people | Arr. 1:15 | depart | 1:50 | stay 35 Min. |
| 4-people | Arr. 1:10 | " " | 1:50 | " " 40 " |
| 2-people | Arr. 1:10 | " " | 2:15 | " " 65 " |

3-carloads ----------140 minutes
AVERAGE STAY PER CARLOAD---------- 47 " " " (same as prev. pge)

Average per person----------$\frac{(3x55)+(4x40)+(2x65)}{9}$ or $\frac{395}{9}$ or 44 MIN.

AVERAGE MINUTES PER PERSON----------44 minutes.

1. Notice how all figures are the same as those used on the previous page except for the fact that in this case it was the 4-passenger carload that stayed only 40 minutes instead of the 2-carload group. NOTICE HOW THIS LITTLE CHANGE ALONE RESULTS IN 44-MINUTES AVERAGE STAY PER PERSON AGAINST 49.4-MINUTES ON THE PREVIOUS PAGE. This factor alone affects a decrease of 5.4 minutes or 11% !

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Out of this discussion on probabilities there seems to stand out the conclusion that actual times of arrival and departure must be kept in order to determine whether visitors in large field trips and museum lecture audiences really stay longer with us than when they come in small groups. We have already discussed one case where a ticket showed more than 80 guide-minutes but the average minutes per carload was 55 and the average per person was 50.3 minutes.

If it could be arranged without too much difficulty and without too much interruption, it seems that a 3-months winter and a 3-months summer record on actual arrival times only would be desirable. This would need to be done for every carload in order to be of service in making desirable studies on just how many carloads as a rule arrive for different hourly or 15-minute intervals through the day. After compiling such a record for the 3-month period it might be discovered that by having arriving carloads of people wait say 10 minutes before starting a field trip, we could eliminate about 50% of the joining late which we do when a trip starts the minute someone arrives. WE MUST NOTE THAT IN STARTING FIELD TRIPS THE MINUTE A CARLOAD ARRIVES, THE PERCENTAGE OF JOINING IN OF LATE ARRIVALS IS VERY HIGH. Thus, only 1-carload of a big party may really get all of the trip from start to finish while anywhere from 40 to 90% of the people were joined late. Studies of the arrival times would show us whether or not a 10 minute wait would reduce late joining by 20, 50% or some other figure.

NOTICE THAT CUTTING DOWN ON THE NUMBER OF CARLOADS OF PEOPLE WE JOIN ON LATE IS NOT THE SAME PROBLEM AS THAT OF TRYING TO REDUCE THE NUMBER OF FIELD TRIPS MADE DURING A GIVEN DAY. IN OTHER WORDS, WE MIGHT FIND THAT A 10-MINUTE TO 15 MINUTE WAIT WOULD CUT DOWN THE LATE JOINING BY 50% WHEREAS THE ACTUAL NUMBER OF FIELD TRIPS TAKEN WOULD REMAIN ABOUT THE SAME. Just now, with only a part of

the museum contemplated for the future, constructed, and with no suitably developed Lobby for people to wait in for 10 minutes to a half hour, it is just a little difficult to put into practice the idea of having people wait for groups to collect. However, even now, if instituting the practice of having garloads wait a few minutes before taking a ruins trip , actually reduced late joining by 25%, the idea would be worth serious consideration. It would be worthwhile even though the number of trips per day might not be reduced at all.

The development of an attractive, spacious Lobby such as is contemplated in the arrangement of the future, will help this problem of late joining of people. The Lobby will serve as a collecting station. Here during 15 minutes to a half hour, carloads of people will collect and there will be attractive, interesting displays to occupy their attention. Then when a ruins trip starts, there will be several carloads of people at the start instead of only one. The Lobby should also operate toward cutting down a little the number of field trips required and should thereby make each one last a little longer. The remainder of the museum exhibits could then be seen by the group as a guided party. We will probably continue to have a great many terribly hurried people,who will want to see everything in 10-minutes. However, if most of the people willingly and gladly wait for organized groups, there might be a way of handling those hurried ones so they can see it all hurriedly and be on their way. At any rate, just a few hurried people should not spoil the service or wreck a system which happens to operate for the greatest good to the greatest number. If we found that during a day in which 30 carloads of people arrived, only 3 to 5 carloads felt that they just must have a quick look and go, should the remaining 25 carloads of people have to be affected by what the 4 or 5 carloads did ? Of course the 4 or 5 carloads are a problem but it would seem that if through a system of waiting in a good Lobby, we could give finer service to 5/6 of all of our travel, then we might consider letting the hurried or uninterested 1/6 have their fleeting glance and hurry on their way.

While the above paragraph more or less anticipates the problems of the future when our museum at Casa Grande is completed, it is definitely related to this whole discussion of arrivals and departures of people. Through some 3-month records for winter and summer, we could determine just about how many trips daily to the ruins would be necessary using a LOBBY as a collecting place; and we would also know a great deal more about how much late joining would be saved by trying to institute a 10-minute wait immediately.

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All of which may be very true, Chief, but it doesn't explain to me why five person parties take less guide time than three, four or six. The explanation that adding to the number in the party adds to the time it takes for the party to get out of the automobiles and get ready to start isn't satisfactory. It is true that these tickets represent, when covering the larger parties, the number of guide minutes rather than the length of the party stay, but on that basis why can't a guide hold a five person party, even though it comes in three sections of two, two and one, longer, or at least as long, as a four person party? It seems to me what we need is an explanation which will cover this and at the same time reverse itself and explain why the guide can hold a six person trip together considerably longer than a five. Possibly the law of probabilities doesn't hold in this dry Arizona air.

## RANDOM THOUGHTS ON A MUSEUM AT CANYON DE CHELLY.

The following paragraphs are extracted from a recent personal letter from Mr. Budlong. The trend is a little informal and Bud will probably be shocked to find himself on record this way, but the thoughts are too good to lose and I think the very informality makes them all the more valuable. These remarks may be said to open the discussion on this particular museum and we hope the Branch of Plans and Designs, the Educational Division, and the various members of the Service in the Southwestern Monuments will all join in and give us the benefit of their advice. Mr. Budlong speakin:

Boss, we have quite a museum problem here. In the first place, we don't know what is going to be done about headquarters -- where, when or what will be built. We don't know a thing about what is going to happen to de Chelly. I imagine a modified Hopi architecture would be about right for the outside and in keeping with the nearby surroundings. I should think that first of all we should have a LARGE central room -- a lobby, if one prefers to call it that -- with a few comfortable chairs and benches in inconspicuous places here and there. Not too many windows -- skylights or artificial illumination, not only for wall space, but because of the sand. I would like to see, in the center of that room, a large model of the canyons built upon that method you and I once discussed. I would like to see the ruins modelled in where they belong. The thing would take up considerable space, but I would like to see it there by all means. I am strongly in favor of making provision for an automatic slide changing machine, in time -- that is, allowing space for it. I would want the walls decorated with photographs of the major ruins, of the canyon (from a scenic point of view) in good weather and bad; of the Navajos in their present garb. I would want self-explanatory charts showing the geologic formation of this country; typical bits of prehistoric pottery, labelled to indicate their "habitats" -- in short, a general exhibit of things of interest to visitors who may have some considerable time to spend by themselves -- either through choice (bad weather, mealtimes, or whatnot) or necessity (in event we have definite hours for certain trips they may wish to wait to take.)

There should be a large room devoted exclusively to geology. This would be one of the rooms where visitors are personally conducted, though all rooms should be so arranged, as to their exhibits, that students who had been taken through by ranger service could be permitted to browse about to their heart's content in order to make notes, study, etc. I should think this geology room would be the first to which tourists would be led, in going through the museum under guidance. There should be samples of the various rocks, diagrams showing their relative positions in regard to stratification, etc. We should have examples of petrified wood, photographs of it; photographic examples of cross bedding (especially of such places as one encounters when taking the trail at the White House, but m many others as well.) We should have samples of rock containing fossils, if it is proven in time that we have the proper strata here for that. (I understand that it is still questioned and that geologists do not agree upon the formation here). We should have charts showing the order of the various strata, their approximate times; we should have types of petrified wood, and either the guide should explain how it was formed, or, if necessary, for the student and those interested, we could have one of those

brief -- but still too long -- descriptions of it. I am not in favor of slighting or neglecting the archaeological side of things here, but the average visitor is interested in scenery, and we might as well educate him properly while we have hold of him.

I should favor proceeding from that room to one devoted exclusively to archaeology. Not just the archaeology of this particular region; I would like a few general archaeological exhibits. I imagine we'll cover all the Basket Maker and Pueblo periods anyhow in what is left of our ruins and burials, but we might just as well do some fancy education in archaeology while we can. I would have charts showing the Basket Maker and Pueblo periods. I would have them illustrated, showing the typical house construction of the time, together with the dates covered by the periods; there should be photographs of actual burials typical of the period; of baskets, of pottery; there should be arrowheads and atl atls. I think it might be well to devote one case to each of the more spectacular ruins -- pottery, etc. I am not worried over what to put in that room in the way of archaeological material, or how to arrange the exhibits. I think I have lots of ideas on display of material that I would like to try out.

Anthropology or ethnology should be given, probably, a room of its own. Perhaps it might be well to have that entered before the room on archaeology - in fact I am sure it would be better. This room could easily be fairly big.

Flora and fauna. Another room. That is easily filled with interesting exhibits and needs no great discussion.

Needless to say we'd need a files and storage room; rest rooms; a main office with plenty of space in it, for, if we keep this place indefinitely -- the Service, not we as individuals -- it is going to need a large force to do the necessary work; a light, properly-built laboratory, with supplies room adjoining, also storage room of large size for material not on display. We could almost use a separate building for these last, in time. I surely do favor a laboratory AS IS A LABORATORY. None of these dinky clothes closet laboratories, used also for storage of material not on display. Have the main windows face north and have plenty of them, extending clear along the back of the main work bench, which should have leg space under, and drawers and cupboards built in here and there. But allow for leg space, with the workbench of such height that a man sitting on a stool of moderate height would find the height of the bench proper. Electrical outlet plugs at the back of the bench, with built in sink nearby; with pipe running along the back of the bench for bunsen burners, run by bottled gas. Windows should be properly protected to prevent any breaking in. There should be PLENTY of working space.

There is one thing which I think I may have mentioned in the past which I am heartily in favor of installing in <u>each room</u>. I wonce saw -- I believe it was in the National Museum, a device consisting of a central supporting column with provision made for its rotation. Hinged to this central column were large glass frames (two sheets of glass with its surrounding wood frame) about three by five feet. They hinged, or swung, about the central pillar -- like pages of a book, if one considers the thing as a book with no covers, the thing opened out to form a circle. My hurried

explanation is not very clear, but perhaps you are familiar with the thing. The frames can contain photographs on both sides, explanations, diagrams, etc. One can stand by the critter and keep turning these 'leaves' looking on both sides. The whole thing revolves, so one doesn't have to walk around it as the 'pages' are turned. With such a device in each exhibit room, details of the various "ologies" could be gone into at great length. The student or more interested tourist would find them of great value. AND THEY TAKE UP PRACTICALLY NO ROOM. Far better than wall displays that are great wasters of space, anyhow, and many of which are of no interest to the average visitor. I would so arrange the exhibits in cases and on the walls that the would be of some interest to every tourist-- or so that they would consist of material always brought into the lecture of the guide. The revolving show cases would be for those more interested.

Well, Boss, apologies. This isn't my official burst into museum plans. It is rather a written account of ideas. Having written 'em, they'll be firmly fixed in me mind, and when it is time for definite plans for a building and a discussion of exhibits planned therein, this "first impression" will be of some value to me. Hope you have stood up under it fairly well.

Bud.

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All of which, you will probably agree with me, constitutes a pretty interesting outline for a mighty good museum. I think if I were choosing a place for an archaeological museum where the visitor could go and get the foundation of southwestern archaeology in one sweep, from the Basket Maker right down to the modern Indian, I would choose Canyon de Chelly National Monument. We can take a visitor in there and give him a basic knowledge of the archaeology of the region, showing him examples of each type of ruin and explaining the cultures as they rose and fell. Then, when he has this basic information, we could direct him to the outstanding ruins of each type which are to be found in the various reservations under the charge of our Service elsewhere in the district. I think I can safely say that at no other place can you get such a bird's eye view of the human history of the Southwest over the last two or three thousand years right down to the present Indian as at Canyon de Chelly National Monument. The scenic end of the Monument is so spectacular and strikes the visitor with such overwhelming force that the archaeological end does not at first register its true proportions, but the value is there and if we fail to bring it out, the fault will be not with the Monument but with our own short-sighted policy of not properly developing what has been put in our hands.

Mr. Budlong is right about wanting to play up the geology of the region, but it must be kept in mind that the visitor should first get the scenic thrust of first viewing the Canyons before any attempt is made to give him the geological explanation of how it happened. If you want to get the biggest scenic effect, take your visitor up on the rim opposite the White House about sun down and LET HIM ALONE. Back out of the way some place you might want a shelter house for stormy weather, but you don't want any puny little man-made structures or any little school room explanations of how it happened coming between this visitor and the Great Architect's master job which lies there before him. Afterward, that night down at headquarters or the next day he might want to know what tools the Master used, but not at that first contact.

## A TRIP TO THE TONTO CLIFF DWELLINGS

By Charlie Steen, Custodian

The Tonto Cliff Dwellings are located in a northern spur of the Superstition Mountains, about six miles southeast of Roosevelt Dam.

A look at "Glimpses of Our National Monuments will tell one that the Tonto National Monument was created in 1907 and placed under the jurisdiction of the National Forest Service to protect and preserve two cliff dwellings.

For once the national government received more than its money's worth. Instead of two dwellings on the 640 acres of reservation there are six. The four cliff dwellings are, in order of their importance: a four story structure of some 80-85 rooms; a two story house of 28 rooms; and two one story ruins of nine and six rooms each. In addition to these there are two very small surface houses and on a low hill in the southeastern corner of the Monument are a series of low stone circles, ten feet in diameter, the nature of which the writer is unable to explain.

Official transfer of the Monument from the Forest Service to the Park Service was made July 1, 1934.

Our visitor, after driving nearly a mile and a half up a narrow winding canyon, arrives at the parking lot and gazes at the 27 room house which is located on the hillside before him. He asks some pertinent questions and learns that the house is about 600 years old, and to reach it he must walk a good half mile by trail and climb three hundred feet.

Well, he has a little cardiac trouble or has walked through the Carlsbad Caverns on the previous day, but he has read about cliff dwellings, and has always wanted to see one, and "what's the use of driving all this distance if I don't go up?"

The long trail which is usually taken at a rather slow pace gives this man a chance to observe the typical desert flora of the Monument, He sees the 11 varieties of cacti which grow near the trail; he is usually unfamiliar with mesquite, greasewood, palo verde, ocotillo, and several other plants. These the ranger points out and describes to the best of his ability. As the party climbs higher the view opens up until at the top of the trail one has a glorious panorama in from of him. The center of the stage is held by the Salt River Valley, flanked by the Sierra Ancha, the Salt River Mountains, and the Apache Mountains. This view, in the opinion of your humble servant, has no rival in the several vistas to be had at any of the other Southwestern Monuments.

Once inside the fence which protects the ruin from vandals our visitor sees a typical cliff dwelling, about 30% complete. He is shown through all the rooms, details of construction are pointed out, together with the usual discussion of living conditions, etc. Many of thetimbers are still preserved and one room is complete. Bits of floor matting, metates, manos, a sandal, some cotton and yucca fiber cord are scattered about in advantageous positions.

This hombre going through is deeply interested and has forgotten the walk through Carlsbad, so he wants to go up to the big dwelling. Off we go up the gulch and climb the next hill, using the cow trails, for another 500 foot climb. This climb takes another 25 minutes, but when the goal is reached he is satisfied. The upper dwelling is really a spectacular structure, standing four stories high. The view is more constricted here, but at that is not to be sneezed at.

On the way up the ranger says that he is willing to sign a written guarantee to the effect that he will find some article or artifact which the Indians left. Sure enough, he lives up to his promise and finds something, perhaps a sandal, a bit of cotton cloth, or some shell jewelry. This site has never been excavated and is very rich. Here are more roofs in place, but no complete rooms. The walls form quite an irregular maze and it is a fact that last fall a young lady became turned around in the back rooms, believed she was lost, and had to be lead out of the house.

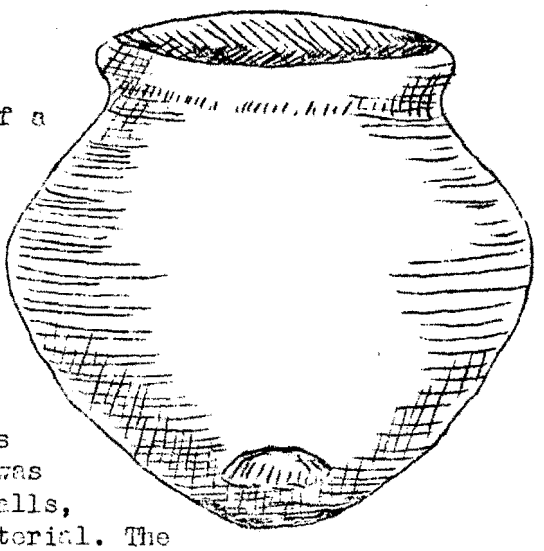
The trip down takes not nearly as much time as going up and calls attention to a new set of muscles. This visitor we have been showing around is glad to get back to the parking lot where he may walk on level ground for a change.

He claims to have enjoyed the trip very much but seems suspiciously eager to climb into his car and sit down for awhile.

Probably he feels that he has been exposed to an education whose curricula are archaeology, botany, and mountain climbing.

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ARCHAEOLOGICAL NOTE

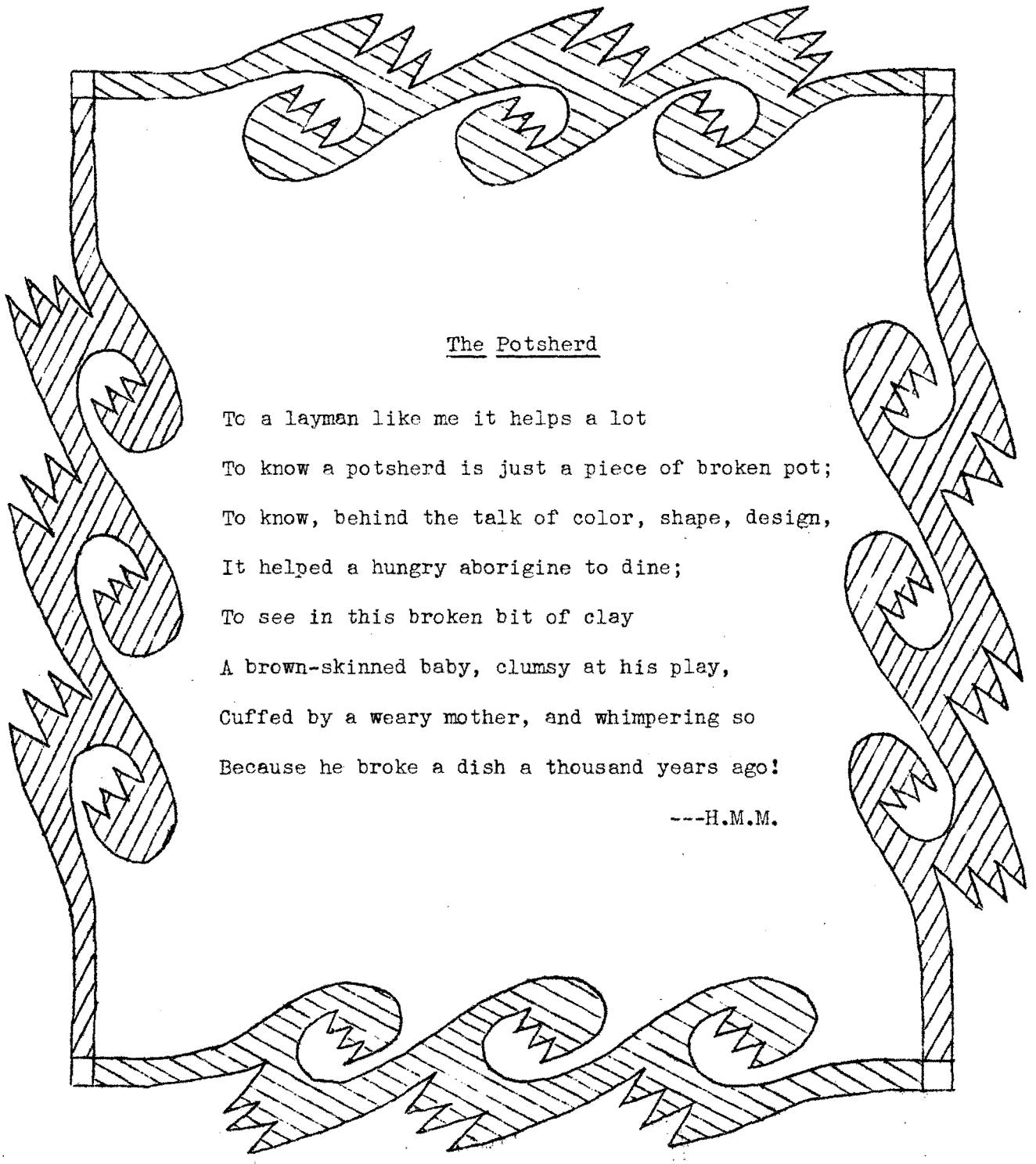


During the past month the construction of a lower ruins trail at Bandelier National Monument was completed by the C.C.C. boys. This trail nears some of the cliff ruins. After removing a huge boulder which blocked the route of the trail one of the men found about half the pieces of a large pottery vessel, or olla. These pieces fit together and the original form of the jar can be accurately conjectured. A sketch is shown.

The olla measured 10 3/4" high, 12 inches greatest width, 6¼ inches across the rim. It was a plain brownish red, with well fired thick walls, thicker at base, and no apparent tempering material. The slip was crackled, and well finished. The base has a slight concavity for use in carrying on the head. Some person probably 400 years ago had dropped and broken this vessel, and later a rock had rolled over the pieces.

No other artifacts were found, and no occupational signs nearby. Such little items as this pot loom important as future museum exhibits.

----Earl Jackson



## The Potsherd

To a layman like me it helps a lot
To know a potsherd is just a piece of broken pot;
To know, behind the talk of color, shape, design,
It helped a hungry aborigine to dine;
To see in this broken bit of clay
A brown-skinned baby, clumsy at his play,
Cuffed by a weary mother, and whimpering so
Because he broke a dish a thousand years ago!

---H.M.M.

## NOTES ON TUMACACORI EXCAVATIONS

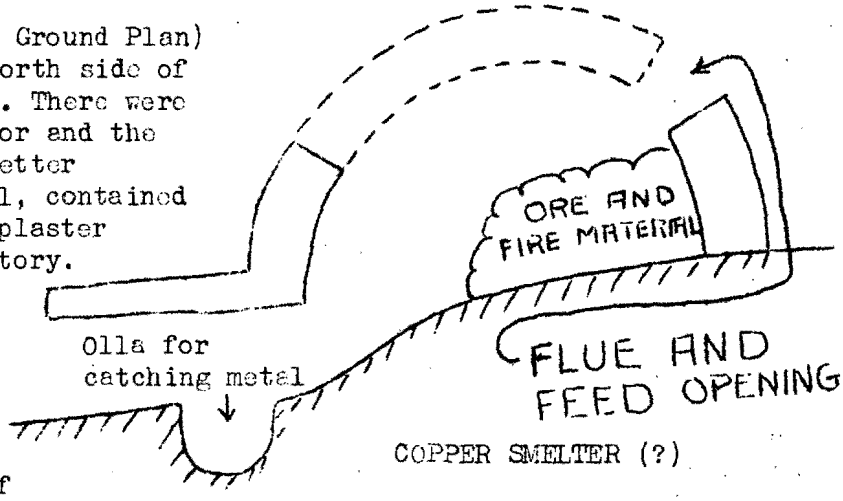
(Following are notes written by Paul Beaubien, foreman of FERA excavations now being carried on at Tumacacori National Monument, written to the Boss regarding progress of work. In no sense a complete report, they are included in the Monthly Report Supplement for their informative value and because they serve to show some of the interesting new problems arising. Beaubien received his B.A. in 1930, his M.A. in 1931, in Anthropology from the University of Denver. He served the past summer season as Temporary Ranger at Walnut Canyon National Monument.)

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I arrived at Tumacacori National Monument December 15 to find work well started under the direction of Walter Attwell, Associate Engineer, attached th the Southwestern Monuments Headquarters staff.

One brick problematical structure, tentatively identified as a smelter, and the foundation stones of a large building about 64 feet by 20 feet (Possible Church I, see Ground Plan) already had been uncovered. Foundation stones correctly placed to support a choir loft would indicate that this was an early mission. I can think of no other use for which a building this size would have been erected and then either torn down or allowed to wash away. Walls of a later date were found above.

Next, rooms (B, see Ground Plan) in a long mound on the north side of the patio were excavated. There were eleven on the ground floor and the seven at the west end, better protected by a stone wall, contained large fragments of lime plaster flooring from a second story. Two of the ground floor rooms had brick floors, one a floor of flat stones, one a plaster floor, and two had cobblestone floors on which a few patches of plaster remained. The other five rooms had no flooring, but several modern residences in this vicinity have been floored with brick and stone flagging taken from here.




While a few interesting benches, bake ovens, and storage bins were found, the artifacts were of native character. Evidently these rooms were reoccupied after being abandoned by the Spaniards.

Several more rooms along the west side of the patio toward the north end have now been excavated. One (E, see Ground Plan) with plastered walls has no entrance. Hope to have a theory before the engineers arrive to complete maps.

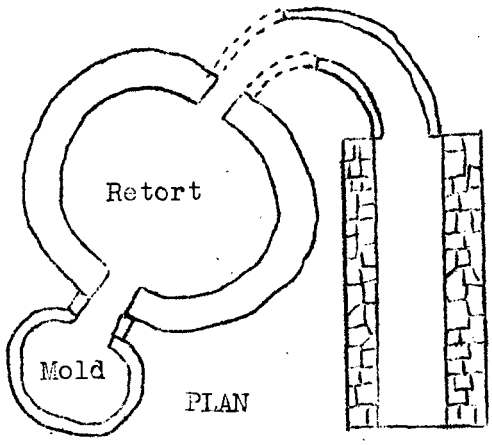
Just over a wall on the east side of the patio several brick problematical structures have been found. Intelligent appearing visitors have identified two

(D,E, see Ground Plan) as copper or silver smelters, one as a lead smelter (F, see Ground Plan) and one as a soap vat. But I can only call them "things" for the present.

Probably the most important work accomplished was the uncovering of thickwalled rooms (H,J, see Ground Plan) attached to each side of the present mission. Their presence was suggested to Mr. Boundey, Custodian of Tumacacori National Monument, by filled-in doorways or archways on the inner side of the Mission. I believe now that the Jesuits had a cruciform mission here and that the Franciscans have closed the side rooms while adding the present sacristy, bell tower, and dome sanctuary. If true most of the present Mission is of much older date than heretofore has been accepted.

The west wall of the cemetery is in line with the newly discovered wing and once extended to it. Evidently the cemetery wall was built when the cruciform mission was in use and before the present sanctuary was built.

I believe we have found where the metal for the bells was melted and cast. Parts of what probably are the mold have been found between two of the brick structures that are now being uncovered.



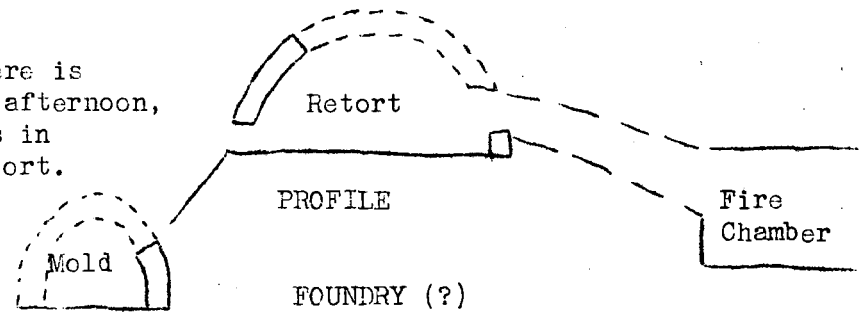

Sorry to say, very few museum specimens have been found. Perhaps there has been too much treasure hunting in the past. A few interesting pieces are found each week, so suppose it is only a question of more weeks. Hope to have a bell or two or maybe a candlestick to report next time.

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January 26

Dear Boss:

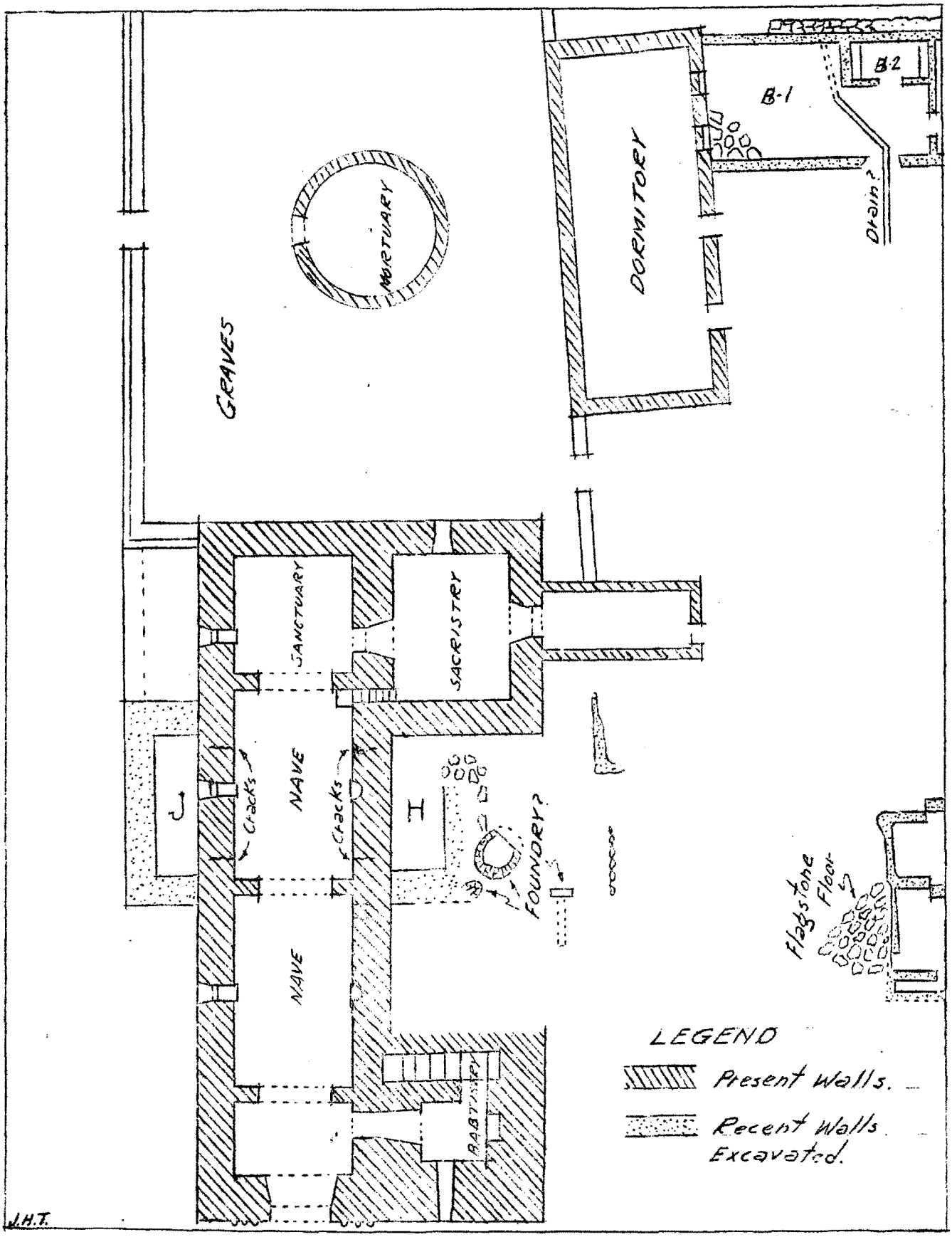
Just discovered that there is no mail service until Monday afternoon, so can only hope this arrives in time to catch the Monthly Report. Thought maybe I should add a few additional statements.

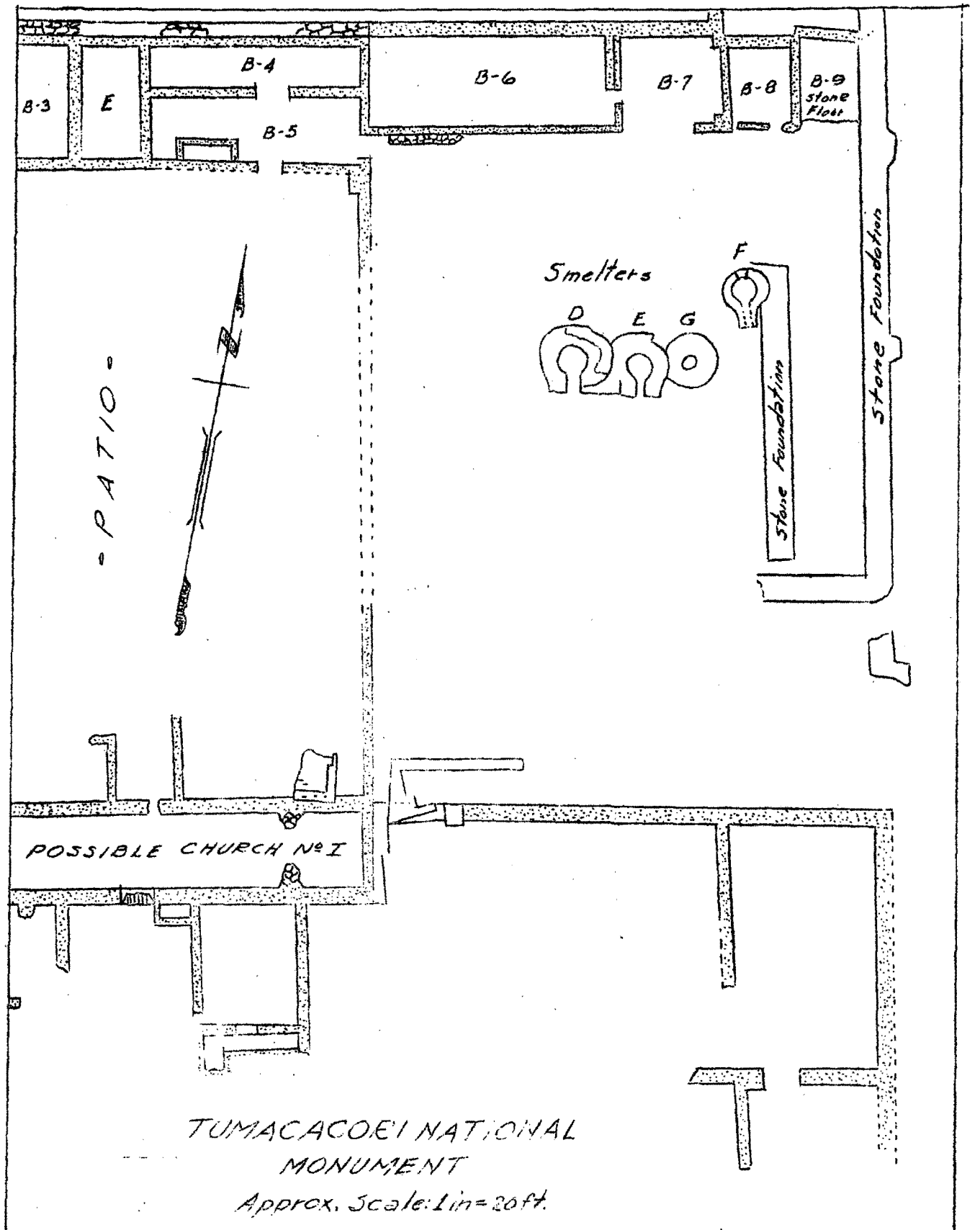



The side rooms (H,J) have crushed brick decoration (both inside and out) similar to the slag and brick decoration on the Mission proper. But am afraid the east wing (H) is too far north to line with the wall cracks I supposed to represent the old pulpit entrance.

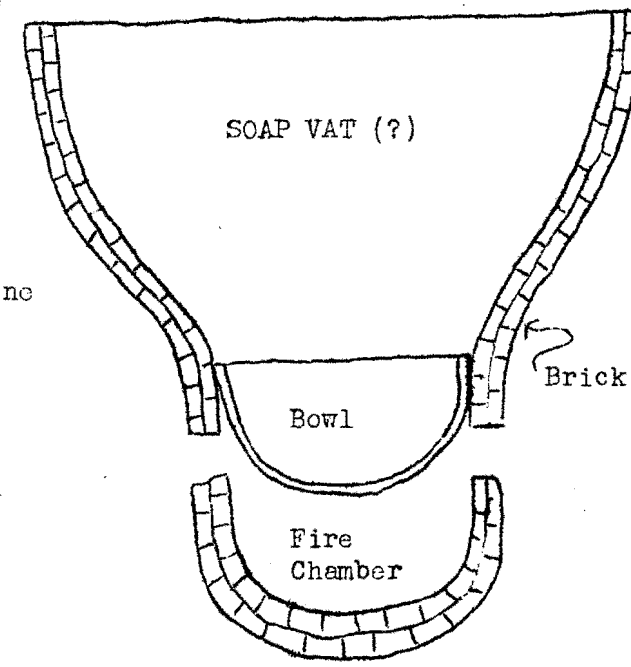
The four east rooms on the north side of the patio are built on loose dirt and in one or two I have plenty of adobe but no wall surface.

Where I think the metal for the bells was melted is where Mr. Boundey thinks they were cast. This is between the bell tower and the sacristy.


B-2
B-1
DORMITORY
Drain?
MORTUARY
GRAVES
SANCTUARY
SACRISTRY
NAVE
Cracks
Cracks
J
H
FOUNDRY?
NAVE
BAPTISTRY
Flagstone Floor
LEGEND
Present Walls.
Recent Walls Excavated.
J.H.T.


B-3
E
B-4
B-5
B-6
B-7
B-8
B-9
Stone Floor
Stone Foundation
Smelters
D
E
G
F
Stone Foundation
PATIO
POSSIBLE CHURCH Nº I
TUMACACORI NATIONAL MONUMENT
Approx. Scale: 1 in = 20 ft.

The smelter (?) (D, see Ground Plan) uncovered by Mr. Attwell has a twin brother (E) just beside it with about two thirds of an adobe dome. There is a ditch leading either into or out for water or smoke. Alongside was a deep (nine feet, perheps) brick-lined hole funnel-shaped at the top and half-filled with ashes. Possibly a soap vat. (G, see Ground Plan).




Next, I can't explain why the foundation of Possible Church I is offset. Have worked both corners out to a considerable depth and found that the ditch for the modern pipe line runs through one. But couldn't find anything at the other.

When the south wall was first uncovered I left some adobe on it in places. Took some of it off and found a door or window. But whether it belonged the the Mission or to the room to the south is beyond me--- cannot tell whether it was coming or going.

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Possible explanation for the soap vat sketch above is that the fire might have been built in the bottom, bowl placed in and lye and fat put in on top. Soap would be caught in bowl.

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## MUSEUM DEVELOPMENTS AT TUMACACORI

Note: Dr. Carl Russell, Field Naturalist from the Berkeley Office, after his recent study of the Kino chain of Missions, submitted a fine outline for the proposed Museum at Tumacacori. Copies were sent, among others, to the Southwestern Monuments Headquarters and to Paul Beaubien, both making criticisms and suggestions.

Beaubien's suggestions, we think, form a good example of constructive criticism, and we are running them as such in the following article.

Some explanation regarding the"cruciform" church is necessary, however.

Authorities differ as to the number of churches built on the Tumacacori site. Most certainly there were two; some say three. The building labeled "Possible Church I" has potentialities of proving itself the old Kino church. For purposes of argumentation we are presuming that the second church (Possible Church II) might have been incorporated in the present Mission (Church III). Thus, the newly discovered lateral rooms (H,J) plus the nave of Church III would form the "cruciform" church mentioned by Beaubien in the following article.

Beaubien wrote the article just after the lateral rooms H and J were

discovered and before their relationship to the non-bonded joints (now showing as "cracks") inside the Mission had been surveyed.

It will be noticed that Beaubien states in his letter of January 26 above that his theory of Possible Church II was shaken by the facts disclosed by the surveying.

However, with the above facts in mind, the following article is very interesting. If weight of scientific evidence shifts to prove Possible Church II a reality, the church's outline might well be preserved in our new Museum Building, as suggested by Beaubien.

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Dear Boss:

....Regarding Dr. Russell's Museum Outline: First, the evidence now would indicate the Mission once was cruciform in shape and smaller than at present. Of course the wings (H,J) could not be restored without wrecking the present Mission. How would it be to have the floor plan of the Museum correspond to the floor plan of the cruciform church?

I believe the floor of the cruciform church contained about 350 square feet more than the Museum of Carl's prospectus. If this enlargement could not be made, even with cheap adobe, the Museum could be scaled to requirements. If the idea was carried throughout the roof could be made as the present one and the walls decorated in the manner of the newly uncovered wings---that is, with handfulls of red crushed brick imbedded at regular intervals in the white plaster.

The Museum would be beautiful as well as appropriate. Also, the Custodian would not have to explain some of these new ideas like beams projecting from the walls for scaffolding, hidden chimneys, etc.

To me the outstanding thing here is the result accomplished by the padres with the simple means at their command. How would it be to have scale models of brick kilns, lime kilns, adobe pits and moulds, bell casting furnaces, copper smelters, arastras, soap vats, etc., even at the expense of some other exhibits. Their story cam be told only at this Monument. Or maybe the extra 350 square feet of the cruciform Mission could be utilized.

The educational value of the smelter-kiln idea is obvious. Visitors will be able to estimate the difficulties confronting the padres and can better appreciate their accomplishments. They will remember how lime was made long after they have forgotten the home of Father Kino. They will know why Tumacacori was known as the mining Mission and may remember that the Spaniards initiated the natives into the use of adobe brick. Have often wondered how far down the highway a visitor travels before forgetting that Father Kino came here in 1691 or that he established missions at Guevavi, Tubutema, Caborca, etc.

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(The "bell casting foundry" has become more complex. Evidently the heat was generated about ten feet away. Dug some just west of the dormitory(?) trying to find if the grave yard wall once carried through in line with its

northern half. Struck too many human bones and quit unsatisfied.).

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## THE JANUARY CASA GRANDE TRIP CHART

The January Trip Chart, showing the time of beginning and end of each trip of the month is published herewith.

Whereas in December we had only three trips start before nine in the morning, it will be noted that January shows 11 such trips. In December we had 25 parties cross the five o'clock line and in January there were 34. In December we had two trips originate after five; in January there were seven. One trip lasted past six o'clock in December and there were five in January.

The indications are that this is the last month of the winter when two eight-hour men could handle the beginning and end of the day satisfactorily by working one from 8:00 to 5:00 and the other from 9:00 to 6:00, each with time off for noon.

The noon hour situation was much worse in January than in December. With one man on duty between 11:30 and 1:30, it follows that any day which shows two parties during that time will show poor service. Cast your eye down the chart and see how many times two or more lines occur.

## CASA GRANDE POOR SERVICE CHART

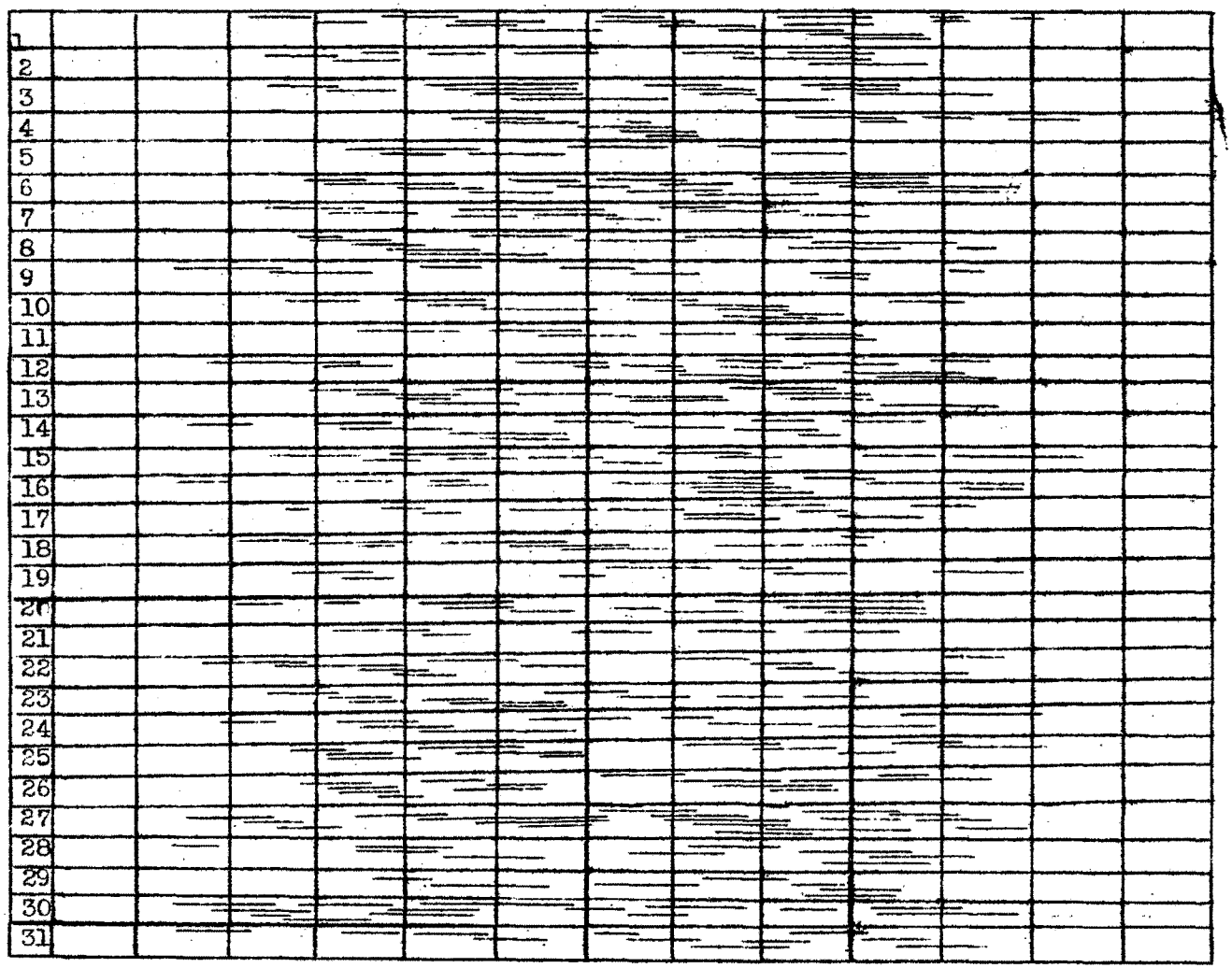
We have gone over the November, December , and January trip charts and tabulated the various periods each day when we were forced to deliver poor service because we had more parties than the man or men on duty could handle at that particular time. Sometimes that situation exists, as shown on the trip chart, for only 15 minutes, sometimes for two hours or more.

We have indicated these periods by solid lines for January, long dots for December, and short dots for November on the Poor Service chart. Even a casual glance at the Poor Service Chart will convince one that two men at Casa Grande constitute an inadequate force for more time than we like to consider.

While it will be noticed that poor service was delivered pretty well all over the shop, there were few cases of it in this 90-day run before ten or after five. For these times, at least, we had the situation pretty well in hand. The worst period falls between 11:30 and 1:30 when only one man would be on duty. There is another period between 3:00 and 5:00 when the poor service peaks up again. This is caused by party peaking, for we are inclined to have a flush of visitors between those hours.

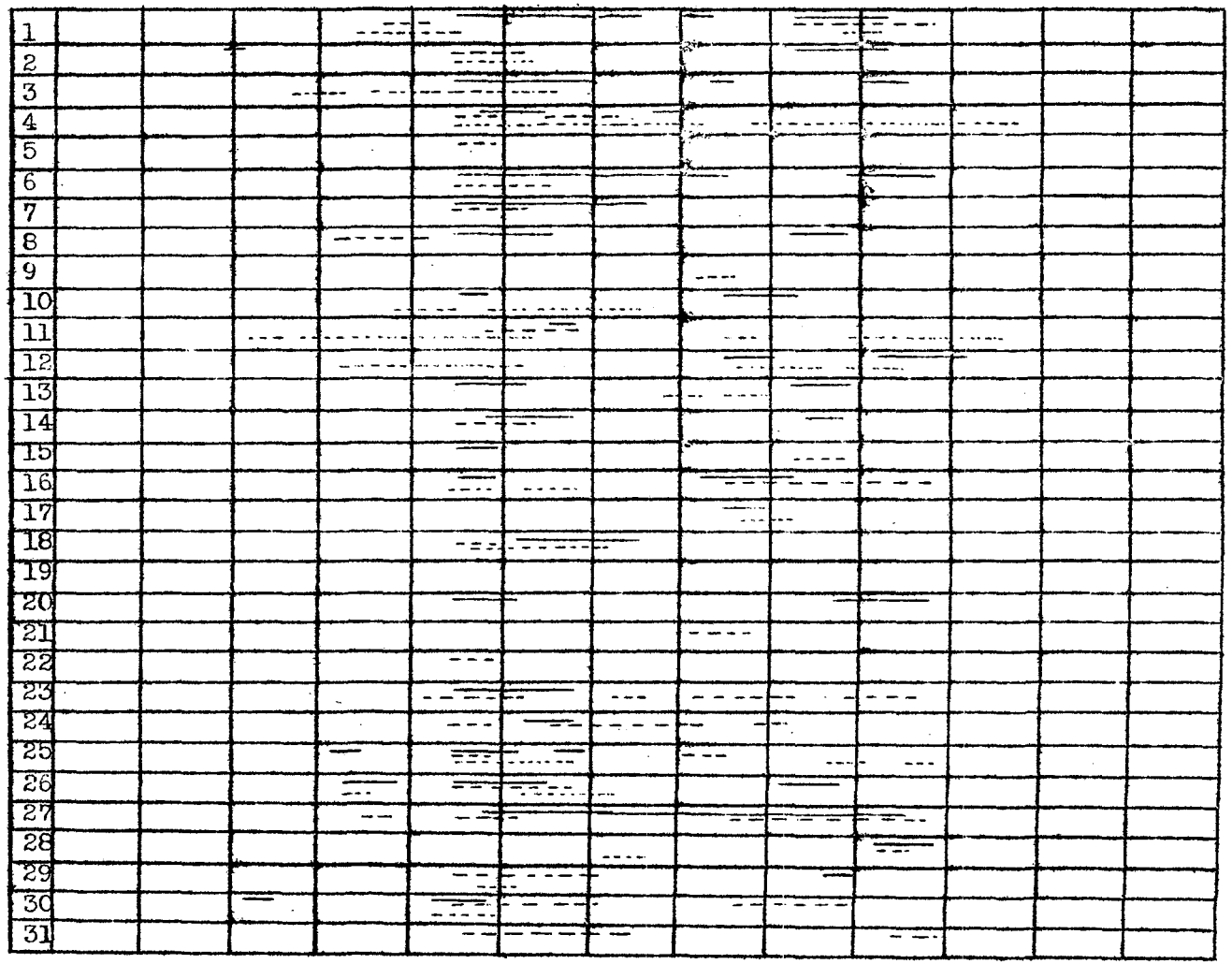
# CASA GRANDE JANUARY TRIP CHART

7 8 9 10 11 12 1 2 3 4 5 6 7 8



# CASA GRANDE POOR SERVICE CHART

7 8 9 10 11 12 1 2 3 4 5 6 7 8



## SORROW AMONG THE NAVAJOS

From time to time we at Wupatki National Monument come into contact with bits of Navajo ethnology in the forms of beliefs and taboos. Because of a recent epidemic among our neighbors we have had an opportunity to observe at first hand how religiously some of their beliefs are observed, regardless of the hardships they involve.

After the death of a person it is customary to bury him some distance from the family hogan with all of his personal property. In one instance of the death of a boy the father even included in the burial some new clothes of his own---a real sacrifice in this cold weather. Following the burial, the family moves from the hogan near which the death occurred and remain away until all the tracks of the deceased have been obliterated by the lelments. They seem to think of a newly dead spirit as especially malignant and believe he returns to pick up the tracks he made on earth. This same fear of crossing the path of one just dead rules that they do not travel north following a death, because that is the direction in which the spirit goes.

Do you see how, in the event of more than one death, a family having only the usual two hogans is left without shelter?

I saw a family to which this had happened. Four grown people and three children, one of whom was very small and quite ill, were, in their sorrow and misery, blanket-wrapped and huddled around a small camp fire. The only shelter from a cold, driving rain was a strip of canvas not over three feet high temporarily propped on sticks.

Unfortunately this year the cold weather and lambing came at the same time and added a desolate sight.

I drove down the following evening to be of any help I could and found the camp deserted. There was a saddle horse dead in the small wash, a dam of debris above, and two new-born lambs dead on the bank. In the center of the wash below the horse was a half-buried, half-washed-out porcelain plate---at other times a prized possession. Death had agin forced the living to move.

---James Brewer

*****

An earlier letter of Jimmie's to Dale King said: "We seem to be in the midst of an epidemic here and the young of all our old friends are dying off. Calvin Peshlakai has lost two grandchildren; one was that sickly son of Thelma's. Clyde Peshlakai lost a boy---you rember 'Shorty', the under-developed, heart-ailing kid with the bulbous eyes. Two others; all seem to have bad colds.

"There are two or three sings and sandpaintings in progress all the time. An Indian Service man told Clyde it was the same all over the reservation."

*****

And here ends one of the last reports we have thus far put out.

The Boss-

# SOUTHWESTERN MONUMENTS

# MONTHLY REPORT

# FEB. 1935

DEPARTMENT OF THE INTERIOR

NATIONAL PARK

SERVICE

## CONCERNING THIS MONTH'S COVER

On the front cover of this report will be found a new decoration with which we may all become more familiar as time passes; and it is fitting that we set down here the fact that this is the very first time it is used, also something of its origin and meaning.

It was hatched about nine o'clock on the night of February 9 by Tove, Hugh, and the Boss who were holding a Taurian Session in the East Room. A rough draft was struck out that night by Tove and that went through the mill the next day and about every one on the place had a say about it. The net result is before you, and we are willing to let it stand on its merits.

Among the Southwestern Monuments the geologic units are represented by the mountain in the background; the prehistoric units by the ruin in the left middle ground; the historic units by the church in the foreground; and the botanic units by the cactus near the center.

Behind and over all rises the sun of our destiny: on its way up and nothing in the world can stop us so long as we hold our Esprit de Corps.

And, just to show that we are serious, but not too serious, we put the rattler in the immediate foreground to show that we are good fighters, gentlemen who do not strike without warning, but when we do strike we mean business, and, finally, that it takes the wisdom of a serpent to operate this far-flung group of the most interesting units in the National Park System on the money we get!

# S O U T H W E S T E R N  M O N U M E N T S

# R E P O R T  F O R  F E B R U A R Y

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## SOUTHWESTERN MONUMENTS PERSONNEL

HEADQUARTERS Southwestern Monuments, Coolidge, Arizona. Frank Pinkley, Superintendent. Robert H. Rose, Acting Assistant Superintendent. Walter G. Attwell, Associate Engineer. Dale King, Junior Park Naturalist. Hugh M. Miller, Chief Clerk. Robert Cole, E.C.W. Clerk.

GENERAL FIELD MEN: Harry Langley, Assistant Landscape Architect. Charles A. Richey, Junior Landscape Architect. J.B. Hamilton, Assistant Engineer.

FIELD STATIONS

1. Arches---Moab, Utah. J.U. Turnbow, Custodian.
2. Aztec Ruins---Aztec, New Mexico. Johnwill Faris, Custodian.
3. Bandelier---Box 669, Santa Fe, New Mexico. Earl Jackson, Custodian.
4. Canyon de Chelly---Chin Lee, Arizona. Robert Budlong, Custodian.
5. Capulin Mountain---Capulin, New Mexico. Homer J. Farr, Custodian.
6. Casa Grande---Coolidge, Arizona. Hilding F. Palmer, Custodian.
   Louis R. Caywood, Park Ranger.
7. Chaco Canyon---Crownpoint, New Mexico. Thomas C. Miller, Custodian.
8. Chiricahua---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---Moccasin, Arizona. Leonard Heaton, Acting Custodian.
17. Rainbow Bridge---No custodian.
18. Saguaro---Tucson, Arizona. No custodian.
19. Sunset Crater---Flagstaff, Arizona. No custodian.
20. Tonto Cliff Dwellings---Roosevelt, Arizona. Charlie R. Steen in charge.
21. Tumacacori---Box 2225, Tucson, Arizona. George L. Boundey, Custodian.
    Martin E. Evanstad, Park Ranger.
22. Walnut Canyon---Flagstaff, Arizona. J.W. Brewer in charge.
23. White Sands---Alamogordo, New Mexico. Tom Charles, Custodian.
24. Wupatki National Monument---Flagstaff, Arizona. J.W. Brewer in charge.
25. Yucca House---Cortez, Colorado. No custodian.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
SOUTHWESTERN MONUMENTS

Coolidge, Arizona
February 1, 1935

The Director
National Park Service
Washington, D.C.

Dear Mr. Director:

The first two pages of this report consist of a condensed resume of activities over the whole Southwestern district.

WEATHER AND TRAVEL

The Monuments, differing greatly in altitude and latitude, naturally experienced wide extremes of temperature during the month of February, but precipitation has been do general in the form of rain, sleet, hail and snow that stockmen and farmers predict the best forage and growing conditions we have had in years.

The bulk of the southern Monuments report warm, moist conditions and lots of visitors. Tumacacori leaped into the van with an increase in travel of 84.6% over February last year, Casa Grande follows with 13.6%, Montezuma Castle with 9%. Figures with which to compare Tonto's respectable total of 559 are lacking. Bad roads at Gran Quivira and high altitude and snow at Chiricahua cut travel at these two Monuments, but White Sands is bearing up well.

Extremely changeable "loco" weather was expected and received at Wupatki, El Morro, and Bandelier, although travel picked up at the latter. Capulin, Chaco, Canyon de Chelly, and Aztec were cold-bound. As we go north to Pipe Spring---away north of the Grand Canyon---we find almost a paradox in balmy weather and average travel.

FIELD TRIPS

Acting Assistant Superintendent Robert Rose left the middle of the month for the Office of the Field Division of Education at Berkeley where he will spend a month on Museum and Education problems.

Junior Park Naturalist Dale King visited Tumacacori and Gila Pueblo during the month.

CONSTRUCTION

Contract at Azted on construction of the Administration Unit is practically complete. Repairing of irrigation ditches and welding of cattle-guards is under way at Pipe Spring.

E.C.W. ACTIVITIES

From the reports of Project Superintendents Chase of Bandelier and Hammond at Chiricahua the following itemized progress reports have been taken:

Bandelier:

1. Finishing of second septic tank completes "Campground Sewer System" project.
2. Last cattle-guard is ready for concrete pouring.
3. Walls, roof, and rough plumbing completed on campground comfort station.
4. All campground tables and one picnic table completed.
5. Walls of concessionaire's barns to viga height and vigas delivered.
6. Considerable progress in planting in center of parking area and along entrance road.
7. Two hundred yards of building stone quarried and delivered for office building and garage, ready to start when approved plans arrive.

Chiricahua:

1. Clearing, cleaning Bonita public campground effected. Some grading to be done. Sewer trench dug.
2. Sugar Loaf horse trail put through to top of mountain. Minor details to be completed.
3. Excavations started for Fire Lookout House on top of Sugar Loaf.
4. Bonita Canyon Highway bettered with rip-rap and revetments for protection of banks.
5. Telephone system nearing completion.
6. Topographic survey continuing steadily.

PERSONNEL

No personnel changes during the month.

VISITING PARK SERVICE OFFICIALS

Charles S. Richey, Landscape Architect, visited Headquarters Feb. 4.

Feb. 12 Joseph W. Crouch, District Project Manager, Sub-Marginal Land Division, National Park Service, arrived at Headquarters in regard to land matters at Wupatki National Monument.

REPORTS FROM THE MEN IN THE FIELD

GRAN QUIVIRA NATIONAL MONUMENT — W.H. Smith, Custodian

Travel has been rather scarce for the month. We registered only 216 visitors entering the Monument in 61 vehicles---but the major portion of the month has been cloudy and damp and the road from Mountainair has been in pretty bad shape.

During this period of cloudy weather we got quite a little bit of moisture in the form of snow and rain, but, the winter being warmer than usual, snow melted almost as fast as it hit the ground.

Since the robbery of the Museum February 1 we have been pretty busy helping the local authorities try to apprehend the guilty parties. The sheriff of Socorro County and the local officers after looking the veidence over concluded that there was some local talent on the job as the marauders knew the lay of the land as well as any of our old settlers hereabouts. They could hit the old roads near the Monument as no other except one who is very familiar with the surrounding country.

They did a very thorough job of rifling the collection as they took everything under glass. We made several leaflets describing the collection as best we could and sent them to various places where we would suspect this collection eventually to be displayed, asking the authorities of these places to cooperate with our men here in watching for these artifacts.

On February 3 Donald D. Brand, Assistant Professor of Anthropology at the University of New Mexico, and a number of his students were here visiting the ruins. A number of these students went on from here to visit the ruins over east of here.

I was going through the register the other day collecting some data for a gentleman who was checking on travel to various Parks and Monuments for the last few years. Covering a period of the last five years here I find I have registered 4,072 persons annually, and the vehicles entering the Monument number 879 per year.

Another interesting fact about this is that the last two years I find that our travel through the winter months has more than doubled what it was five years previous to this date. This gives a more uniform number of visitors through the year than was the rule a few years ago.

******

TUMACACORI NATIONAL MONUMENT — George Boundey, Custodian

Visitors for the month, 2,116.

The Fiesta at Tucson has ent many visitors our way this month and it seemed quite like old times again.

Our visitors have been very much interested in the Mission and many notable people have registered.

The FERA excavating will end the first of March. The excavation has not produced anything we did not know was here except the actual foundations of the old church (Possible Cjurch I) and I think it has proved without any argument what I have always contended that Timacacori was not a recent Mission of the Franciscans but is the old Jesuit Mission of San Cayetano de Tumacacori.

Many of the spring birds are here and many of the cottonwoods have leaved out, but the last two days have been cold with freezing nights and I am afraid the early blossoms will be frosted.

Have been talking with a number of old settlers about here and they are all enthusiastic about rebuilding one of the old smelters, an arastra, setting up one of the old Padre mills with the sweep for the burro, etc. Think this would be much better than making some small models in a museum. The old desert wanderers who continually drop in at the Mission wouldn't be satisfied with much less than the real thing, and the expense would not be any greater.

*****

REPORT OF FERA EXCAVATIONS AT TUMACACORI By Paul Beaubien, in Charge

Not much to report. Rain slowed the work at first and with the end of ERA in sight all effort was directed to covering the exposed walls. During rain, we dug inside the Mission where many treasure hunters had been before us. I remember your wonderment at the amount of treasure hunting inside buildings with brick or plaster floors. Supposedly anyone with a treasure to hide in a hurry would take it outside where the evidence of hasty digging could be easier to obliterate. Maybe the treasure hunters needed exercise on rainy days.

In last month's report I wrote I thought that the present Mission (or Church III) was just Church II without the transepts and with the present Sacristy, Bell Tower, and Sanctuary added. But about three feet down below the present floor level of the Sanctuary and two feet down in the Sacristry we found the specialized plaster of the transepts. Evidently the walls of the Sanctuary and Sacristy were coexistent with the wings of the older structure. I don't like to admit being too hasty last month but it can't be helped now. (Note: It takes a big man to admit he's wrong, Paul).

In the sanctuary we found a large, odd-shaped piece of gypsum plaster bearing some rather artistic decoration. I believe it to be the ledge from in front of the one statue niche there and that it should be restored.

Four pillar or arch foundations of large stones set in lime plaster were found in the Nave, but I have no idea of their purpose.

Just west of the Mission entrance is the beginning of a long mound which carries south beyond the Monument boundary. The first 18 rooms at the north end were uncovered before refilling became a necessity. No important museum specimens were found, but foundations of older rooms were discovered under some floors.

Am sorry to see the work stop now as so much remains to be excavated,

With crews changing every three days and varying in size from four to 22, I have purposely worked where new men would do less damage. But any mounds left untouched will keep.

******

WUPATKI NATIONAL MONUMENT J.W. Brewer, in charge

I think it's well to head out here with our outstanding news of the month. The 6th to 12th takes the headlines with a total of 1.68 inches of rainfall. The recording for the 11th was the largest with ,56 of an inch in a single day. The maximum temperature for the month was 66 degrees and the minimum 25 degrees.

A very pleasant month except that when 1.68 inches of rain descend upon Wupatki it means that 424,121.544 tons of water have soaked into or run off of the Monument. Do I get the preservative I've been asking for? Don't we really need it for protection of our plastered walls? The east side talus, a section untouched by C.W.A., has begun to slide and fall across the trail; the east wall of Room 48 has partially washed out; the west wall of Room 63 is weakening because there is no drainage provided; the roof of Room 4 is leaking. Please forward one flood-control engineer and a crew of "stabilizers."

Sallie and I attended the annual meeting of the Northern Arizona Society of Science and Art on Tuesday, January 29. At the close of the business meeting Dr. Colton gave a dandy lecture on Wupatki National Monument illustrated with slides by Milton Snow. I found it very pleasant to hear for a change someone else telling the "story" of Wupatki. Lyn Hargrave topped the evening off with an illustrated lecture on his work with the Rainbow Bridge-Monument Valley Expedition last summer. The slides for Lyn's lecture were furnished by Ansel Hall of the Berkeley Office and were some very fine photographs. Sal and I left shortly after the refreshments and drove out to the Monument.

I reported in November that a trapper was camped at Heiser Spring. He's still there and has bagged the following: 21 bobcats, 52 coyotes, and 3 badgers---one of which goes to the Museum of Northern Arizona. I prepared a skin mount and the skeleton of the specimen. Also into a trap went a Golden Eagle. Clyde Peshlacai, Navajo, put in a request for this catch and removed the long feathers for use in the Night Chant. Jimmie Kiwanwytewa, Hopi, asked for the small feathers to use on katchina dolls; I boiled the rest down to a skeleton for the Museum. Something of a "Jack Spratt", don't you think?

The first Rock Wren of the year was observed February 18; I took a specimen of Redwing Blackbird on the 19th.

On the 13th Engineer Gene Gordon brought out Mr. Crouch of San Francisco. Sal and I joined them on a trip to Crack-in-Rock. Gene came back without Mr. Crouch Saturday afternoon and stayed until Sunday evening inspecting my labors. We had a dandy visit and wound up with an inspection of our nearby Grand Falls.

In your letter of January 7 is this question "Have you discovered any new tricks on how to handle visitors or any ideas on how to make them prolong their stay?" "How to make them prolong their stay" is bothering me because on

February 22 Mr. and Mrs. J.Q. Thomas (Superintendent of Flagstaff Public Schools) and Mr. and Mrs. Micke were guests. I was across the Monument when they arrived and met them in the registration room at 3:35 p.m. The party was dressed in field clothes, so, in spite of the unfinished section of trails, I decided to make the complete circuit as a typical field trip accurately timed. When we arrived back at the parking area it was 5:10 p.m.---an elapsed time of 1 hour and 35 minutes.

Having thought it would make too long a trip if I went into my sketchy dissertation on tree-dating and pottery types, I omitted them, contrary to custom. Include those two explanations and to the total time add the time that will be spent by guests when a half-dozen museum exhibits are prepared and the Citadel and Wukoki stop-overs included; then tell me who's going to feed the folks if we get any ideas on "how to prolong their stay." On this particular field trip I watched carefully to note any signs of waning interest and found none.

When leaving, Mr. Thomas remarked "It's a good thing the National Park Service has someone to guide visitors and protect the place; another few years and it would have been carried away"; Mr. Thomas was a visitor here before Wupatki became a National Monument.

Guess I'll sign off here and pack off to town via Citadel, Sunset Crater, Walnut Canyon---and add the travel figures as a P.S.

---

P.S. (Pretty Sad) The Sunset Crater road didn't look so bad from Highway 89 so we turned in and did the first three miles in slick order. Sal had the wheel and was doing her usual fine job when suddenly we dropped into a snow-covered excavation where some previous motorist had shoveled out. It was completely covered with windblown snow and impossible to see from the surface. To make a long struggle and a sad story short we "hoofed" the three miles to the highway. Right here you can feel sorry for Sal, in high heels, trying to pick a path in darkness. Fortunately, the first car Flagstaff-bound picked us up.

This A.M. with the help of one of Dr. Colton's Indians we jacked it up, put on the chains, shoveled a road, and backed out. Three inches of snow had fallen in the night so I hope you will be able to see why I did not attempt to get out to Walnut.

I have just received from John McGregor some Dendrochronology data which I thought would interest you:

Miscellaneous pieces not associated with definite rooms date 1074 to 1167.

Room 35---apparently built about 1127 and used as late as 1165, plus or minus five.

Room 36---built about 1129

Room 45---built about 1145, plus or minus five.

Room 46---built about 1145, plus or minus five; used as late as 1160, plus or minus five.

To conclude, Wupatki and Citadel combined had 50 visitors during the last month period.

******

TONTO NATIONAL MONUMENT By Charlie Steen, in charge

This has been the most eventful month of my tenure here. To begin with, 599 visitors made an appearance, and of these 383 made the trip to the lower ruins and 25 to the upper. Two of these visitors deserve special mention: one was stone deaf and pedalling a bicycle from Los Angeles to Chicago, and the other was a hitch-hiker----I haven't yet figured how either of them happened to come up here.

This has also been League of Nations month at the Tonto. I have cordial invitations to "Come and See Us" when I get to Bogotá, Honolulu, and Kobe. The folks from Edmonton, Fairbanks, Bangkok, Sydney, Budapest, Frankfort, and London are either not as hospitable as the others or figure that my chances of dropping in for a meal are mighty slim.

The wish for Park Service visitors which I expressed in last month's report was more than filled. Gene Gordon has made two trips here, and two engineering crews headed by George Hopper and Howard Leslie are wearing out shoe leather by climbing over these hills. To say the least, I am very happy over the plans for improving this Monument.

The signs arrived in good shape. I will receive some posts from the State Highway Department either tomorrow or the next day and will erect them immediately thereafter. The local foreman for the Highway Department was up to see me a few days ago and said he has received authority to fix up the entrance road. He will have his equipment here sometime this week.

We had another ten-day rainy spell this month and light showers yesterday (Sunday), but aside from those days the weather has been clear and warm. There is a good deal of snow on the mountains above the 5000-foot level which indicates more flood waters for the Salt and Tonto Rivers and more acreage of storage for the reservoir. The water level of the lake has risen more than sixty feet during the past month.

Day before yesterday a lady asked me what would happen to the water in the lake if the dam wasn't there. How would you answer that, Boss?

**********

I wouldn't tell the lady, Charlie, but I wonder if the reservoir wouldn't be called a dam failure in that case?

**********

CHIRICAHUA NATIONAL MONUMENT E.C.W ACTIVITIES H.O. Hammond, Project Sup't.

Weather conditions during February at Chiricahua were none too good during the first and last parts of the month and reguler winter weather prevailed with rain, snow, fog, and frozen ground to contend with. This caused serious interruption of work projects over a ten-day period. The last days of the month brought the heaviest snowfall of the winter throughout this area.

Development of the new Public Camp Ground Area in Bonita Canyon has progressed nicely. Clearing of roadways and disposal of brush, stumps, and timber therefrom was about completed. Some grading and fills remain to be done. The sewer system trench has been dug and laying of the sewer tile will be started at an early date.

The Sugar Loaf Mountain horse trail was put through to the top about the middle of the month---a total distance of about 4,800 feet. There remains some additional adjustments of the rock walling, landscaping, and minor details before this project can be considered completed.

Plans were received for the Lookout House, to be erected on top of Sugar Loaf, and its location staked out on the highest ground. The excavations have been started, with the trail compressor crew putting in the holes preparatory to blasting. Bids for the materials have been sent out and a mule pack train will be used for transporting all cement, lumber, and other construction items.

Another crew has been working along the Bonita Canyon highway placing rip-rap and revetments for bank protection. Betterment work continued with the motor grader.

Further progress has been made on the telephone system and completion of this project can be expected an an early date. The topographic survey of the Monument has likewise continued steadily.

A carload of galvanized water pipe and fittings was received and will be used to construct the water system for supplying the new Public Camp Grounds and Administration Area.

Indian pottery and stone relics were found on the highest ground of Sugar Loaf peak during the month and turned over to the Coolidge Office.

Inclement weather conditions have not prompted many sight-seeing tourists on the Monument during February, and we have noted only an occasional group.

Around the first of the month Landscape Architect Langley visited us with Ass't Engineer Gordon to go over various Chiricahua work projects. Associate Engineer Attwell visited us on the 18th.

Forest officials stopping off at Chiricahua during February included Supervisor Fred Winn, Messrs. L.S. Gill, and Tom Bentley.

E.C.W. Inspector Reddick was here on official business February 25.

******

REPORTS FROM THE MEN IN THE FIELD
CAPULIN MOUNTAIN NATIONAL MONUMENT — By Homer J. Farr, Custodian

Travel has been rather light but in checking over I find it a little more than last February, probably about 350.

Paul Wilkerson has been here for a few days but so far has lacked fit weather for his photo work and has not attempted to do any as yet.

The fore part of the month was exceedingly nice and warm but the past few days have been terrors. Several degrees below this morning---I'd say about six below as thermometers vary some half dozen degrees.

The Custodian here hs been rather busy recently answering mail. For some reason or other everybody wrote me this month wanting to know more about about Capulin. Well, I answered many but not all.

According to some of the estimates that are being broadcast by some of the largest oil companies we may expect a bumper crop of tourists this summer.

*****

EL MORRO NATIONAL MONUMENT — by Evon Z. Vogt, Custodian

Among the Mexicans, especially the old timers who have spent their lives with stock, either herding cattle on the upper deck of a bronc or tending sheep in lonely valleys, the month of February "es loco."

Being loco, the weather is expected to come without any regularity whatsoever. Our present month has certainly fulfilled every requirement of rain, snow, hail, wind, accompanied by the cold of Canada to be suddenly relieved by the heat of Honduras.

Even thunder followed a day when the early morning eclipse of the sun brought Navajos to our home to speculate on what was portended. Thenlast week a great pall hung over the Zuni Mountains to the east of El Morro. At a distance looking like a faint, gray beginning of a snow storm in the highest reaches of the pine trees but not the quite color. The low-hanging smoke of a forest fire did not offer an explanation for the wind from the east brought no smell of fire.

The newspapers came along and told how the dust storms in Kansas and neighboring states had filled the air with clouds of dirt. This reached to a slight degree the country just east of us although at Albuquerque the passenger planes of the TWA were not able to land on the obscured landing field.

During the month I made two trips---one to Gallup in my own car with light log chains on each rear wheel. These got me through the 50 miles without much trouble. The trip I made to the ranch at Atarque, 40 miles south, was made with the mail driver in a Chevrolet pickup. Six hours were required each way to make the trip. Coming back we had three sheep herders loaded on the mail bags. With the help of a pry pole 16 feet long which we carried with us we managed to get out of six bog holes which delayed our progress and added nothing to our good

humor.

From the above Weather Notes you will realize that travel to El Morro has been absolutely nix. I did go out several times to look things over but found the snow deep, the great cliff silent and immuteable, no one around. Just a few birds and an occasional cottontail.

The day was put in with a thorough inspection, however, since there are things to be seen when the winter snow is on that one cannot see when the ground is dry. Our new fence built with C.W.A. labor last year is in excellent shape. The gate is as good as when we placed it. The cattle guard, which is the best ever built in these parts, heads back any cow or horse which would enter the Monument grounds. The pit is deep and clean of snow which seems to blow across the pit and not accumulate inside.

The trail carved in the solid rock up the east face of the Monument is damaged from the melting snow to an extent which is surprizing and depressing. The rock when the steps were built showed to be quite soft but it was the opinion of all that the sandstone would harden when exposed to air. Whatever has been the action of the air, I now know action of melting snow has been very bad as several inches of stone have crumbled off right where the pedestrian climbing up the steps places his weight. I fear that we shall have to use cement capping on these steps which enable one to top out just at the base of our major ruin. The steps at other places on the trail do not seem to be badly affected, nor is the switchback trail washed or crumbled, although better drainage must be provided at several places.

Old Spanish inscriptions have not been touched or even approached by anyone during the month, although travel may begin the month of March.

Among the Wild Animals I have found that there are a few opossums around the Monument. No one thought there were any in this region but we have seen one and nearby a trapper caught one in his coyote traps.

The New Labels for our trees, grasses and shrubs have come and will be placed this coming month. They will greatly help the unattended visitor in his understanding of our flora.

The New Photos which George A. Grant took last summer at the Monument are here, having been sent by Mr. Ellsworth C. Dent, Visual Instruction Supervisor, and accompanied by a letter from Grant.

They are the finest pictures ever taken of the scenery as well of the inscriptions,---a triumph in photography, so clear and perfect that all who see them are enthusiastic over their beauty. For illustrations they will be simply fine. I certainly appreciate this work Grant did here as it will help me get our historic and scenic features before the public. I am planning to write an article for the New Mexico Magazine on El Morro and needed these pictures badly.

I was named on the Roosevelt Birthday Dance Committee. Despite the inclem-

ent weather, the hard frozen roads with high centers, and a three-mile detour at Pescado Indian Villiage necessitating fording Zuni Creek at one place, over 50 people went from Ramah to Zuni where the dance was held under the direction of Mr. G.E. Trotter, Superintendent of the Zuni Indian Reservation.

In all there were about 150 people in attendance including some 25 or so educated Indians. It was a gala occasion which lasted until 2 a.m. We heard President Roosevelt's clear, convincing, pleasing voice over the radio. All were glad to know that his courage and spirit as evinced by his voice seemed to be holding up so unfailingly under the heavy problems of the Nation.

The dance began at 8 p.m. Now and then it was pleasantly broken by musical numbers, then a drawing contest in which a silver Navajo belt, a silver hand-made ash tray, and a Navajo bracelet were chanced off for the benefit of the cause. Mrs. Vogt drew the ash tray. The interruption in form of cake and coffee at midnight didn't make anyone mad. In fact, it was an altogether successful occasion where everyone---young and old---danced. Even the Indian girls were often on the floor to the tune of the Arkansas Traveler or Rancho Grande. You may wonder if Zuni girls who often dance to the beats of the tombe in their ceremonial dances show any traces of their native dances when they dance the American steps. Yes, they do. Especially is it noticed when one dances with them, although they take readily to the rhythm of American music.

The Lookout Ruin located three miles north of El Morro near Puerta Gigantes has been dug into and damaged somewhat. Whoever is hunting prehistoric pots there is doing a great deal of damage by knocking down walls. This is a large ruin about 200 feet square hidden behind a cliff but equipped with a convenient spy hole through the cliff permitting the former inhabitants to overlook the Tinaja Valley.

I have reported this vandalism to Jesse Nusbaum of the Laboratory of Anthropology. Unfortunately, the ruin is located on Santa Fe Railway land, and it will be necessary to wait until word is received in response to Mr. Nusbaum's prompt letter to Mr. Collinson, Land Commissioner of the Santa Fe, authorizing me to protect this ruin.

The railway company owns thousands of acres of grazing land in this region and their land contains many ruins which may be of unusual value. I am working through the Navajos to find the identity of the person who is doing the ruthless digging.

Correspondence which has been going on between us regarding preservation of old Spanish inscriptions is most important and I hope results in definite action. I made a rather long report to Chief Engineer Kittredge, a copy of which went to the Director and to you which covered experiments made on a sample of the rock by the Bureau of Standards. This resulted, as you know, in selection of Dri-Wall for covering the old carvings.

But as I said, I feel that full time protection is what is most needed at El Morro. Lady Luck has thus far been with us else there would have been

some damage done to the messages carved here. We cannot count on such luck forever and I would be delighted if thorough consideration and ample protection would come out of this matter in the very near future.

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CASA GRANDE NATIONAL MONUMENT By Hilding Palmer, Custodian

Good weather conditions and a record run of winter visitors gave us a total of 2,923 visitors who were personally contacted on 311 guided museum and ruins trips. In addition to these, there were 267 visitors who used some of the facilities offered by the Monument. This represents a 13.6% increase over the same month last year.

The 2,923 visitors came in 855 cars from all but four states (Alabama, Arkansas, Florida, and Louisiana); from the District of Columbia, Alaska, Canada, Mexico, England, Switzerland, Scotland, Africa, and Australia. Arizona headed the list with 1,338; California second with 297; Illinois third with 172; and New York fourth with 108.

Many visitors report it extremely hard to find any kind of accommodations at either Tucson or Phoenix. Both Tucson and Phoenix report and extra heavy run of tourists. Santa Fe and Southern Pacific railroads have put on extra passenger coaches to carry increased traffic.

Weather conditions were ideal except for a few windy days and one wet day. Maximum temperature for the month was 84 on the 20th and minimum 26 on the 26th. Mean maximum for the month was 69, while mean minimum was 38. Rainfall was 1.53 inches with .93 falling on the 6th. On the 23rd a hard wind suddenly began to blow in the afternoon and continued for several days.

Charles Amsden, Secretary and Treasurer of the Southwest Museum at Los Angeles and author of "Navajo Weaving", was an interested visitor late in the month. He had spent several days research on Hohokam pottery designs at Gila Pueblo, and was gathering material for his weekly broadcasts over KFI each Thursday p.m. at 4 o'clock, Pacific time.

Among other prominet visitorswore Walter S. Gifford, President of the American Telephone and Telegraph Co., and Ralph Adams Cram, noted architect.

Bird happenings of importance were as follows:

Mourning and whitewing doves were seen---rather early this year.

Several birds have been seen nesting. The Western Horned Owls who make their home in the canopy over the ruins went to housekeeping February 1. Their nest is on top of the wall over the entrance to the central room which faces east. We may expect some owlets soon, because the prosepective mother and father have been very diligent on the nest.

The Say Phoebes started their nest in a beam-hole in the East Room about February 25. No eggs have been laid as yet.

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REPORTS FROM THE MEN IN THE FIELD
CHACO CANYON NATIONAL MONUMENT — By T.C. Miller, Custodian

GENERAL

Approach roads have been impassable part of the month due to heavy snows. At this time the snow has melted, except on the north sides of hills. While the snow and rains are doing the stockmen a lot of good it is doing much damage to the ruins. Seven capped walls in Pueblo Bonito have collapsed and when all frost goes out of the ground many more will follow suit. I have photographed those walls and just as soon as I can get them developed I will send a set of those pictures along with a complete report of the tragedy.

A 2'6" rise in the Chaco Wash was recorded on the 21st. Revetment work at Pueblo Del Arroyo diverted the stream this time, so there was no damage to our walls.

WEATHER

Maximum 50 on the 2nd. Minimum, minus two on the 17th.

Precipitation 1.67 inches of rain and melted snow. Greatest in 24 hours was .76 on the 13th.

TRAVEL

207 people arrived in 81 cars. Six states were represented: Arizona, California, Colorado, Iowa, Nevada, and New Mexico.

TELEPHONE LINE

The telephone line was completed on the afternoon of the 22nd, that is, from Crown Point to the Headquarters Area. Two pay stations will be installed within the Monument, one at the Custodian's residence, the other at the Chaco Trading Post. Phone boxes have not arrived, but we are looking forward to the day they are installed. Then we will be more in touch with the outside world.

MUSEUM CONTRIBUTIONS

On Feb. 6, a Navajo boy by the name of Joe Yazzi donated a large Chaco cooking pot. The pot shows to have been used, as it is burned black. It is $14\frac{1}{2}$ by $7\frac{1}{2}$ inches. When the Indian was asked by the Custodian where he found the pot, he said, "I was looking for my horses and found it already uncovered by erosion. I was told that Washington would pay a lot of money for a pot like this, so I brought it to you!" After I explained to the Indian what museums were for, that Washington was not buying pottery but protecting it, he was glad to make the donation. Indians have also donated two fine arrowheads and a large flint skinning knife during the month. I really believe they are getting Museum Conscious.

SPECIAL VISITORS

Ranger and Mrs. Chester Merkley, Mesa Verde National Park, arrived on

January 29 and departed on the 30th.

J.L. Patterson and party arrived and departed on Feb.6. Patterson was formerly Acting Custodian at this Monument.

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CANYON DE CHELLY NATIONAL MONUMENT By Robert R. Budlong, Cust.

There was but one visitor to this Monument during the month of February, and he drove only to the rim of the Canyon.

Weather has been miserable, with snow, hail, rain, and one thunderstorm during a snow flurry.

The canyons are still impassable, with considerable water flowing through them.

Roads are worse, and this Monument has been practically inaccessible during the month. Very few cars have been able to get through to Gallup, even the mail truck having been stuck on the mountain for six days, on one occasion. We do not expect any visitors for some little time.

There is really no news to report this month. In the very near future we expect the sandstorms to start, and to continue for some weeks, so no large numbers of visitors are expected the coming month.

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PIPE SPRING NATIONAL MONUMENT By Leonard Heaton, Acting Cust.

I am pleased to report that I have enjoyed my work and what visitors that have taken time to come out and see the fort. Our weather has been nice and warm with only a few days of storm. Some snow, but it stayed only a day or so, thus making it possible to travel almost every day this month.

Those that made a trip through the fort this month came from Utah, Nevada, and Arizona, totalling 27. Of this number were Mr. and Mrs. Dodson of the Indian Service Engineering Department and Dr. and Mrs. Foutz, Camp Director of the Boy Scouts, Timpanogos Council.

Stckmen are feeling encouraged about possibilities of getting through the winter without much loss, as the winter surely has been mild and ideal. Only one cold snap, lots of warm storms, feed growing most of the winter, and now early grasses and weeds are getting up so stock can get it. About the only regret stockmen have is they sold off too many cattle last fall in fear of having a hard winter.

The past ten days I have been fixing up irrigation ditches and planting more trees, and next week I will finish setting out cedar and pine trees on the south side of the Monument, on the land that has been farmed. I also intend to collect different plants to be transplanted on Monument land as fast as I can get around to it.

I have noticed the following birds here this month: Redwing Blackbird, Rusty Blackbird, Robin, Kildeer, Meadowlark, Mountain Bluebird, several species of sparrows, Junco, American Raven, Northwestern Crow, Pinyon Jay, Desert Horned Lark, Cassin Kingbird, Western Horned Owl, Red Tailed Hawk, California Quail. Sixteen species of birds in February provide and uncommon situation. Next month I hope to report a lot more families visiting the place---also some nesting being done by the feathered visitors.

As far as reporting on the plant life , it is not far enough out of the ground to say much. Judging from the poor summer of last year I am doubtful if there will be many flowers this spring as there were few matured seeds last fall, and there have been some cattle on the place at different times before the cattle guards were completed. They naturally ate off some plants.

I have sent word to the Richfield welders to come in next week and do the welding, so I will be able to keep the cattle out in the future.

About Jan. 28 the Indian Service sent Mr. Dodson to survey our road through the Indian Reservation. Work has been going on all month, and is now about completed. The approach road to the Monument on the west is about as the old road is now, but the east approach road goes over the ridge directly east of the Monument and misses the cattleguards about 125 feet to the north. However, I think the road can be made to meet the guards and serve the Monument to better advantage.

When one is coming in from the east just as he tops the ridge he gets a splendid view of the Monument, buildings and all. Then as he makes the turn to enter the Monument the Fort and other buildings disappear behind the trees, and as he comes up to the parking place he can get glimpses of the Fort through the trees amd over the two ponds that are in front of the fort. Since I have been over the new road route and viewed the Monument from the ridge, I like the arrangement very much.

I got the truck Feb. 8 and have driven it about 65 miles on cleanup work and hauling trees from Moccasin. I feel that I will be able to accomplish much more having the truck to haul rock, dirt, or whatnot, rather than waiting until I have accumulated enough work for a team.

Since I have started this report a snow storm has come up and we have now at 10 p.m. a half inch of snow and it is still snowing as if it would last all night.

"Let her come," as the hired man said, "More storm, more rest."

"What's that?", asked the boss.

"More storm, more grass," answered the hired man, and that is what we want up here---"More storm, More Grass."

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REPORTS FROM THE MEN IN THE FIELD
BANDELIER NATIONAL MONUMENT — By Earl Jackson, Custodian

VISITORS

Travel is picking up. Visitors numbered 294, which is more than four times the number for last February (65). Twenty two states were represented, Washington, D.C., and one foreign country, Canada. The six highest states in order were: New Mexico, 212; Colorado, 33; Kansas, 7; Maryland, 5; Illinois and Massachusetts, 4 each. These people arrived in 74 cars. Parties were all small, two groups of eight boys each from Alamos Ranch being the largest.

WEATHER CONDITIONS AND ROADS

There is no rhyme or reason in occurrence of storms in Frijoles Canyon. I can start out through the ruins with a party and it will be so hot they will strip off their coats, and in a few minutes they will be wet with snow or rain.

Precipitation for February was .56. About three and a half inches of snow fell. A great dust storm reached Frijoles Canyon and on the 21st and 22nd dust was so thick in this region you could not see anything over half a mile away. Dust has settled, and now there are about two inches of snow on the ground, and snow is falling fast.

Roads have suffered little from the weather. At no time during the month have they been impassable, although muddy stretches made passage from here to the paved highway dangerous.

SPECIAL VISITORS

Jan. 27 Mr. and Mrs. D.B. Roben were interested visitors. Roben is construction engineer on government buildings, connected with the Treasury Department. Jan. 31 Rev. H.B. Master, Head of Presbyterian Pension Work in the United States, and Rev. Ralph J. Hall, Head of Mission Work for the same church in Arizona and New Mexico, were in.

Feb. 3 we were honored by a visit from Former Director Horace M. Albright. Mr. and Mrsl Jesse L. Nusbaum brought Mr. Albright and party, consisting in addition of Mr. Cramer, Resident Manager of the U.S. Potash Company, Mr. Van Horn, of the land department of the company, and Mr. Cummings, contracting engineer, C.C. Moore and Company. A very enjoyable afternoon was spent with these folks, and I sincerely hope they all come again. Mr. Albright expressed himself as pleased with development work he saw here.

Feb. 4 James C. Reddock, E.C.W. Inspector, was in to look over construction work and the camp. On the same day arrived William H. Sharpe, sent here from Washington, D.C. to take over E.C.W. clerical work. We are having fun making a dyed-in-the-wool westerner of him. He may be a "tenderfoot" but is a good sport and learns fast.

Feb. 8 Mrs. Albert Coors, Jr., was in for a trip through the ruins. She is the wife of the beverage manufacturer.

Feb. 24, Walter Attwell arrived for a short visit.

IMPROVEMENTS

See Construction Report, by H.B. Chase.

Will be mighty glad when we can have a new office building down at the new parking area. Visitor control is now an awkward and inefficient task, with our temporary office a half mile up the canyon from the campground bridge crossing. Visitors can come into the campground without my even seeing them, unless I take a jaunt of a half mile to find them, leaving the temporary office and registration place while I do so.

It is distressing to see our fine new road maintenance equipment left out in all kinds of weather. We need construction of a utility building and garage for that equipment mighty soon.

NATURE NOTES

On a recent 35-mile hike through the main portion of the Monument I did not see one turkey track on the mesa levels. All turkeys are down in the canyons, principally in Frijoles. Approximately 25 turkeys in one bunch patrol the canyon floor from the ranger station to the Upper Crossing, a distance of nearly six miles. I have put out a small amount of corn, and expect to have a fair portion to dish out tomorrow, if the snow lets up a little.

Deer tracks are very few anywhere on the Reserve, although around the base of St. Peter's Dome, just off the south boundary, I saw a number of tracks.

One visitor to the ruins was so appreciative that he (or she) followed the trail at night in a snow storm. This visitor was a raccoon, a big fellow, who dutifully followed the route through the cliff ruins, and according to his tracks found a number of the most interesting features which I point out to tourists, for he frequently stopped a few feet off the trail to enter one of the talus house ruins.

GENERAL

One Saturday afternoon two of the CCC boys started out on a hike, asserting their intention to climb St. Peters Dome, 12 miles southwest of here, just off the Monument boundary. A snow storm came up that night, and at to a.m. the next day the boys had not returned.

Knowing the boys were from Texas plains, and didn't know anything about snow, we feared they might get lost and freeze to death.

So that morning I picked one of the huskiest CCC fellows, Logan Horne by name, and set out on the search. We followed one of two trails leading toward St. Peters Dome, and after bucking snow six inches deep to the Dome, and after circling the Dome and failing to climb it on account of deep drifts, we decided the lost boys could not have reached this far.

We turned back toward Frijoles Canyon, coming by another trail, and at about 4 p.m. while it was still snowing slightly we came to a cave where the boys had spent the night, and found their tracks in the snow leaving it. They had started back by the right direction, following the main trail, but evidently did not know how to read trail blazes, and soon lost their route.

Horne and I had hiked about 20 miles, and were just about completely tired out, with a long way to go yet, but we knew we must follow those tracks and see what happened to the boys.

We followed---and such a route! The boys were completely lost and took the wildest, crookedest route two people could have taken, through the roughest part of the reserve, We followed their tracks until dark, and lost them, and found ourselves in a tough spot in a kind of "V" where two canyons came together and we couldn't find a way down to the Rio Grande River. We were about to freeze to death on that wind-swept point, could find no wood dry enough to burn, and knew we would probably freeze if we stopped to rest. We did the only thing we could do---kept moving--- and followed the trackless miles back to the main trail, climbing one mountain after another, and, finally, after about 35 miles in the snow, and 14 hours, and after our fifth wind was spent, got back into Frijoles Canyon.

There we found the boys had returned late in the afternoon. In daylight they had found a way down to the river where we could not in the dark. One had some frostbitten toes, but recovered all right. Horne and I had 100% less energy than we had started with. We both swore when we got back that if it hadn't been for the other one to egg him on neither of us would have got back alive.

All this long drawn out account of a near clash with death for four people argues strong for improvement of trails through this Monument. Trails should be cleaned out, widened some in dangerous cliff places, and one or two trailside shelters should be built. In such shelters storm-trapped travelers could find dry wood and a place to spend the night, and thus weather a storm.

In order to do any of this development on trails, we must have permission for use of stub camps for CCC construction crews. These trails reach such remote points that it is a sheer waste of labor to try to work them by daily excursions from the main camp. By the time a crew could walk to the point of work the day would be half gone and they would have to start back.

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BANDELIER E.C.W. ACTIVITIES By H.B. Chase, Project Sup't

Pouring concrete of the second septic tank was completed on Feb. 2., after which backfilling, cleaning up, and landscaping features were carried out and now the entire project "Campground Sewer System" is completed and ready for use.

The last cattleguard of the project "Cattle Guards" was started on the 12

and now is ready for pouring concrete. This structure is located on the west boundary line of the Detached Section on the road leading to Los Alamos school. With favorable weather this project will be completed in less than a week.

Walls of the public campground comfort station are now completed, cleaned, and pointed with local mud. A split aspen ceiling has been completed throughout the building and a three-ply 30-pound felt roof has been finished this month. The rough plumbing has been installed and connected with the sewer which leaves the pouring of floors and interior trim which we expect to complete by March 15.

All campground tables were completed in place at camp sites this month; in addition, one large picnic table in accordance with the original approved plan was constructed in the picnic area.

The walls of the concessionaire's barn are now completed to viga height which includes the lintels in place over all door and window openings. Vigas have been cut, peeled, and delivered to building site and placing of same will be started the 25th.

A large crew has been planting trees and shrubs this month. The island in the center of the parking area has been completed and considerable planting carried on along the entrance road.

Approximately 200 cubic yards of building stone have been quarried and hauled to the building site of the office building and garage. Construction of these projects has not started other than quarrying the stone awaiting arrival of approved plans.

Progress of projects here was somewhat hampered by the visit of two snow storms which shut down all work for a total of four days.

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AZTEC RUINS NATIONAL MONUMENT By Johnwill Faris, Custodian

Visitors for the month total 278. This number is slightly under February last year but we have experienced this past two weeks some of the most severe of our winter weather and our visitor run has been almost nothing.

We are in final stages of construction work and the finished Museum is presenting a most pleasing appearance. I am releasing Inspector Gebhardt tonight since only the rear trellis is yet outstanding and he has gone over this feature iwth me and I have his ideas clearly in mind. I was somewhat disappointed in being unable to use the copperas stain for exterior coloring on our building but several tests proved it very unsatisfactory and we have decided upon and applied a cement paint which gives not only uniform color over old and new plaster but also gives an absolutely waterproof feature on the plaster, which, of course, will always be a benefit. The color will blend very well with our walls.

The odd jobs under Work Order No. 3 certainly have changed interior appearance of the old Morris residence. It presents a much more pleasing effect than did the old arrangement. The entire situation, while presenting several difficulties, is ironing out into a finished product that was beyond my expectations.

I might state in this connection that I have shifted practically all the responsibility on Inspector Gebhardt and I wish to express my appreciation for the manner in which he has shouldered the work. He has worked night and day in our behalf and the job certainly shows the results of his efforts.

Stormy weather of the last two weeks has hindered somewhat our program on the installations of lights in the Great Kiva and the placement of conduit to eradicate overhead lines in our Administration Area. I will get this work under way at the earliest opportunity. I want it understood, Boss, that this installation is not the system we eventually hope for or may install. It is merely a temporary placement of electricity so we may have it at our command in case development may require elaboration for lighting. Also that we may at the present tie into our main switch in the Administration Unit.

One feature I hope to overcome with our remaining Public Works money is that of leaky outlets on our kiva roof. The three major outlets for drains are leaking and we are unable to ascertain the cause. They were tiled and we were careful at the time to seal all joints but are finding it necessary to install galvanized darins at least from the roof to the approximate ground level in hopes of overcoming this leak.

Also, I might admit a feature you warned me of in our kiva. It is somewhat damp and whether it is still a sweating from the massive walls or an accumulation of koisture from the atmosphere I am still uncertain, but we are still finding the moisture. I shall watch this closely, and while it is of no great concern, I shall be very much interested in its cause.

We are rushing all work orders on our Administration Building and by the time this report is mimeographed and ready for us we hope to have all papers in your office regarding our unit at Aztec.

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MONTEZUMA CASTLE NATIONAL MONUMENT By Frank Fish, Ranger

Custodian Jackson accidentally fell the other day and cut his right thumb very painfully, severing the leader. This, of course, necessitated an operation. At the present time he is recovering very nicely in the United Verde Copper Company hospital at Jerome. We expect him to return to duty toddy. Nevertheless, the responsibility for the monthly swindle sheet will fall on my shoulders.

Regarding the weather: we have had sufficient extremes, with approximately two weeks of stormy weather, with consequent result of very bad road conditions. However, there were a few days of very good spring-like weather encouraging

visitors from Flagstaff and Prescott to use the picnic area. Moisture conditions throughout this area seem favorable for the livestock industry for the coming summer.

Visitors showed 9% gain over the corresponding month last year---1,167 this year, 1,065 last year. About 500 of this year's number were from the local CCC encampments. We have had quite a number of guests from the three Guest Ranches nearby. These ranches report they are full to capacity. Business conditions in the valley seem to be on the upgrade.

Incidently, we received five labels "Arizona Sycamore, Platanus Wrightii" which we have placed advantageously along the trail to the ruins. We could also use labels for the Creosote Bush (Covillea Tridentata) and the Hackberry for this region.

Mrs. Hugh H. Miller of Coolidge, Arizona, arrived on the 25th to assist in the bringing up of the new "Minnow". Mrs and Mrs. Wade C. Smith of the Chaco region were here during the month.

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WHITE SANDS NATIONAL MONUMENT By Tom Charles, Custodian

White Sands Monument was honored by a visit from Dr. H.C. Bumpus this month. It is interesting to note how the influence of a few hours visit from one man may sometimes inspire a whole community. Dr. Bumpus spoke at a Rotary Club luncheon in this city, discussed the unusual attractions of this vicinity and spoke briefly of the possibilities of trail side museums.

Within a week the directors of the Chamber of Commerce had called together the representatives of six organizations and plans were on foot to erect a community building which should house the city library, an amusement hall, a patio museum, a gymnasium, and other features. A special committee has been appointed to contrive plans for the preservation of the petroglyphs, located a short distance above the A.B. Fall home and said to be one of the most remarkable collections of Indian pictures in the world.

Another special committee is to mark the site of the Dog Canyon Fight, 12 miles below Alamogrodo, where Lieutenant H.M. Lazelle and three companions were killed and four others severely injured by Apache Indians on Feb. 18,1859.

The Indians had stolen 11 oxen and three mules from the soldiers at San Elizario, Texas, and had driven them 165 miles across the desert to Dog Canyon. After riding the 165 miles in seven days, 85 of them being without water, the 22 soldiers attacked the stronghold in a harrow gorge and on a trail where the Indians could throw rocks down on them. Nine of the Indians were killed but the soldiers were compelled to withdraw across the valley to the White Sands, thence to St. Augustine Pass and Old Mesilla, which was then the Capitol of southern New Mexico and Arizona.

The Chamber of Commerce also plans on marking the bed of fossil ferns in

La Luz Canyon, one of the numerous buried pueblos in the valley, the Blazer Mill where the first fight of the Lincoln County war occurred and where Buckshot Roberts and Dick Brewer lie side by side. It seems that it would take no more than another visit from Dr. Bumpus to sell this community on itself.

There were 361 visitors registered at the little box near the turn-around in the Heart of the Sands in January. It is queer the different reactions these people have about registering. One dany-load of people who took a lady from Kansas City out to see the Sands got out at the box and registered "Grandma" but not one of the other ten in the car considered themselves visitors. Of the out of state people who go into the Sands 40 to 60 percent will register if they are out there alone. If there are several cars possibly none will register. However, we had 30 states and two foreign countries represented. The traffic through the Monument still runs better than 350 people a day.

Chuck Ritchie was here this month and left some very valuable suggestions as to how the Monument might be tidied up a bit with but little expense and effort. Charlie Sutton took down the old CWA sign, painted it over, lettered an urgent appeal to visit the Heart of the Sands, and put it back across the road from the entrance. You would be surprised what a good job of painting a truck driver foreman can do.

We have word from George Wright that we may be expecting representatives of the Wild Life Department this month to study possibilities of development in the Artesian Well area. I wonder if it will be possible to get these representatives after the blind snakes, white mice, and the burros and antelopes with "sand shoes."

The Superintendent of Schools of Otero County together with the Alamogordo Chamber of Commerce are planning a school picnic and field meet at the White Sands some time in April. There are 3,400 school children and the Chamber of Commerce estimates the crowd will be as large or larger than the one at the opening last year when state patrolmen counted 5,200. Governor Tingley has promised to be present and those interested plan to make it an annual affair.

Three airplanes lit in the big bowl beyond the turn-around one day last week and before Charlie could get down to see who they were they had taken off an flown away. They apparently had no trouble in landing or taking off. Aviators say there are as many landing fields in the White Sands as there are hills. All a field needs is a "wind sock" to make it ideal.

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ENGINEERING REPORT By C.H. Gordon, Ass't Engineer

Transmitted herewith is my report for the month of February covering activities of myself and field party consisting of Howard Leslie, Transitman, Ray Hitson, Addison Pinkley, and H.E. Williams, Rodmen.

The first of the month found the crew at Tumacacori Mission making a map of the walls exposed by the "Dig" being conducted by Paul Beaubien. The map

was completed on Feb. 8.

Feb. 9 the crew went to Saguaro National Monument where they completed the road map that had been started during the month of January. This job was completed on Feb. 13.

Feb. 14 was moving day for the field party---Saguaro to Headquarters.

Feb, 15 the party left Headquarters for Tonto National Monument where they mapped the ruins in connection with the plan for stabilization of these ruins. It was while they were at Tonto that H.E. Williams joined the crew. They returned to Headquarters during the afternoon of Feb. 28.

Feb. 1 I was at Headquarters preparing my reports for the month of January.
Feb. 2---I left Headquarters at 7:30 a.m. for Tonto, arriving at 11:30a.m. and made an inspection of the trails and one of the ruins. Returned that night.
Feb. 4---Was at the Office of the Superintendent of the Southwestern Monuments with C.A. Richey, Landscape Architect, until 3 p.m. when I left for Tumacacori, arriving at 6 p.m.
Feb. 5---At Tumacacori.
Feb. 6---At Tumacacori until 4:30, when left for Headquarters.
Feb. 7,8,9,10,11---At Headquarters.
Feb. 12---At Headquarters until 1 p.m. when I left for Flagstaff with Mr. Joseph W. Crouch, District Project Manager, Submarginal Land Division, National Park Service.
Feb. 13---Mr. Crouch and I made and inspection trip over quite a large area immediately adjacent to Wupatki National Monument,
Feb. 14,15,16,17---In Flagstaff looking up land titles.
Feb. 18---Left Flagstaff at 2 p.m. for Phoenix arriving at 7 p.m.
Feb. 19---In Phoenix at State Capitol looking up land and water titles.
Feb. 20---At Casa Grande working up data collected at Flagstaff.
Feb. 21---Left Headquarters at 4:30 a.m. to attend re-interment of two priests at San Xavier Mission.
Feb. 22---J.H. Tovrea and I left Headquarters for Tonto. Went over the Ruins Stabilization map with Leslie.
Feb. 23---Ran in a proposed line for future water system at Tonto during the morning. Took notes for Ruins Stabilization in afternoon, and drove to Headquarters.
Feb. 25,26---At Headquarters working up data collected at Flagstaff.
Feb. 27---At Headquarters , then to Tonto. Went over Ruins Map with Leslie and found out he had already run the proposed trail to the upper ruins.
Feb. 28---Went over the trail system this morning and took a flock of pictures. Left Tonto at 1:30 p.m. and arrived at Casa Grande at 5 p.m.

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REPORTS FROM THE MEN IN THE FIELD
ENGINEERING REPORT OF WALTER G, ATTWELL, ASSOCIATE ENGINEER

Owing to the demand for topographic maps of the Southwestern Monumemts, Assistant Engineer George Hopper from the San Francisco Office arrived with his two assistants to assist in placing some of the Monuments on paper. He is at present mapping Tonto National Monument. Owing to heavy railroad advertising this newly acquired Monumemt has heavy tourist travel. No development work has ever been done by the Park Service and the topography is important.

Assistant Engineer Clark's crew is completing the topography at Chiricahua National Monument. With this data completed it will be possible to establish the Monument boundaries. This crew will be transferred to Bandelier this week to map the floor of the Valley at headquarters.

Assistant Engineer Gordon has covered his activities elsewhere in this report.

I started the month at Field Headquarters in San Francisco, spent the remainder at Tumacacori in excavation with F.E.R.A, at San Xavier in re-burying the Padres, Chiricahua and Bandelier with E.C.W. activities, Yucca House and Hovenweep on Protection, Chaco Canyon on Ruins Preservation, Walnut Camyon on Protection, Tonto on Topography, and Saguaro on Topography.

Maps and plans were completed on Trail at Sunset Crater, Water System at Tonto, Fences at Montezuma Castle, Yucca House and Tumacacori, Topography at White Sands, Erosion at Bandelier, and Ruins Stabilization at Wupatki.

*****

REPORT OF JUNIOR NATURALIST DALE KING

Spent 6,086 minutes guiding visitors through ruins and museum (12.6 eight-hour days). Four days off duty, on one of which I took trip to see excavations at Tumacacori, on the other a trip to Gila Pueblo regarding recent archaeological finds in Gila Valley.

During the other 11½ days of the month: (1) catalogued 22 books, cross-indexed nine; (2) Received 972 metal botanical labels from Berkeley Office ---recorded, re-sorted, re-allocated them to Bandelier, El Morro, Walnut Canyon, Chiricahua, Montezuma Castle, and Casa Grande National Monuments; (3) handled four or five correspondence items; (4) copy-read and typed the Monthly Report.

*****

And so here ends the regular report.
Cordially,
Frank Pinkley,
Superintendent.

# THE SOUTHWESTERN MONUMENTS SUPPLEMENT TO THE MONTHLY REPORT

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

SHOP TALK, GOSSIP, AND OTHER INTERESTING THINGS ABOUT THIS AND THAT: THE WHOLE CONTAINING SOME INFORMATION AND NOT MUCH MISINFORMATION ABOUT WHAT GOES ON IN THE SOUTHWESTERN MONUMENTS.

A MUSEUM PROSPECTUS FOR WUPATKI NATIONAL MONUMENT by J.W. Brewer

(Dear Boss: This prosepctus is not all I had intended it should be. I wanted to include a floor plan and perspective of museum building and a trail map showing the room plan and field trip, but I am sending it along as it is. Later we will complete the explanatory features not now included. The only figure is that of a wall case which I hope explains how we can use small rooms without crowding them with table-type display cases, and limiting visitor space. You will note that this case is readily koved or changed.J.B.)

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INTRODUCTION

The need of adequate museums at Southwestern Monuments seems to have resulted in a good deal of informative discussion on the subject in the Supplements of the more recent Monthly Reports. It is a need which everyone coming in contact with visitors knows will, if answered properly, add very greatly to the visitor's complete and intelligent enjoyment of the Monument. At Wupatki we feel especially "needful" because this Monument has an important and fascinating phase of archaeology to show, and because there are over 2,000 artifacts from Wupatki which might be displayed here of we had the facilities to do so.

At any rate, we've enjoyed thinking about the part we would like a museum to play in Wupatki hospitality and planning a setup which would give the bare essentials without great expenditure or long postponement, and which, completely realized, will be almost ideal.

A museum at a Monument must fill two requirements: it must give the visitor a basis of principles, facts, or theories based on facts which will enable him to "place" and to see intelligently what the Monument has to show; it must display objects from the Monument which it is not advisable to display elsewhere.

Our plan for a museum at Wupatki is a separate room for this first requirement, the "orientation" function, and the utilixation of several rooms of the pueblo itself for the second requirement. Dr. Harold S. Colton of the Museum of Northern Arizona has advocated that a restored room be used for the exhibition in cases of actual artifacts recovered and that one or more other rooms be used for "habitat groups"---life sized models shown with utensils as the inhabitants actually lived in the rooms. Thus the visitor would receive the necessary introduction before he began the tour of the Monument; the detailed story of life during Pueblo III, which is the individual story Wupatki has to convey, would be obtained as he went over the ruin. In this way our museum is not a separate unit from the pueblo, but adds its helpful information and interesting detail at every phase of the trip over the site.

UNIT I---ORIENTATION ROOM

The exhibits and manner of display in this room require careful handling; their purpose is to give a broad conception of the factors which led to the existence of Wupatki and adjacent ruins and which determined the nature of life in these pueblos.

The information this room gives would be presented so that every visitor can and will acquire it as thoroughly as he should in order to become orientated. Hence, it must be given simply and clearly, in correct order, and above all must catch and hold his interest. The perfect solution to these requirements would seem to be a corridor or room with lighted models and charts and maps which would tell the desired story progressively from entrance to exit. By this method the information necessarily would be acquired in the correct sequence; the visitor, not distracted by anything else to be seen, would give his complete attention to the line of lighted exhibits; he would be able to make the exhibits fit his individual need of information by studying those presenting facts with which he was unfamiliar and by skipping those which he might have seen presented in other Monuments or Parks. It seems certain that by thus attracting the visitor's interested, complete, and individual attention a a better basis for his enjoyment of the Monument could be assured than by a lecture which must try to satisfy and interest each of the group at once, or by similar exhibits placed in a room with other displays, or by a combination of the last two methods.

This room must, of course, be near the parking area and registration room. Ideally, it would open off the registration room, with the exit leading to a rest room or lounge where they might enjoy the view of the Painted Desert---no small part of Wupatki's attraction---and where, on crowded days, small groups could wait while a party for touring the ruin was being made up.

Another very good suggestion of Dr. Colton's is that these rooms and probably the residence be built around a patio. An enclosed patio would be a haven of refuge during the windy days we do have at Wupatki and would afford a place for showing to better advantage some of the native plants.

In the orientation room the exhibits might be placed back to back through the center, or along the walls; one method has the advantage of saving space, the other has the perhaps greater advantage of keeping visitors from crossing the room and not following exhibits in proper sequence. Skylights placed over the exhibits would throw light directly on them and would be more desirable than windows, since here the point is concentration on the exhibits and not the view.

Following is a list of proposed exhibits for this room:

I. Chart showing derivation of race which peopled North America in prehistoric times.

II. Map showing probable route of their migration into North America.

III. Map showing regions or centers of regions which developed a distinct culture (thus focusing attention on the Southwest and differentiating it from other regional archaeology with which the visitor might confuse it.)

IV. Chart of periods in the Southwest, with relative times and known dates, stressing the accumulation of traits which made

Pueblo III and Wupatki possible.

V. Cross-section, in model or chart, of strata and predominant land forms fwom the San Francisco Peaks to the Hopi mesas. This exhibit would explain in general the geology and physiography of the country to be seen from the Monument (see similar cross-section in "Days in the Painted Desert", Colton and Baxter), excepting only the results of volcanic activity which is given in a later exhibit. The feature to be stressed, either in this exhibit or in a separate one to follow, is the occurrence of clay layers in the Moencopi sandstone. These layers hold the water for the springs in the region and probably explain its prehistoric popularity in an otherwise spring-less country.

VI. Model showing the first permanent dwelling of man on the Monument---a Pueblo II pit house.

VII. Cross section in model or chart showing Sunset Crater and cinders which covered the Monument during Pueblo II. The effect on the Pueblo II people and the effect of the cinders on the soil which Pueblo III people later farmed should be noted. This exhibit serves to introduce the nearest neighboring Monument (Sunset Crater) by thus explaining its part in Wupatki history.

VIII. Model or illustrated enumeration of the animal and plant life on the Monument at the time of the entry of the people who built Wupatki. This exhibit should give the background of climate, flora, and fauna for life here during Pueblo III; animal bones excavated from the pueblo and vegetable fibres used in their artifacts would serve as the factual basis. A model of the site on which Wupatki was later built would be the best way of presenting all this information.

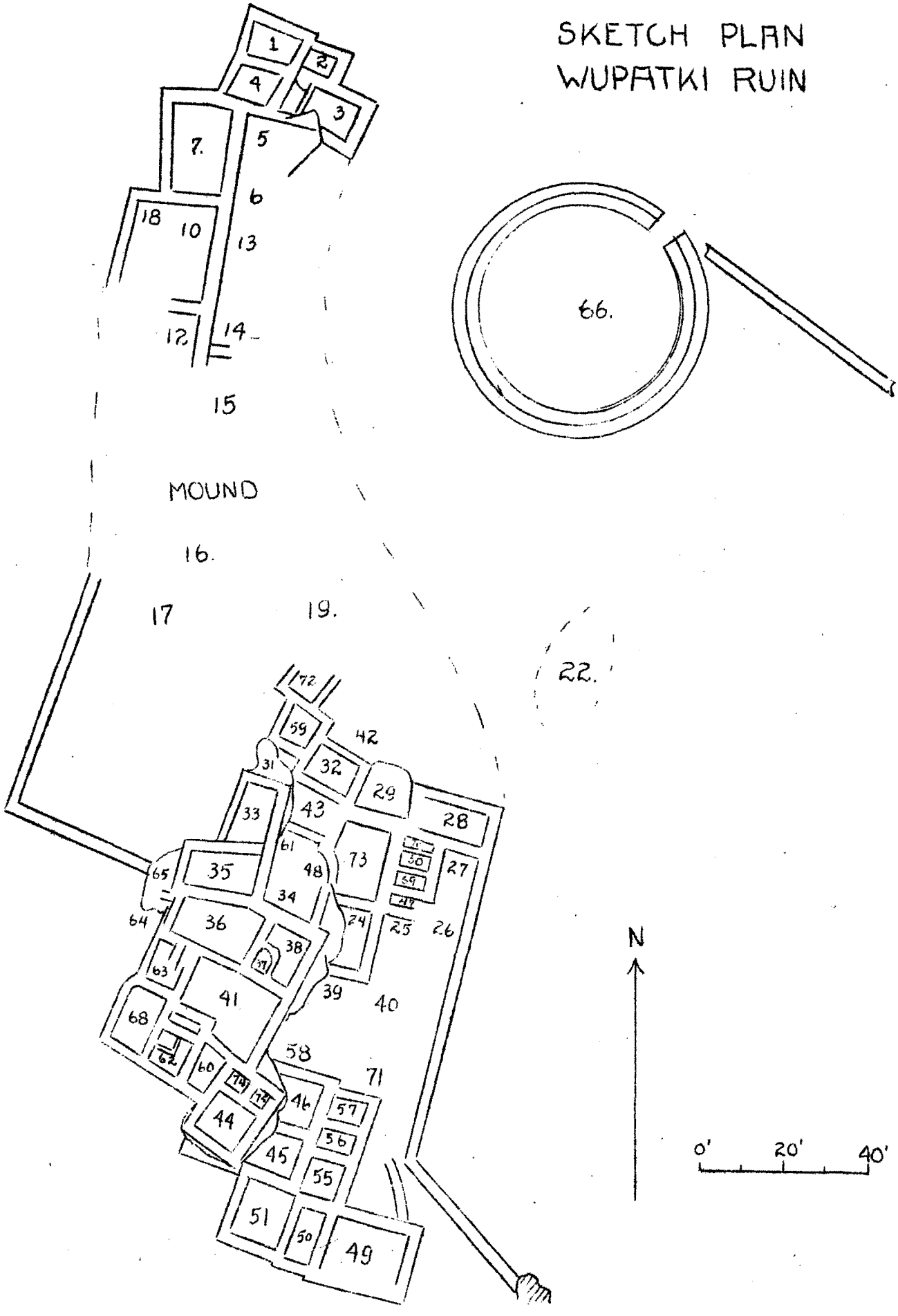
This list comprises only the essentials, but it might be unwise to take up more space or more of the visitor's time than necessary for this introduction; at Wupatki we would not plan a comprehensive outline of archaeology in the Southwest or of man's origins and earlier cultures; such a field is given more in detail in the Wayside Museum at the Grand Canyon and is not particularly pertinent here. As much introduction as we have outlined is, however, essential.

UNIT II**-Restored Room

With this unit we begin the specialized story of Wupatki itself. Following the trail from the parking area to the pueblo a good view of both sections of the ruin is seen; the first stop is at Room 44. This room is entered by a short ladder. It shows a roof of native materials and prehistoric type construction. The T-door and windows are authentic. Two storage bins approximately four feet square occupy the back of the room in much the original state.

From here the trail leads past the kiva on the southeast corner of the

# SKETCH PLAN
# WUPATKI RUIN



ruin, along the east side of the south group of rooms where a section of unexcavated ruin is seen, to Room 4 in the north group of rooms. This trail also goes past the amphitheatre.

UNIT III--Crafts.

Room 4, now restored, may be utilized for a series of exhibits showing the steps in manufacture of pottery, fabrics, stone and bone implements, etc. An exhibit of food-stuffs and their preparation may be included.

UNIT IV--Habitat Group.

Room 1, a second story room just north of Room 4, has been reconstructed so that it may be viewed through a window from a platform. In this room may be shown a loom, fire hearth, utensils, etc. in use.

UNIT V--Display of Artifacts.

Following the trail around the north end of the pueblo the visitor comes to room 7. This room has the north and east walls still standing; it is approximately 12 by 15 feet and could be reconstructed to house the main body of Wupatki artifacts. It would not be necessary to plan for exhibition of all the artifacts recovered from this site; good examples of each type should suffice. On a separate sheet is a proposed sketch of cases which would display artifacts to advantage in this comparatively small space. Known trade products might be noted here.

UNIT VI--Dendrochronology.

From Room 7 the trail leads south along the west side of the pueblo to Room 36. It was in this room that the beams which enabled Dr. Douglass to first date Wupatki were found; the room is already restored and seems a particularly suitable place for an explanation of this method of dating ruins. A picture of Dr. Douglass recovering one of the beams from this room illustrated his article in the National Geographic of November, 1929.

UNIT VII--Burial in Situ.

From Room 36 a trail goes to Room 67, a semi-subterranean structure west of the main group of rooms. While excavating this room's outside walls a burial was encountered; it was uncovered, treated with a preservative, and re-buried with the idea of sometime displaying it in situ. This could be done by uncovering and casing the area, replacing the artifacts found with the burial, and providing a galss cover for it, with a removable wooden door for protection. The artifacts included two bowls, beads, and turquoise.

UNIT VIII---(for consideration) Navajo Hogan

The presence of several Navajo families near the Monument make an exhibit of Navajo ethnology appropriate and possible. Visitors have been interested in visiting a nearby hogan to see the homes and weaving of these people. An authentic hogan might be built on the Monument near the trail which connects NA405 with NA407, the site on the mesa north of Wupatki. It

could be used merely to exhibit Navajo articles, or it could be provided with weaving equipment donated by the Navajos near the Monument and they could be encouraged to do their actual weaving there. If handled correctly this real life exhibit would be extremely interesting; if the women were allowed to sell their products to visitors who wanted to buy, there would probably be no difficulty in getting them to spend a good deal of their time weaving on the Monument.

SUMMARY

Visitors would see Unit I unescorted; on the tour of the subsequent units, the "field trip", they would of course be accompanied by a Ranger.

Possibly also belonging to the museum plan are the identifying tags placed on plants seen on the field trip.

CITADEL

Since we know of no arrangements for the establishment of personnel or museum buildings at Citadel, our plan includes only such photographs and maps as would lead the visitor on to Wupatki.

MONUMENT IN GENERAL

This plan would be incomplete without provision for a map showing all the sites on the Monument. Such a map might be shown in the registration room or lounge, where the visitor could obtain information about reaching those sites not included on trails or roads.

(Ed. Note: The following information was sent in by Brewer at a later date. It concerns Room 41 whose interesting exhibit might well take its place in the sequence noted above just before "UNIT VI" on page 78.)

ROOM 41

This is an unroofed room containing the best specimen of original laminated roof construction (fallen) that has yet been brought to light at Wupatki.

This exhibit is in situ and clearly demonstrates a roof type: i.e., that combining vigas, shakes, reeds (?), grass, and adobe applied in the order named.

The room also has an area of plastered wall.

The room level is that of a hypothetical fourth floor and commands an advantageous view of surrounding country and of the immediate lower rooms of the east side of the south unit.

The visitor, leaving Room 41 and having noted beams, as uncovered, next enters Room 36 and learns there the methods employed in dating like timbers. Before this room (41) can be used for exhibition the H-beam in hand should be installed under the west wall and a suitable approach constructed.

## THE TRAILS AT TSANKAWI

The trails at Tsankawi are ancient trails and deep,

And the trails at Tsankawi have a long, long memory
to keep.

Bare feet, and sandal clad,

Young feet and tripping,

Strained and tortured feet slipping

Beneath an ancient load,

Old feet and faltering,

Wooing feet beneath the starlit dome,

Solemn feet bearing the stricken warrior home,

And dancing feet ecstatic in the sun

Intimately scarred the mesa's rocky face

And vanished into Time's illimitable space.

The trails at Tsankawi are ancient trails and deep,

And deep is the mystery of the memories they keep.

H.M.M.

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For crying out loud! Here comes the Harvard College Library and the Library of the Superintendent of Documents at Washington, D.C., this last month asking us for copies of the "Epitaph of the Southwestern Monuments" which, you may remember, we discontinued publication on back in 1932.

We are getting interested. Are such organizations as this asking for copies and complete files of all these Nature Notes the various parks are publishing? If they are, what do they want them for?

Anyway, we have written them that the "Epitaph" is a closed volume, so to speak, but if they wanted to keep track of current events in Southwestern archaeology and the operation of the Southwestern Monuments we might put them on the mailing list of our monthly reports which covered the field after a fashion if they would make a special request for us to do so.

Are we wrong in thinking our special branch of work is far above the average interest to people and they want to share our fun in it, or is it just a case of something else they can get for nothing and they will ask for anything that costs nothing?

*******

Walt came back from San Francisco the other day and brought word from Two Pants Jim, the Engineer, that he had lost his other pair in a fire and was on a level with us common dubs again. It is all right---we will take him back into full fellowship and not bear any hard will against him for his flight into the upper realms of wealth. We will even go so far as to be glad it wasn't the pair he had on that he lost in the fire, which is being generous to an Engineer, isn't it?

*********

We don't know just why the Monthly Report got so absent-minded last month as to forget to mention Vital Statistics. Anyhow on January 13 a new Bud appeared at the Assistant Superintendent Bob Rose family. Her name is Helen Elaine, and she weighed eight pounds.

Following the same system of nomenclature, we should announce that a new Minnow arrived February 15 at the home of Ranger Frank Fish of Montezuma Castle. Her name is Frances Lee, and she tipped the scales at seven and three quarters pounds. Unfortunately, the name Minnow has been preempted by her elder sister Shirley, and we don't know what the diminutive of Minnow is unless it is Minuet, and that's such a poor pun we'd better not publish it.

We can't make the old crack about two new rangers, because these are Rangerettes.

Mothers and infants are doing very well, thank you.

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Notice recently was received at Headquarters of a new volume, "Spider Woman", by Gladys A. Reichard, Assistant Professor of Anthropology at Barnard College. Blurbed as "one of the most interesting studies of American Indian life that has yet appeared", the book will bear investigation, especially by Service men near the Navajo country.

MONTEZUMA CASTLE MUSEUM DISCUSSION by Earl Jackson

Dear Boss:

I am sending to you a museum study for Montezuma Castle National Monument which you requested because of my archaeological familiarity with that region. The study goes into some detail of layout arrangement, but is not complete in any sense of the word. I believe the ideas presented form a fully adequate skeletal structure for the museum exhibit plan, but I have nothing definite worked out as to what the plan of the building should be.

Let us for a few moments familiarize ourselves with the locale and atmosphere of Montezuma Castle. Here we have evidences of an aboriginal culture complex which are intriguing. Montezuma Castle is situated to the north center of the Verde Valley, which occupies the geographic center of Arizona. This valley, which once teemed with humanity , is bounded on the east by the Mogollon Rim, on the west by the Black Range, on the far north by the Tusayan Plateau, on the south by the narrow valley which the Verde River has fought through to gain the levels of the Salt River Valley.

These mountains and plateau regions effectively hemmed in the Verde Valley, much as sand dunes would protect and conceal a desert oasis. The valley was rich in natural resources, with ample farming land and water for irrigation, game in abundance in the nearby foothills, and salt. Salt mines were rare in the Southwest, and then, as now, Indians would go considerable distances to get that material. Salt draws trade as a magnet draws filings.

Geographically, the Verde Valley was bordered by great culture areas in prehistoric times. To the south lay the Gila-Salt River Valley complex, which saw the culmination of the Hohokam culture. To the southeast, across the Mogollons and in the Tonto Basin, flourished a related culture, the Salados. This group of people reached a high civilization, and acquired some of the eastern Arizona pueblo characteristics. To the north lay the great peoples of the Tusayan plateau, from whom appear to have evolved the Hopis. These in turn were connected with the cultures of eastern Arizona and Northwestern New Mexico. To the west, beyond the first upland of the Black Range, the Verde peoples were bordered by the relatively crude civilization of Chino Valley, which had trade affiliations with both the Gila and the Tusayan.

While the Verde Valley was close to each of the enumerated cultures, the mountain fastnesses made them difficult to reach save by a few trails, chiefly following water courses. The Verde River headed in the Chino Valley, and afforded a convenient passageway to the Northwest. Oak Creek Canyon, Beaver Creek, and Rattlesnake Canyon, were good general routes into the Tusayan to the north. From the Tonto travel may have been overland through the mountains to Fossil and Cottonwood Creeks. From the Salt River Valley passage was made with facility up the Verde River course.

We know civilization was very active in the Verde Valley during at least a part of the culture period of each of the other areas, and because we know this, it seems to me we could picture the Verde region as a hub, with four spokes leading outward to the four great cultures of its periphery; this visualization would not postulate a central supremacy over these other areas,

--instead it would show the integration of diverse cultural elements trade-driven into a vortex. It would show that when the four different regions got well organized in their trading they found the Verde Valley an admirable trade route, also a source of salt, and that trading led culture frontiers into the Verde melting pot, where they had to merge into a combined culture or fall entirely. The resulting combined culture, (built, we admit, upon a possible indigenous culture which may have reached a limited advancement prior to extensive trading) presented characteristics of each of the four important bordering areas, but was not dominated by any of these.

If the foregoing visualization of Verde Valley culture as a comples has been clear, my next suggestion will appear logical. We can conceive Montezuma Castle and nearby ruins to be quite typical of true Verde Valley culture, and in our museum there can carry out a graphic treatment of the whole complex.

Verde Valley archaeology should be presented in one large room , with exhibits from Montezuma Castle and nearby ruins occupying all case exhibits. To carry out our picture of the hub and spokes, we should have one of the two following arrangements.

A. Large charts, maps, and sketches, with ample printed matter, hung in frames, one frame to depend from each of the four walls at some point between exhibit cases. These charts would picturize in brief the stories of the respective four cultures, and would be in a shallow case so arranged that they could be swung from the wall on a swivel afrangement in rotation, as necessity for their exhibition would arise.

B. The same illustrative matter arranged on a rotating swivel about a central column in the center of the archaeology room. This suggestion is in line with an idea advanced by Robert Budlong in the January monthly report.

Such exhibit ideas for representation of bordering cultures should be very useful in Southwestern National Monuments. With charts, pictures, and written material we provide for ramifications in archaeologic interest which will be shown by a small minority of the visitors. This wider scope is given without necessity for presentation of material (usually limited in quantity) from other regions. Without actually bringing in specific artifacts from outside sources, we still can give a broad treatment of southwestern archaeology when it is required, at the same time keeping the informative charts out of the way of the proper local exhibits, inconspicuous but convenient.

The Montezuma Castle Museum should contain five rooms: a lobby, an archaeology room, an ethnology room, a laboratory, and a store room.

The lobby will be essentially the same in idea as that presented in the Bandelier museum study. It will be a place for visitors to lounge, and to gather pending regular guided ruins and museum trips. A part of the lobby should be divided off into a small reading room, wherein will be contained books, pamphlets, and literature dealing with the region. Walls of the lobby will be tastefully ornamented with colorful scenes and ruins pictures. Visitors will be free at all times to wander through the museum proper at will, but the lobby should be so comfortable they will not wish to wander until the museum attendent may show them through the exhibits.

Suggestions for the archaeology room have been advanced in brief.

The ethnology room will deal with the living Indian groups of the region. Apaches, Yavapais, Walapais, and Havasupais will be shown pictorially and through culture developments. They will be regarded as distinct from the Pueblo group of Indians, for the Apache and kindred types until recent times were nomadic and culturally unstable. Hopi Indians will be presented by rather complete exposition of their attainments, and some treatment will be given of Pima and Papago Indians by the same methods.

There is no need to emphasize the need of a good laboratory room. There is a wealth of artifact material available at Montezuma Castle, and this justifies the best laboratory that can be provided.

The storeroom should be spacious enough that material may be in good order and sequence, for it will frequently be worthwhile to take especially interested visitors or students through it.

Following is a detailed study to date for the Montezuma Castle Museum Exhibit Lay-out Plan:

Questions to be answered:

1. Who were these people? What physical type ? Compare with modern Indians.
2. Where did they come from, and when? When did they leave and why ? Any historic contacts ? Who are their descendents ?
3. What position in the New World culture scale did they occupy ?
4. Who were their enemies ?
5. Was theirs an indigenous culture, a borrowed one, or a combination ? What distinctive additions did they make to culture or art, if any ?
6. How many culture stages are represented in idealized cross-section of Verde Valley civilization ?
7. From whence came the use by Apaches of Pueblo Indian basketry ? What suggestions does this use lead to ?
8. What evolution is evident in weaving, ceramics, jewelry, and stone implements ?
9 What cultural and artistic evolutions have been carried out by their descendents ?
10. What were the chief foods of the people ? What crops did they raise ? What agricultural development ? What animal life was there ?
11. What kinds of houses were typical ? What evolutions in house type did they carry out ?
12. How do we know these people were great traders? What geographic factors influenced the high development of trade ? What native products (salt chiefly) made this a center of trade ?
13. What do we know about their social and religious organization ? Did they have kivas or modified kivas ?
14. If it is true some of the ruins near here were occupied, abandoned, and re-occupied, why did this happen ? Why do so many of the ruins in the region look as though they had been burned ?
15. What do we know of their ability in structural engineering ? (Principles used in construction of a great cliff-dwelling, for example,

showing batter, concavity of walls, etc,).
16. What do the interesting burial customs of this region tell us ? Why do we find cremations in one place, and a few miles north solely inhumations ?
17. How would this culture compare in extent, greatness, and elaborateness with the four bordering cultures ? (Tonto, or Salado, Gila and Salt, Chino, Tusayan.)
18. What is the geological story of the Verde Valley ?

ARCHAEOLOGY ROOM:

Models and Life Groups:

1. Relief map of Verde drainage. This map would include all the important topographic features, including each mountain range affecting facility of entrance into the region. On this map, in different colored lines, would be indicated probable migration routes into the section, and a color chart would correlate with colors the probable priority of cultural invasions. The map will include the principal archaeologic sites, colored in accord with migration lines, to show probable general period of occupancy.

2. Large Miniature of Montezuma Castle. This model must be accurate to small details, and must be so assembled that it may be taken apart and put back together by person explaining architectural features of the building. The purpose in having a good miniature model is to convey to those who cannot climb the ladders to enter the original a concrete idea of it from the ground. Also, in time to come wear and tear on the Castle structure will prohibit actual entrance by any visitors, and when that time comes, all explanations will be of necessity be given from the ground.

3. Model group of House Types. This group will present miniature replicas of all the house types known in the Verde Valley evolutionary sequence. Since no cave-dweller indications have come to light, the sequence will start with the pit-houses and crude rock shelters; next will come a unit-house surface pueblo type, along with the transition pit-house cliff-house cavate room type (exemplified in Montezuma Castle Lower Ruin); next will follow a small-house surface pueblo; lastly, a model of a large community house (Tuzigoot), and a representative cliff-dwelling of the same culture horizon as Montezuma Castle. All these models will be collapsible to the extent that the roof may be taken off, or the front, (as in a cliff-dwelling), and all details of floor and room inner structure made visible. Suitable legend will be attached to each house to give approximate time sequence.

4. Life Models. Life models will be places in the large model of Montezuma Castle. These will show at least two rooms with the family groups as they would be found in life. Individual models of people, to same scale, will be made for placement in different cases, to illustrate every important branch of activity. For example; in the pottery case will be shown a woman making a vessel; with the weapons will be shown a man returning from the hunt carrying a small animal.

Specific Exhibits, Charts, Sketches, and Pictures.

Case 1. Skeletal Material.

Exhibit skulls recovered from nearby graves; also exhibit good specimens of principal bones used in anthropometric measurements. Show complete skeleton (articulated) if possible to get a good one. Separate male and female bones. Separate specimens showing pathologic growths. Show separately (from existing material) several interesting cases in which individuals met violent deaths.

Chart showing two human skulls, male and female, and principal measuring points for racial and sexual criteris. Visitors have a great interest in learning how we tell sex from bones.

Case 2. Burials.

Exhibit one mummy (from existing material), and show a complete burial and funerary appurtenances in situ.

Explanatory sheet stating how natural agencies can effect complete dessication without dissolution.

Case 3. Ceramics.

Representative specimens for each type found at Montezuma Castle or in nearby district, shown in order according to sequential development. Sketches in case above each well defined pottery type, showing woman using vessel of that shape for specific function (pouring grain into storage olla, dipping water with a ladle, cooking with a cooking vessel, placing highly ornate decorated vessel in new grave).

Case 4. Textiles and Basketry.

Section a. Clothing.

Specimens of G strings, sandals (in chronological order of development), fibre skirts, cotton and yucca or apocynum fibre blankets or robes, fiber capes, etc.

Sketch of a man and woman attired in typical costumes of sandals, G string, fiber skirt, probably a cotton blanket draped over shoulders, necklace, and ear rings

Section b. Basketry.

Showing twilling, through twining, to coiling. Part of this display must include sketch of coarse twined grain basket, type, as charred specimen found could not be preserved. Basket weave will be shown in specimens showing all basket forms found, in addition to basket-weave matting or door-hangings, and use of same weave for burial shrouds will be indicated. A specimen of the modern Apache basket will be shown in comparison with the highest coil weave development found in near region.

Chart showing principal types of cloth and basket weave, shown as small sections, with warp and weft of neutral color, except for two illustrative strands, one of each, colored differently to show course through fabric. On chart should be marked types of weave found in this section.

Chart, similar to above, except that it should show variations in types of lace.

Section c. Miscellaneous.

Specimens of finely woven cotton hand bags (from existing material), crude skull-coils for use in carrying pottery or basketry on the head, and various small woven articles, some of which have not been identified as to function.

Case 5. Stone Implements.

Herein should be shown every type of stone implement serving a utilitarian purpose. Some trace of evolution will be evident in axes and corn gringers, and this will be shown by order of arrangement. Display should include essentially the following: manos, metates, axes, picks, hoes, small mortars and pestles for paint or nut grinding, arrow straighteners, hardheads (for pounding and shaping tools), vessel stoppers, whetstones, scrapers, borers, arrowheads, etc.

Three sketches should show how a water worn rock (gebbro or diorite) is smoothed, groved, and hafted to make a stone axe.

A sketch should show method of salt mining as done at the aboriginal mine six miles from Montezuma Castle.

One sketch should show position in which mano is held while grinding corn in a metate.

Sketches might show how a piece of obsidian is held against a flat surface and chipped with a piece of horn to make an arrowhead.

Case 6. Bone and Wood Implements.

Show first the materials from which the tools were made: deer horns, shin bones of deer (tibiae), rabbit radii, etc. Then will follow display of daggers, knives, scrapers, awls, needles, ceremonial whistles (or turkey calls), etc.

Diagrams will show manner of affixing arrowhead to arrow shaft, and manner in which hardened wooden end is placed in reed shaft.

Diagram will show use of spinning disc.

Wooden implements will be shown by such objects as: bow, arrows, daggers, awls, needles, (of cactus thorns), cradle board, flute (of reed), spinning discs (of bark) gourds (bottles, jars, ladles,) etc.

Case 7. Jewelry.

This will constitute a fascinating exhibit. It will be arranged as nearly as possible under three orders, but this cannot be followed closely. The orders would be : bone and horn, stone, and shell. Specimens of the raw material in each case will be shown. Then will be exhibited necklaces, pendants, ear-bobs, mosaics, etc.

One diagram with explanation showing sketches of common types of sea shells used, and explanations about trade value of such shells, and probable sources.

A small map showing know turquoise deposits of the Southwest, with explanation giving some facts about hardness of stone, religious significance, etc. Explanation of how turquoise is used in mosaic work on shell.

Case 8. Miscellaneous.

A great many small items will be difficult to classify, and will be fragmentary and doubtful. This case will provide room for these articles, and the space will be thus conveniently at hand when increase of museum material needs more good exhibit space. Two important classes should be identified at once, however, and these would be:

Section A. Ceremonial Articles.

Here would be shown a variety of articles, some fairly positive of identification, others decidedly problematical, all will be interesting. Ceremonial flutes and whistles, gourd shells containing body paint, sticks of mineral color, ceremonial paint grinders of stone, prayer sticks, tiny

fetishes or images, ceremonial rattle of dried skin, ceremonial paint sticks, etc.

A card containing explanation should stand back of the ceremonial articles. It should be brief, but should hit at the essential nature of Indian polytheism; how Indians worship by the commonest method, emulation or imagery, in which is depicted by concrete objects and actions the ends desired from the gods through propitiatory attempts. The nebulous meanings of Indian symbols should be strongly emphasized, and some of the commoner symbols of supernatural forces (natural to us) should be drawn.

Section B. Foodstuffs.

Here will be shown specimens of known foodstuffs found in ruins, as: squash shells, corn, beans, two or three varieties of nuts, etc.

Here will be a map of the portion of the Verde Valley adjacent to Montezuma Castle, on which will be shown that is known of the irrigation system of the aborigines. This will show a definite canal line from Montezuma Well, seven miles distant, to almost as far as Montezuma Castle, and will be very significant of the means to which Indians would go to secure irrigation of their crops.

A large photograph of a Beaver Dam, with a beaver visible, would tell much of how irrigation problems were solved in dry summer seasons

Section C. Dyes and Paints.

Certain pottery and textile paints have been positively identified, others are conjectural. Specimens of the raw materials for these should be shown, both in plant and mineral form.

A clay placque, on which will be painted strips of as many vegetable and mineral colors as can be obtained from the presumed original proceedures. These color strips will be identified as to nature, e.g: yellow ochre, before firing; red, - over-fired yellow ochre, or unfired hematite; etc.

ETHNOLOGY ROOM.

This will not be a large room, but only about half the size of the archaeology room. It would be inadvisable in such a locality to go into too great detail about modern Indian groups, for the reason that Flagstaff, 60 miles north, has an excellent museum giving very specific treatment of the culture of the Hopis. Montezuma Castle is situated in a region possessing a number of national Monuments, several museums, and possibilities of several others. For that reason it should restrict its exhibits to treatment of specific details of its own, to avoid repetition.

The Ethnology Room will contain four or five cases: a case for the Hopi, one for the Apache and other nomad groups, one for the Pimas and Papagos, and one for early historic material of the Verde Valley. Each case will give its complete condensed treatment, showing the cultural products of its group, as for instance:

The Hopi Case: Ceramics. The common types of pottery vessels made by the Hopis since beginning of historic times. These can be shown by actual specimens for late types, but pottery made before the Indian Uprising of 1680 will have to be shown only by sketches.

Sketches will show evolutions of design apparent since prehistoric times.

Basketry. The three types of Hopi basketry will be shown, and the materials from whence they are made.

Cloth. Types of weaves employed, and products.

Jewelry, ceremonial objects, dyes, medicinal substances, etc.

The other Indian groups mentioned will be treated in essentially the same manner. The case for Verde Valley historic material will consist of early relics of the pioneers, of writings and pictures in reference to the founding and defenses of old Fort Lincoln (Camp Verde), and other historic items of local interest. Local people have already donated certain interesting material to the present museum collection; this material, while ordinarily of slight widespread interest, would be so in this case, for the Verde Valley was the scene of important developments in the subjugation and civilizing of romantic Arizona.

The Ethnology Room will have ample colorful material in the form of sketches and studies of Indian house types, glimpses of domestic life, glimpses of ceremonials, with some explanations attached.

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## PRACTICE MODIFIES THEORY---

The one pretty safe observation I have been able to make on how the public will react in a museum is that you never can tell.

Another conclusion I have come to after a good many years experience is that you never know how flat a good idea can fall until you try it out.

I am reminded to make these pseudo-philosophical remarks by Dale coming in and telling me that he has shifted the museum collection around and we no longer have the "Index Case."

The Casa Grande museum is the laboratory where we try out all the wierd ideas that occur to us about handling museum exhibits. Most of them don't work but we figure that on a percentage basis all we have to do is keep trying and for every hundred failures we will get two or three successes. Our motto on this business of testing the public by actual trial is that we will try anything once and if the visitor doesn't act properly, the schome is a failure no matter how much it cost, how good it looks, nor who thought it up. Failures are so common that we have grave doubts about putting in special built-in cases and museum fixtures in our future museums and are going to appeal to the powers that be to absolve is from them just as much as they can. Especially is this true in an archaeological museum where you get all set to tell your story in a certain manner with the use of certain artifacts and in a certain sequence and then the excavator goes out into your field and digs up two or three sequences of pottery that shoot your pretty plans full of holes and you go out an tear up your museum collection and revamp it to fit the new set of facts. We know something about this because we have just such an episode as this right ahead of us. Now if you have built-in cases when this happens,

you can't move them along and put something new in their places. We ought to keep a museum collection in what we might call a "fluid" condition, subject to easy change. I am speaking now of a special sort of museum, a Southwestern Monument archaeological museum.

To get back to our "Index Case". We have a story to tell at Casa Grande of one tribe of Indians who came into the Valley a couple of thousand years ago and lived for a long time as pure bloods, not mixing much with their neighbors. Then another tribe came down off the high country to the northeast and mingled with these first people. Toward the end of the joint occupation some new pottery turns up. These facts have been worked out of the stratigraphy of the trash mounds and various villages occupied and abandoned at the various periods of the habitation of the Valley go to prove the stratigraphic tests.

One of our force conceived the rather brilliant idea that a display case could be arranged with the oldest types of pottery on the bottom shelves, the later types toward the middle, and the latest types on the top shelves---- each type of pottery accompanied by corresponding artifacts----the whole thing showing a sequence of chronology from the bottom of the case to the top just as might be shown in a test cut through a trash mound. Well, the lad who hatched the idea sold it to the rest of the fellows and we arranged such a case in the museum and tried it out on about 8,000 visitors,---and it was a flop. It went over fine with some of them, but too large a percentage couldn't get it all, or there was a sort of delayed fuse to it and you couldn't take time to explain it all to the point where you could get the result you wanted, so we condemned it.

That is why Dale just came in and said: "Boss, we just finished moving that pottery out of that 'Index Case' of yours and have shifted some of the other stuff around so it checks with the latest facts the excavators have dug up."

So the "Index Case" is in a sense a closed case; but it still looks like a good idea just to sit down at a desk and mull it over. But eight thousand visitors told us by their reactions that it was no good.

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## THE LADY OF THE PULVO BLANCO

(By H.S. Hunter in the El Paso Times)

Dear Mr. Hunter:

I have been listening to hear from you regarding "The Lady of the Pulvo Blanco," the mysterious woman of the White Sands. Editor Burke of Carrizozo rejuvenated the story. The Albuquerque Journal, Clarence Morgan and Bill Robinson each took a fling at it.

Now tell us about it. Who was she? Where did she originate? Early Spanish settlers say she has been seen many times and was well known to the first settlers. It is said she appears mostly at early dawn or between sundown and

dark.

The apparition is first seen at the top of a dune, always moving, sometimes moaning, and it was an early belief that she was hunting for someone.

Bill Robinson tries to explain it away with scientific reasoning, but it is too much like saying there was no Red Ridinghood and that there is no Sahta Claus.

What does the Southwest's leading historian know about the Lady of the Pulvo Blanco?

----Tom Charles, Alamogrodo, New Mexico.

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Dear Tom: Glad you came to headquarters for your information, rightly distrustful of the pseudo-scientific minds you mention.

The Lady of the Pulvo Blanco is a gypsy (not gypsum) sprite. White, fragile, tenuous, graceful, utterly and fascinatingly mysterious, she arises from the dunes of the White Sands at dusk or before sunrise like Aphrodite from the curving crest of Thalassa.

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Dancing, shimmering, beckoning, repulsing, the Lady of Pulvo Blanco treads her fairy measures on the spotless Sands. Hers is the grace and the poetry of motion. Hers the spirit of twilight and the stars, the night breeze and the rosy-fingered dawn. She is fantastic but wholly beguiling, bewitching, alluring to comprehending souls, Her beauty is ethereal, her charm entrancing. She is silent, ageless and serene, Her eerie dance completed, she fades from view. An instant one envisions her, and she is gone, fairy-like, vanished in the tumbled whiteness of the Dunes, yet haunting with fragrant memories any who have truly beheld her.

The Lady of the Pulvo Blanco, the gracious White Wraith of the Sands, long may her lovely apparition be seen and cherished!

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## BODIES OF FRANCISCAN PRIESTS REBURIED

On the morning of February 21, 1935, at 8 a.m. at the Mission of San Jose de Tumacacori mass was said by Rev. Francis Bree over the mortal remains of two pioneer Franciscan priests who long ago trod the desert valleys of this region working among the Indians. Following this brief mass the remains of Padre Balthaser Carillo and Padre Narcisso Guiterrez were escorted by three National Park Service men over the long 40-mile trek from San Jose de Tumacacori to San Xavier del Bac near Tucson, Arizona. Many times had these padres made the long trip by foot or horseback but that day they were taken over the same route to their last resting place.

The arrival at San Xavier might well bring to mind the arrival of these same priests in early days. Indians were stationed on the hill to the right of the Mission and upon sight of the precession were seen running down the hill to tell others of the arrival.

But this time hundreds of people including high prelates of the Catholic Church, Franciscan brothers, nuns of two Catholic sisterhoods (St. Josephs and Immaculate Heart), and many townspeople were here to welcome back these old Padres to the Mission which was once theirs. Two prelates of the church ---Most Rev. Daniel J. Gercke, D.D., Bishop of Tucson, and Most Rev. Edmund Gibbons, D.D., Bishop of Albany, N.Y.---joined with modern Franciscans in honoring the two pioneers.

The National Park Service men, Walter G. Attwell, Associate Engineer, Gene H. Gordon, Assistant Engineer, and Louis R. Caywood, Park Ranger, assisted by Mayor Henry O. Jaasted of Tucson escorted the bodies to the gates of the Mission where they were replaced by the Franciscan brothers,---the action significant of the transfer from the custody of the Federal Government back to that of the order in whose service the pioneers had labored. The bodies were placed before the Sanctuary where the services took place.

As the bodies passed down the Nave to the Alter a Franciscan choir sang the age-old Gregorian chant of the mass and burial service, a composition that has been used in the Church for more than 800 years. On the plain black casket resting outside the sanctuary rail were placed the symbols of priesthood - the golden chalice, the stole and missal. The casket was flanked on either side by burning tapirs. Three vetran Franciscan missionaries of Arizona assisted at the solemn requiem mass which lasted almost an hour.

Father Pudlowski preached the sermon which paid high tribute to these early Franciscan missionaries. Mention, of course, was made of the Jesuits who preceeded and in reality laid the foundation for the Franciscans. The Jesuits had been expelled after their long and erduous labors by Charles III of Spain in 1767. The Franciscans took over the work started by the earlier order. They went into the field in order to save the missions from the complete disintegration which threatened them.

Padre Balthaser and Padre Narcisso were not among the pioneers but followed in about five years, and labored in the field for almost a quarter of a century. From 1780 until 1794 Padre Balthaser Carillo was superior at San Xavier. In 1795 he died and Padre Narcisso Guiterrez took his place until 1799. The first gave 24 years of service and the second twenty odd. Father Pudlowski, on behalf of the order, thanked Bishop Gercke and Bishop Gibbons and the representatives of the Federal Government for enabling the Franciscans to bring the bodies of their pioneers back to their home mission.

Bisho Gercke, in his sermon, paid high tribute to the early padres, after speaking of their lives and work among the Indians, he said: "Today they have come back home to rest under the shadow of this mission they built and loved so well.

"The history of the missionary work of the Franciscans brings us back over a period of nearly 400 years, for only 47 years after Columbus set foot in America, Padre Marcus de Niza came to what is now Arizona."

Following the sermon and mass, Bishop Gercke donned black vestments and, wearing the mitre of the hierchy, descended from the sanctuary to bless the bodies of the pioneers with incense and holy water.

Finally, a procession was formed at the Altar headed by a Franciscan cross-bearer, followed by the Franciscans, bishops, priests, Park Service men and nuns who all escorted the bodies to the Mortuary Chapel just outside the Mission. There the grave in the floor was blessed before the remains of the Franciscan pioneers were laid to rest in their final resting place.

We, of the Park Service, who took part in the Procession from Tumacacori to San Xavier and the services following were much impressed by the sincerity and deep regard which the brothers showed during the elaborate requiem mass.

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---L.R.C.

## THE STORY OF MONTEZUMA CASTLE

Alone the Castle stands today---
Majestic in its silent reign
O'er all that's left in slow decay
Of a race long gone from its demesne.

A shell of life now dead and gone,
It seems to wait, in patience yet,
Return of spectral shapes anon
To live behind its parapet.

Five hundred years or more of dust
Has settled on it like a shroud,
And under this the dead intrust
All that they once held dear and proud.

The white man with destructive hand
Now reigns, in daylight, over all;
Who knows, though, but at night a band
Of shadow people to a call

May answer, and in darkness gain
Ascendancy throughout the night
O'er all their long lost domain,
To rule in silence 'til the light?

Perhaps in tribal council there
The spectral people gather round
A ghostly fire, beneath whose glare
They hear their chief his word expound.

Old memories they live with him,
Which bring the past again to mind,
And pierce the veil of night so dim
To see a day long left behind,

When, happy in the low lands dwelt
Their people, then a peaceful race,
Who farmed their land, and ne'er had felt
The scourge of War, nor seen his face.

'Til came a time when from the hill
A horde of savage fighting men
Marched down the slope intent to kill,
To burn, and pillage, later then,

To steal their women and their grain.
But here the valley folk gave fight,
Until their strongest men were slain,
And trampled by the horde outright.

One night the remnant of a clan
Crept forth from what had been a home
And fled from there, and thus began
An exodus---afar to roam,

Until at last, harassed, pursued,
On the side of a mountain stream,
They saw a chance to here exclude
Pursuers from a fort supreme.

Then forthwith hastened they to climb
A mighty slope, to find a place
Of refuge for the rest of Time
Within the caves; then turned to face,

Far down the slope, the climbing host
Which confidently sought their blood.

Instead, there struck on their foremost
A hail of stone which like a flood

Swept over them to deal but death
Throughout their ranks, 'til---in defeat,
They left. Above---with bated breath
---The cave folk watched from their retreat.

By this retaliation won
They learned a lesson in defense,
And also that retreat was done
When from the caves they made offense.

From that time thence, within the caves
Their children lived, and farmed the plain
Where lay in their ancestral graves
Those who, in that first fight were slain.

Their numbers grew, but caves were few;
For needed room they used the plan
Of adding walls---and thus the true
Cliff-dwellings humbly there began.

From such a start they built with zest
Their homes and forts of mud and stone.

Of all the Castle was the best---
A fortress which in time was known

To be the strongest then to stand;
In which its people gaine a height
Of culture which, throughout the land
In progress was the beacon light

For centuries, until befell,
In nature now unknown to man,
Calamity, in which the knell
Of their existence then began.

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Perhaps a last weird ghostly breath
The tribe then takes, for in the East
the light of day there spells the death
Of shadow folk---and so they've ceased

Their earthly rendezvous to hold,
Before the daylight to retreat,
To shadows which will there enfold,
Their remnant in a last defeat.

---Earl Jackson

## PRESERVATION PROBLEMS AT EL MORRO NATIONAL MONUMENT

(Note: The following letter, concerning preservation methods to keep incriptions intact at El Morro, from Custodian Vogt to Chief Engineer Kittredge, is appended because of its general interest.)

....To cover the past, as early as 1921, with the help and interest of Acting Director Cammerer, the Bureau of Standards began experiments on samples of the rock I sent to Washington. On the rock I carved a few words about the depth of the carving of the letters of the three-century-old Spanish inscriptions.

After several years of tests during which the action of rain, frost, heat and wind was studied by the Bureau of Standards, they finally recommended a number of commercial paraffin waterproofing materials.

Each of the companies making these materials sent me a sample of their product. In the hidden "L" of the cliff just off the present foot trail made during CWA last winter and south of the camping spot known as the Nine Fine Tree Cove I then carved the words "Colorless Coverings Save Old Carvings." Each of these words were then pencilled with the same kind of lead used to pencil out the letters of the old inscriptions. After blackening with the lead I painted the words with the five materials recommended by the Bureau. Each word was numbered and a record kept of the material used on each word so that after a period of observation a decision as to the best material could be made.

After the time had elapsed the Director sent Jesse Nusbaum (then at Mesa Verde) and with him and his good judgement it was decided that Dri-Wall made by the Billings Chapin Co. of Cleveland, O., was the material which was most effective on this kind of stone. There was very little coloration after a day or two, no chipping of the letters, and a good body to the material.

We have now been covering about twice a year all the Spanish inscriptions with Dri-Wall. Some of the Indian petroglyphs have also been covered with this paint.

As I have never delegated this important job to anyone I have had the opportunity to study the effect of this covering the escrituras with Dri-Wall very carefully. My conclusion is that it has been very effective in preventing wear of the inscriptions from the weather.

This is true, however---this summer for the first time the lead ran a little when the paint was applied giving a somewhat blotchy appearance to the inscriptions. I experimented with several different leads which Mr. Pinkley sent me and the lead still runs. This is a thing I'd not like since it spoils in a measure the outstanding clearness of the inscriptions.

The way it stands now I do not know if the running of the lead is due to the lead or to a change in consistency of the Dri-Wall. I will write to the Billings, Chapin Co. and see what they say and ask for a small fresh sample to test some. I have not covered all the inscriptions recently for the reason of this experience but had in mind going over the problem with Mr. Pinkley at thetime of his next visit.

I would also like to try on some obscure spot on the cliff the waterproofing material you mention having been perfected at Stanford. If you will send me a pint or so of this material we might find it most suitable.

About the time we were having tests made by the Bureau of Standards it was decided that in order to keep people from any defacement or vandalism it would be a good idea to dig a trench along the face of the cliff wide and deep enough so no one could handily get up to the surface with their chisels and hammers to carve their names.

The very first day this work was started in front of the inscription of Governor Juan de Eulate, 1620, the men got down about four feet and were widening the trench to about six feet. Suddenly there was an ominous crack and rumble. Looking up we noticed that the cliff had cracked alongside this inscription, that there was a very slight settling of the slab--and slab it was---and even the suspicion of a bulge below the old ground line. For the first time we noted that this inscription as well as others farther east was carved on a slab some eight inches or a foot thick, perhaps, and that one could place a hand back of the slab just at the west end of the famous lines of this 1620 carving. Evidently the plan to secure protection by a trench was a mistake since by so doing we were weakening the slab which might at some time be forced off through rain freezing back of the slab.

Jesse Nusbaum came down pellmell after I wired Mr. Albright what was taking place and he recommended against the trench and suggested the placing

of a concrete toe against and under the inscription to give strength to the slab. This concrete toe comes above the ground some 18 inches or two feet and does not add to the beauty of the piece but it certainly has helped in supporting weight.

The matter of tying this slab into the cliff by placing some stainless steel or bronze bolts has been discussed and considered by many Park Service Engineers, landscape men, and officials. I have gone so far as to get an opinion from the Bureau of Standards as to the right kind of metal to use for tying the slab into the great mesa thus tending to prevent the falling of the slab with the resultant loss of the priceless history it bears.

Another thought suggested was the shooting of concrete back of the slab completely filling by a pressure pump all space back there.

Still another thought discussed has been filling the crack 100 feet above the ground with concrete to prevent flow of rain water shedding off the great cliff and into the space back of the slab. This would prevent the accumulation of water which might freeze and force through expansion the whole mass forward and away from the cliff so that it would fall and be broken into many pieces.

I do not know if you noted in Supt. Pinkley's report that during our short FERA program this summer while supervising the trail work goingon I found time to build a scaffold in front of the Governor Manual de Silva Nieto inscription, date 1629. This enabled me to carry out the plan suggested by C. Richey of the Landscape Division of carving a sloping water course above the inscription from a fold in the cliff above and at the west end of the inscription in sucha way that the rain water is caught anf carried around and away from the top line.

The first line was being washed by the rain and has grown dim over the course of centuries. This step was most carefully done. It was not undertaken until after a test carving of the same length, depth, and degree of slope was made on one of the great boulders lying below the inscription some 50 feet. After the success of the test carving was made we carved the trough above the inscription. I photographed this work as it was being done. Afterward I used copperas water to bring back the natural color of the rock so that now very few people notice the effect of this job on the stone.

It might be mentioned here that the spots caused when some years ago I had Willard Lee of Ramah take off all the names of moderns near the old inscriptions have now almost taken the color of the surrounding stone surface. So we know it does not take many years for the effect of the weather to bring back the richness of the natural color of our monolith.

Under CWA and again under FERA we had hoped to build up natural barriers of native plants, like cactus, rose castilla, chamiso, yucca baccata, against the cliff where we were also going to place great boulders of natural and similar color thus forming a most effective barrier of protection to the history contained in the inscriptions.

I do not feel that we should cover the inscriptions with glass but that

the plan of placing natural barriers and plants as above outlined should be the plan to follow. This can be done any time during spring, fall, or summer season and should be done as soon as possible.

And in order to offer a place for more people to stand and view the inscriptions and listen to the Custodian or Ranger the area of standing room in front should be greatly widened. Last summer was the first year college crowds came to any extent. In the future we can expect not only groups of college students but societies of all sorts to come and want to be told about the place. They will number groups of 50 and perhaps 100 and they will want to go together.

With a supply of rangers these groups might be split up but at that we will need much wider viewing areas and I am very much in favor of doing this work at once if there can be a way found to do it.

The greatest need at El Morro is everyday protection and supervision. The presence of a man there all the time who is really interested in the place can do more than all other measures to prevent any vandalism.

The escrituras are the only old Spanish inscriptions, I believe, in the world. I think we are accountable for their preservation. I have often been asked what we are doing to protect them just as you have, Mr. Kittredge. I can only tell them the story as above related and say that we have tried to do all we could with our limited means.

It is just plain luck that great damage has not been done. We do not know how long this luck continues.

You know I spend all the time there I can. Even Sunday I went out through the mud and found that there was not even a track to break the crusted snow on the north side. No one had been there for perhaps six weeks. The weather made it impossible.

In front of the visitors register my car broke through the crusted snow and I found it very hard to get out.

Coming home with my son and one of our little girls in late afternoon ---for I checked over fence, trail, inscriptions, erosion, etc.---the ground on the road had thawed so that we got stuck and spent three hours in one soft mud hole before we were able to extricate our car by packing no less than 1,000 pounds of lava rock and many armfuls of brush. We jacked the car up and built a road under it so we could pull out.

The road is now about dry and I expect visitors every Sunday if it does not storm any more.

I thank you for your interest and thoughts about my Monument and I hope that through it we may come to better protection of its treasures.

Sincerely,

E.Z. Vogt, Custodian

## IS FATHER LAMY'S NAME ON EL MORRO?

(Note: In response to an inquiry of Brother Claudius Anthony of St. Marys College, California, Custodian Vogt of El Morro wrote the following letter, which may be of interest to some of the readers of the Supplement.)

---

....Now in regard to Father Lamy (the Latour in Willa Cather's "Death Comes to the Archbishop") and his name on our Rock, I am sorry to say that I cannot find the name. Last August I made a very careful survey of every name on the cliff and listed some 390 names which include immigrants, army men, privates, officers, engineers, early settlers, and explorers. These names were pit on the cliff between Lieut. Simpson's discovery visit in 1849 and the 1890's and there are few since that.

Ther are two names which might be Father Lamy's. One is J. Lay. This might be J. Lamy. The other is J. de B. and is carved in an indented frame in the stone but it is dim, especially the name, which I was unable to decipher. Both of thse names are in the "Rincon como una naranja" as General De Vargas called it in 1692. This cove "like an orange" in shape is the heart of the old camping place of the conquistadores as well as most of those who have come since and used the sheltering arms of the cliff as protection from wind and storm as well as enemies. The water was located in this great cove which is a natural catchment basin or aguaje.

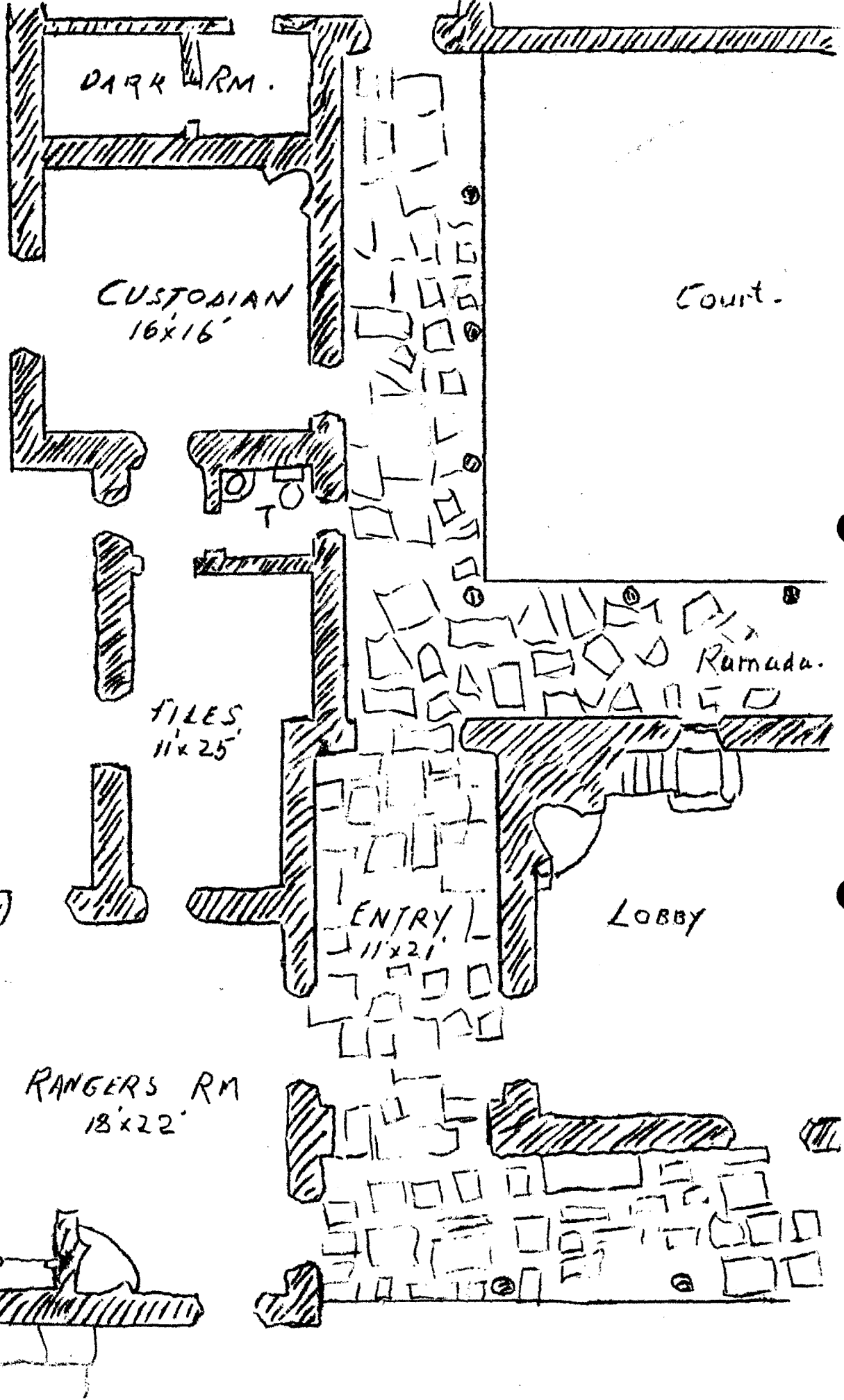
While in prehistoric and possibly historic times there was little sand in the cove, yet when I first saw it some 25 years ago there was a complete fill of sand overgrown with grass and weeds. The names, of which there are many carved around the walls of this cove, were chiseled in while the carvers stood on the ground or on improvised ladders since it seems to have been the purpose of many to get just as high as possible with their names and dates.

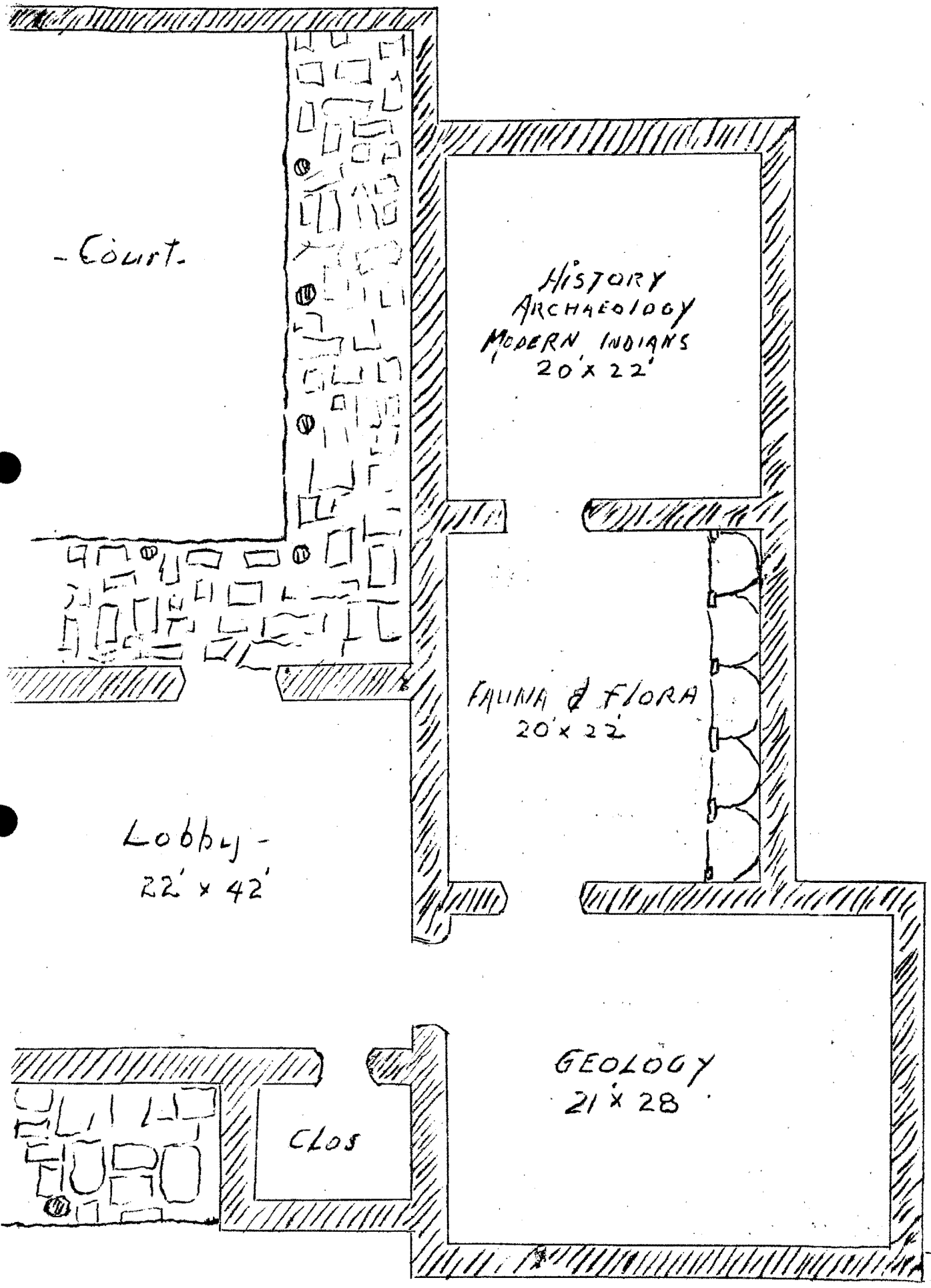
Now the notes I have seem to show that J. de B. was carved in 1880. I can check this in the next few weeks as soon as the great snow fall of the last few days (Note. Letter is dated Feb. 14) melts and the road dry up. You will recall that my home is one mile south of Ramah and about 13 miles from the Monument. The travel is completely at a standstill now. In fact, the mail is being packed out to hinterland post offices on horseback. As soon as I can get out to El Morro I will take a ladder and check both of the names which look somewhat promising.

I note that Judge Warner is to write a history of Archbishop Lamy. Does he happen to know if Bishop Lamy passed through here in 1880? He might have been going over to inspect the missions at Zuni or even those of Hopi Land.

No doubt he knows about Father Lamy's convent just above Lamy at the mouth of the canyon and on the left bank of the creek. Some years ago I used to punch cattle and also take sheep herds through there and there was a great ruin of a large building. The natives told me it was the work of Father Lamy. I do not know if there is much left now but I could look when I go to Santa Fe . What is left there could be photographed. Perhaps, though, Judge Warner has already done this.

Chas F. Lummis in his Mesa, Canyon, and Pueblo says the name of Father Lamy does appear on El Morro. I am sure if there it is quite dim. E.Z.V.


DARK RM.
CUSTODIAN
16'x16'
Court.
T
Ramada.
FILES
11'x25'
ENTRY
11'x21'
LOBBY
RANGERS RM
18'x22'


- Court -
HISTORY
ARCHAEOLOGY
MODERN INDIANS
20' x 22'
FAUNA & FLORA
20' x 22'
Lobby -
22' x 42'
CLOS
GEOLOGY
21' x 28'

DISCUSSION OF STUDY SKETCH FOR PROPOSED WHITE SANDS MUSEUM by R.H. Rose

(Note:On the preceding two pages you have noted a rough tracing of a study sketch for the Proposed Museum at White Sands. The doorway of the Dark Room leads into a Work Room not shown on the tracing. This room is 16 x 25 and is equipped with sink. Not shown on the tracing are the Rest Rooms which are to the left of the Rangers' Room across the Entrance road to the Sands which lead past the Rangers Room, Files, Custodian's Office, Dark Room, and Office.

The sketch study plan was prepared fy Leffler Miller of the Berkeley Office, and we like it so well we are printing it here so the rest of the Southwestern boys can see it. The following are Bob Rose's comments.)

---

....I am sending herewith two study sketches on the proposed Museum and Administration Building for White Sands. You will notice that one proposes development of the second story for rooms, offices, etc., while the other consists chiefly of a development of exhibit rooms around a patio. These are merely study sketches of the most preliminary kind and the matter of windows, doors, etc., will be given more careful attention by Leffler Miller when he prepares subsequent revised sketches.

I strongly favor the one-story layout developed about the patio. Architecturally, it is more suitable. It carries the suggestion of Spanish architecture whereas the two-story plan would appear to suit some area to the north much better....

On the one-story plan I suggested putting the Custodian room where Rnagers' Room is shown. For a long time there'll be but one or two men and they will be to the front anyway. The Custodian Room on the plan ought to be retained, however, for as soon as there are three or more persons on the staff there, we will wish to goodness we had the room.

The part labeled "Entry" seems desirable, though the cost is increased somewhat by including it. A sweeping view down through the flagstone paved colonnade would be effective. It does not spoil the Lobby at all, and gives the suggestion of Spanish effect and reveals the existence of the Patio immediately.

Probably more important than anything thus far suggested is the point that this Entry, though costing a little more, makes possible a more sizeable Patio. If we could not get a patio as large or large than the Court as shown, I do not believe we would want one at all. It is this point that inclined me not to object to the little extra expense that would be involved.

I have suggested a door to the "History, Archaeology, Modern Indians" Room opening to the Patio and toward the far end of the room. The matter of the Balcony to be included above Entry makes possible (1) uniting architecturally the Museum and Administration wings of the Building; and (2) the introduction of variation in the exterior to break the monotony a strict one-story Spanish style structure would have.

I think, considering what we know of the noise and other objectionable points to bringing the Rest Rooms close to the Lobby or the exhibit rooms, the idea of having them removed and yet in plain view is good. Brought adjacent to where groups will be going back and forth just hardly seems as desirable as having them removed a little.

Practically all exhibits that require painted scenes as backgrounds and dioramas and miniature groups, etc., such as we will likely have in the Archaeology Room function far more satisfactorily with indirect lighting. This was true in all the museums in San Diego, Los Angeles, and Santa Barbara that I visited. Some of the most illuminating exhibits educationally that I saw in these places would not have been possible, or would not have been at all satisfactory to say the least, had it not been for indirect lighting. It occurs to me, after seeing these museums, that it is very essential that a hand-in-hand advancement of the development program such that when museums are provided for in one setup, a suitable light plant comes in another, should take place. In nearly all cases the light plant will have been needed for the residences and utility buildings long before museums are constructed anyway. Probably by careful management these lights could be turned off while caravans were afield, or according to some other plan, and a light plan would not be worked all the time. After seeing these museums it would hardly seem desirable to prescribe doors, windows, and skylights in a new building as a temporary measure to serve until power for indirect lighting is available a few years later, at least not prescribe such sources of light beyond the point of being easily corrected for indirect lighting when power becomes available. Therefore it seems desirable to consider that ultimately we are going to want indirect lighting in at least some of the rooms. Indirect lighting would probably never be desired in the Lobby so doors, skylights, etc., would be considered for our museum Lobbies in any case.

*****

## A FEW FIGURES

We present, on page 104, the Casa Grande February Trip Chart. This chart shows the trips by days, the length of the trip being shown by a short black line, the ends of the line showing the minute the trip began and ended.

A study of the chart will show that one man could handle the traffic between eight and nine o'clock except for four days when the second party overlapped the first a little before the hour and poor service would have been delivered.

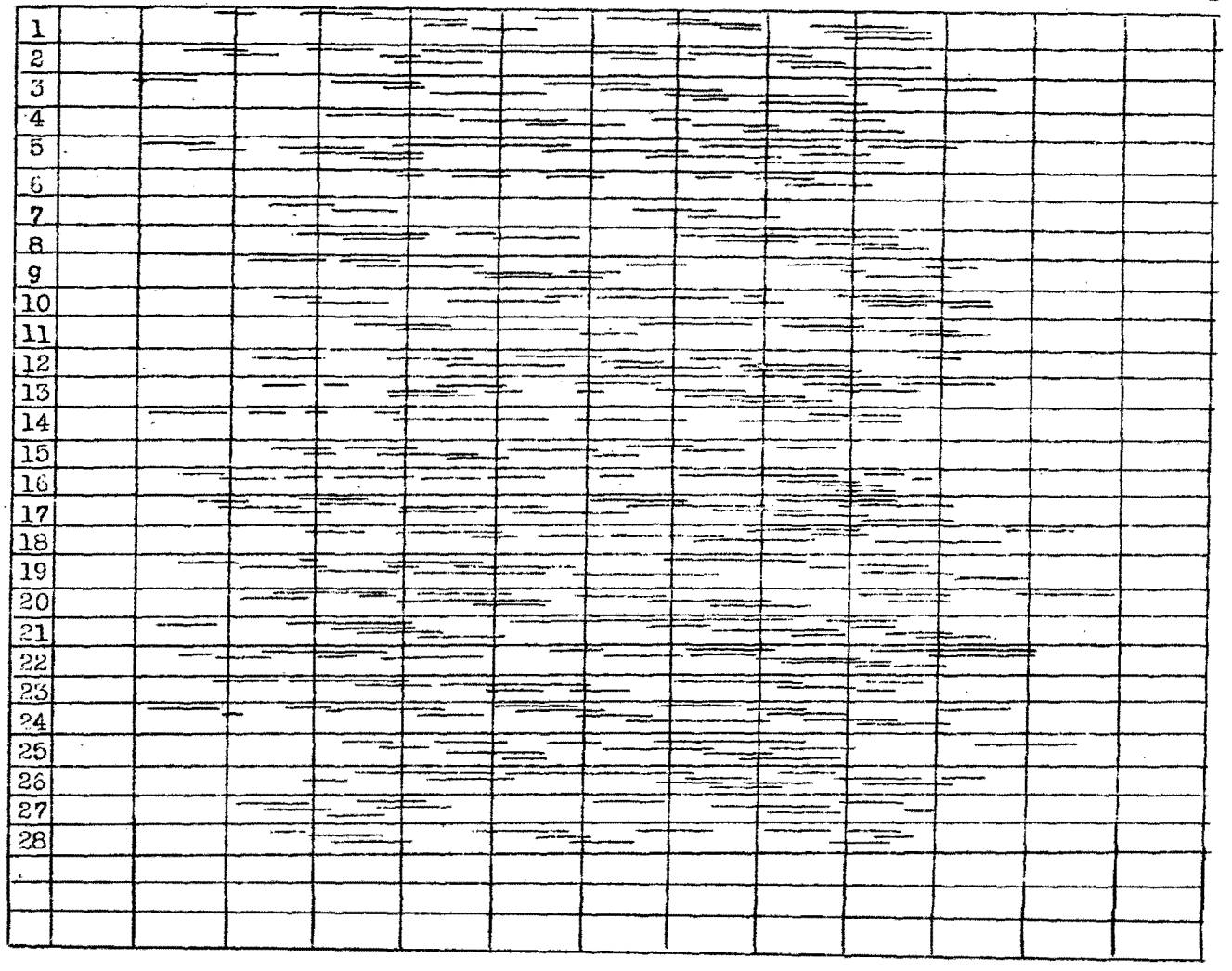
Since, with two men on duty, one man will be gone from 11:30 to 12:30 and the other from 12:30 to 1:30, it follows that any time between 11:30 and 1:30 when we have two lines overlapping we are delivering poor service. Run your eye down this two hour column and you will see this happened several times during the month.

The end of the day has lengthened out, due of course to the elngthening hours of daylight. The latest party left a few minutes before seven on the 20th. Three parties on different days remained until 6:30 or later.

With two men on the job, allowing eight hours per day, one working from

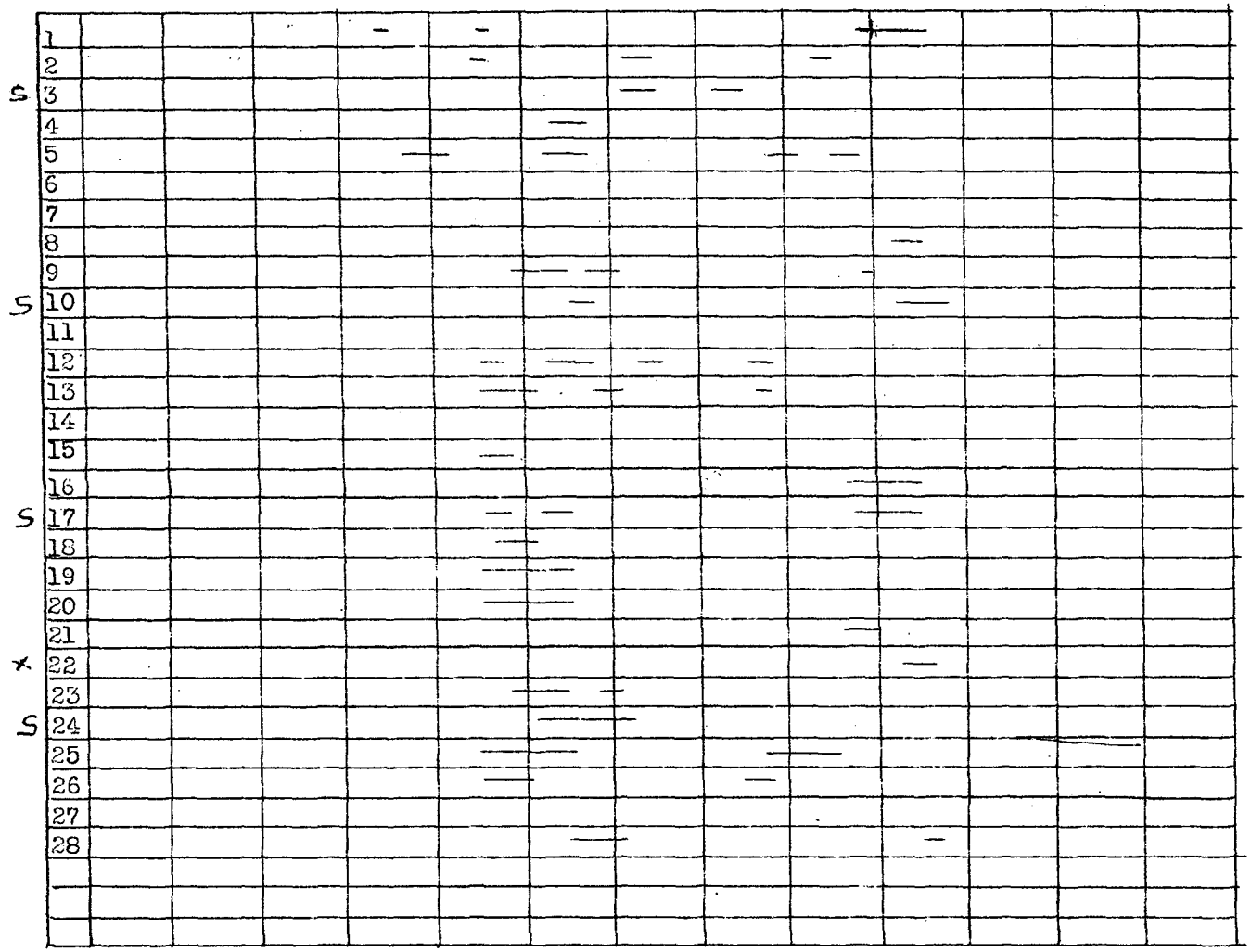
# CASA GRANDE FEBRUARY TRIP CHART

7 8 9 10 11 12 1 2 3 4 5 6 7 8



# CASA GRANDE POOR SERVICE CHART

7 8 9 10 11 12 1 2 3 4 5 6 7 8



eight to five and the other from nine to six, we would have had to close the front gates at 5:10 in order to finish the last party by six o'clock. Four parties would not have been able to enter who did enter and get service with the gates open.

If you will compare this with the January Trip Chart, shown on Page 51 of the January report, you will see that the time of the first party has spread back close to eight o'clock instead of around 8:30 in January and the time of departure of the last parties has spread a little more toward 6:30.

"Bunching" of the parties is not so pronounced as in the winter months, probably due to the fact that with longer hours of daylight parties are distributiong themselves a little better. If you hold the chart at arm's length and look at it as a mass, you can see the afternoon "bunching" starting at a little after four on the first and zig-zagging down the chart between three and five o'clock.

We have made up a Poor Service Chart for Casa Grande which shows those times each day when two men were unable to handle all parties on the ground in a satisfactory manner. The chart is made up from a study of the Trip Chart. With two men on duty, whenever three lines overlap on the Trip Chart, poor service is inevitable, and between 11:30 and 1:30, whenever two lines overlap on the Trip Chart, we are delivering poor service because one of our men will be gone to lunch. It will be seen that the poor service groups between 11:30 and 1:30 and between 3:00 and 5:00 in the afternoon. We have marked the Sundays and Washington's Birthday and you will note that poor service does not peak on those days as you might have supposed it would.

By an addition of these poor service periods we find we would have delivered a total of 1,030 minutes of poor service with two men on duty during February if both men had worked the straight 28 days. This means 17.1 hours or a little better than two days of poor service out of the 28, if both men worked 28 eight-hour shifts.

The days are lengthening out and it will be interesting to see what these charts show in the spring and summer months.

*****

## SUBDUED MUTTERINGS FROM CANYON DE CHELLY

Boss, in the last monthly report Charlie Steen expressed the hope that I would rise up in wrath and tell Jackson at Montezuma Castle he isn't the only one who has a cliff dwelling at hid Monument; and then C.S. went on record about his few cliff dwellings.

Well, I wouldn't even take the trouble to quarrel with either of them. But I do agree that both of them have fine, well-preserved cliff dwellings ----Jackson one good one and a couple of holes in the rocks he calls cliff dwellings; Charlie Steen a number of fair ones.

And I would remind them that up here we have something over 200 of them, at least, though it is true that most of them are now in ruins, and the others

fast becoming that way. I do not extend invitations to either of them to come here to see our ruins, however, because what may be a fine cliff dwelling today, may be just another pile of rocks tomorrow. They forget that they have had appropriations for repairs to their cliff dwellings; that both Montezuma Castle and Tonto Ruins could be parked in one place, such as in and around Antelope House, and you could hardly find them on the map of this Monument; that if both their Monuments were in one place, one man might adequately protect both of them, and make a stab at taking care of visitors, and throw a little discouragement into vandals.

Up here we have no funds for repairs to our ruins; no expectation of getting any the coming fiscal year; the Monument is so vast that it will take a whole flock of Rangers properly to control our visitors (the present Custodian having run himself ragged last season, trying to be in a dozen different places, all at the same time, and now wondering just what will happen the coming year, with increased travel); and the few spectacular, partially-ruined cliff dwellings we have remaining are rapidly going to pieces.

All those two men have to do is to sit in a little house and wait for the visitors to arrive. But here we have to be in a dozen different places at once, lookinglooking everywhere for the elusive visitor, who can get on the Monument by any one of half a dozen different routes.

So I won't quarrel with either Jackson or Steen. But one of these days we may have adequate personnel here (probably when it is too late), may have our ruins somewhat stabilized, be able to prevent vandalism and properly take care of all visitors; then I'll ask both Jackson and Steen to pay this Monument a visit, and see, not just one little group of cliff dwellings, representing but one small period in Southwestern archaeology, but many dwellings, many burials, many artifacts, in the richest archaeological site in the United States, bar none, where all periods, both Pueblo and Basketmaker, are represented. Then I won't have to argue with them, for the evidence will permit of no argument.

And another thing: I wish that Earl Jackson, up at Bandelier, had continued his remarks made at the close of his report, wherein he spoke of the white man's ancestors eating their meat raw, and dominating their wives. If he has the slightest doubt that the dominating of wives has become a thing of the past, and wishes enlightenment on the subject, he might enter into some personal correspondence with me. From the last reports I had, Earl is still single. But I have been married for over three months.

----Robert R. Budlong, Custodian

******

EXTRACT FROM A NICE "THANK YOU" LETTER TO DIRECTOR OF NATIONAL PARK SERVICE:

"...During last summer we drove over 4,200 miles and visited 15 national Parks in the Southwest. At each and every one we were very cordially treated by the Rangers. In fact, if we had employed these men ourselves they could not have been more courteous or considerate of our welfare nor supplied us with more helpful information as to roads and points of interest. The best man was at Inscription Rock." *****

Orchids to Temporary Ranger Alfred Peterson. You will remember, Chief, he was the man refused entrance into the Service five years ago--he was an inch short.

*****

And now we bring this report with its supplement to a rather regretful close. While there is a lot of hard work about it, it is always a lot of fun to get out the monthly report.

Reports from the men in the field will bear reading by anybody either inside or outside the Service.

Adventure is not gone out of the Service as long as you can shake hands with disaster or death in the run of the job as Earl Jackson and his companion did this month....

Romance has not died as long as Jimmy and Sally Brewer are snugly tucked away from the wintry weather at Wupatki in a room which the Archaeologists say was moved into by a little brown-skinned Hopi couple about 806 years ago....

Interesting scientific reserach has not been completely walloped by the ol' Bugbear Depression as long as Paul Beaubien continues to wrench knowledge about the old Spanish padres out of dirt-filled rooms in mounds at Tumacacori....

Hardship has not subsided as long as Bud's mailman can get stuck on the mountain for six days, E.Z. Vogt has to buck snow for six hours to travel 40 miles, the Brewers fall into a snow-filled hole and are faced with the necessity of stumbling almost 30 miles to Flagstaff at night if some kind-hearted motorist does not pick them up....

What I want to point out with all this, Chief, is that we have an aggregation of folks in this organization who are here because they can take it---and I mean the Honorary Custodians and Rangers Without Pay just as well as the ones who are on the payroll. We need more personnel, but it must be a picked lot; the "bright light" type, which must have its movies, fades out of our picture pretty fast. We have no place for the ranger who sees only the pretty girls. The "Bughunter" ranger is welcome---more than welcome---if he can take it along with the rest of us, but we are under pioneer conditions in parts of the Southwestern Monuments and the very finest personnel is none too good.

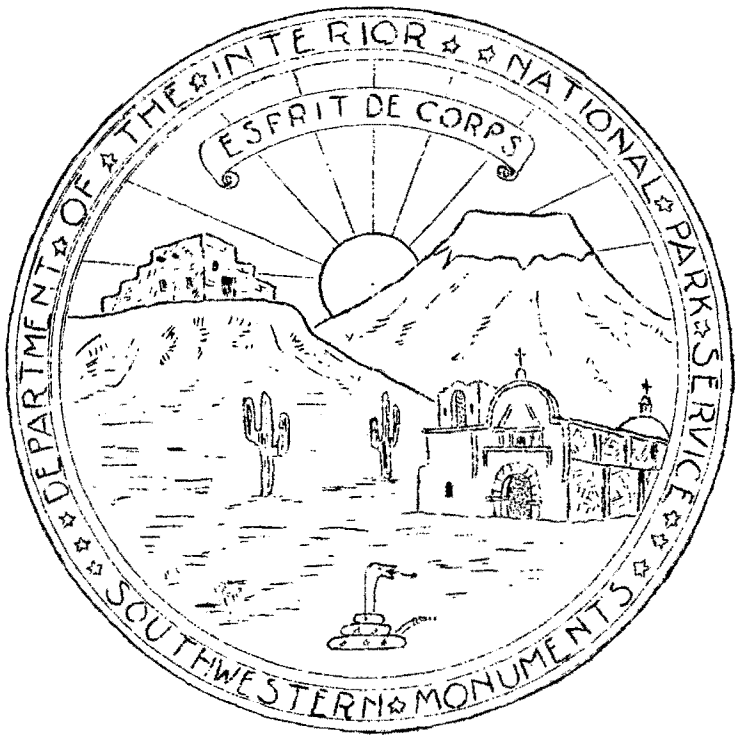
And from the comments we get on the Monthly Report, it seems other folks also chuckle over the stories as they issue from the pioneering Custodians and Rangers.

Cordially,
Frank Pinkley.

# SOUTHWESTERN MONUMENTS

# MONTHLY REPORT

## MARCH 1935.




DEPARTMENT OF THE INTERIOR

NATIONAL PARK

SERVICE

S O U T H W E S T E R N  M O N U M E N T S

R E P O R T  F O R  M A R C H

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## SOUTHWESTERN MONUMENTS PERSONNEL

HEADQUARTERS Southwestern Monuments, Coolidge, Arizona. Frank Pinkley, Superintendent. Robert H. Rose, Acting Assistant Superintendent. Walter G. Attwell, Associate Engineer. Dale S. King, Junior Park Naturalist. Hugh M. Miller, Chief Clerk. Robert Cole, E.C.W. clerk.

GENERAL FIELD MEN: Harry Langley, Assistant Landscape Architect. Charles A. Richey, Junior Landscape Architect. J.B. Hamilton, Assistant Engineer.

FIELD STATIONS

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, Custodian.
4. Canyon de Chelly---Chin Lee, Arizona. Robert Budlong, Custodian.
5. Capulin Mountain---Capulin, New Mexico. Homer J. Farr, Custodian.
6. Casa Grande---Coolidge, Arizona. Hilding F. Palmer, Custodian.
   Louis R. Caywood, Park Ranger.
7. Chaco Canyon---Crownpoint, New Mexico. Thomas C. Miller, Custodian.
8. Chiricahua---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---Moccasin, Arizona. Leonard Heaton, Acting Custodian.
17. Rainbow Bridge---No Custodian.
18. Saguaro---Rt. 2, Box 654, Tucson, Arizona. Charles Powell, Custodian.
19. Sunset Crater---Flagstaff, Arizona. No custodian.
20. Tonto Cliff Ruins---Roosevelt, Arizona. Charles R. Steen in charge.
21. Tumacacori---Box 2225, Tucson, Arizona. George L. Boundey, Custodian.
    Martin E. Evanstad, Park Ranger.
22. Walnut Canyon---Flagstaff, Arizona, J.W.Brewer in charge.
23. White Sands---Alamogordo, New Mexico. Tom Charles, Custodian.
24. Wupatki---Flagstaff, Arizona. J.W.Brewer in charge.
25. Yucca House---Cortez, Colorado. No custodian.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
SOUTHWESTERN MONUMENTS

Coolidge, Arizona
March 1, 1935

The Director
National Park Service
Washington, D. C.

Dear Mr. Director:

The first two pages of this report consist of a condensed resume of activities over the whole Southwestern district.

WEATHER AND TRAVEL

Weather taken generally for the Southwest was bad in New Mexico, northern Arizona and southern Utah with visitor travel in direct ratio to weather conditions. Rain, snow and wind kept visitors out of the monuments in New Mexico and northern Arizona while the spring-like weather of southern Arizona brought an increase in travel. Only a few days were bad in the south with some rain which started the desert regions to burst forth into bloom.

Casa Grande experienced almost a 20% increase in travel over March of last year. Both Phoenix and Tucson have had record breaking travel this winter. As Casa Grande National Monument lies on the direct route between the two cities it gets a great number of those traveling through.

FIELD TRIPS

Chief Clerk Miller left headquarters March 7th on official business for Bandelier National Monument in connection with ECW work, returning to headquarters March 14th. He was accompanied by. J. H. Tovrea, Engineering aide.

Superintendent Pinkley and Junior Naturalist King left headquarters March 22 for White Sands National Monument to meet Assistant Director Tolson and accompany him on a tour of Southwestern Monuments.

CONSTRUCTION

The contract work at Aztec National Monument has been completed. The welding of cattleguards has been completed at Pipe Springs National Monument.

SOUTHWESTERN MONUMENTS GENERAL

E.C.W. ACTIVITIES

From the reports of Project Superintendents Chase of Bandelier and Hammond of Chiricahua the following itemized progress reports have been taken:

Bandelier

1. Pouring of foundations for a two car garage and a fuel room building.
2. Completion of public camp ground comfort station.
3. Planting around parking area to hide scars and landscape grounds.
4. Completion of fourth cattleguard.
5. Dismantling of sheds and corrals.
6. One hundred and fifty cubic yards of building stone quarried and delivered for wall material of buildings.

Chiricahua

1. Bonita Canyon public camp ground area:
   a. Building of concrete septic tank and comfort station with walls of natural stone,
   b. Completion of bank protection on highway.
2. Completion of roadside clean-up on Bonita Canyon highway over approximately 6 miles.
3. Completion of telephone line connecting Sugar Loaf Peak, Rhyolite and Bonita Canyons with Massai Point and on to a junction with the Forest line to Portal.
4. Rockwalling, bank sloping and landscaping of Sugar Loaf Mountain trail.
5. Construction of Sugar Loaf Lookout house in progress.
6. Lengthening of existing culverts and installation of new culverts on Bonita highway.

PERSONNELL

Charles E. Powell, Temporary Ranger went on duty March 4 at Saguaro National Monument.

VISITING PARK SERVICE OFFICIALS

Mr. W. H. Wirt, Associate Forester, on March 29. Mr. Frank Kittridge stopped on way to monuments in New Mexico. Mr. A. E. Borell, Wildlife Technician, March, 28 and 29.

REPORTS FROM THE MEN IN THE FIELD
NAVAJO NATIONAL MONUMENT — John Wetherill, Custodian.

Milton started with the lamb for the ruins on the first of the month. Before he arrived at Betatakin the lion had chased the lamb to his hole and it seems as though he had eaten him, as the lion has been roaring ever since. We have not had a word from Milton since he left here. We cannot get over the road with a car and our horses are out on the range. I suppose Milton is enjoying his home on the range by now as he has been getting the real thing. I will get up to see him as soon as I can and send you a report. I will be down to see you soon and thank you in person for what you have done. Milton has about three months food supply. He took a saddle horse and a pack mule with him. The truck hauled his food and equipment to the end of the road and he was to keep the stock until he could pack into camp.

*********

CANYON DE CHELLY NATIONAL MONUMENT — Robert R. Budlong, Custodian.

This Monument has had no visitors during the month of March, and we are not surprised. Rain, snow, mud and sand, all have conspired against the wary winter visitor, and have driven him to more southerly climes and other National Monuments.

The month of sandstorms is upon us, and so are the sandstorms. One is in progress as this report is being written. Tumbleweeds are tumbling across the fields, dimly seen through the clouds of sand. Indian ponies tethered to fences stand, facing away from the wind, in dejected-looking attitudes. Occasional drops of rain and flakes of snow spatter against the windows of our room in the Indian Service Boy's Dormitory, and sand seeps through every crack and crevice. Fortunately, we are in something of a protected position here, the immediately-adjacent hills that rise up behind the dormitory acting as deflectors. A few hundred feet away, however some of the Indian Service houses are receiving the brunt of thestorm, and shovels will be used to remove the sand that will have formed regular drifts on the floors, after this is over. But this is quite a mild sandstorm, and we expect bigger and better ones in the future.

Roads begin to emerge from the mud once more, the distant mesas have lost most of their snow capping, and the canyons discharge increasing volumes of water. Snow is five feet deep in the mountains, near the sawmill, between here and Fort Defiance, and I understand the Lukachukai Mountains still have much snow on them. Some of the Indians here predict the canyons will flow water until well into the month of July. If that should be the case, practically all of our visitors, until midsummer, will only be using the trail, for a continued flow of water, similar to what is now coming out of the canyons, would make car travel in them extremely difficult, if not just about impossible.

However, spring is on the way. A few prarie dogs have awakened, and are to be seen, occasionally, near their burrows. Robins pay the Monument brief visits, and fly northward again. Large numbers of bluebirds fly by, only stopping long enough to show their bright plumage. Weather grows somewhat warmer, and occasionally we have clear days, when the warmth of the sun is very welcome again.

On the 18th of March, a meeting of officials of the Indian Service was held at the school auditorium here, the object being to explain to the Indians the purposes of the Wheeler Howard Act. Mr. Shepherd, of the Bureau of Indian Affairs in Washington, was one of the visiting officials. Other officials of the Indian Service, some Soil Erosion Service officials from nearby projects, the majority of the population of Chin Lee, and several hundred Navajos attended the meeting. With time off for supper, the meeting lasted from two O'clock in the afternoon until eleven-thirty at night. Both the Custodian and the Honorary Custodian Without Pay of this Monument were present. The time for the voting on the measure has been postponed until May 31 and June 1. The meeting was not without many amusing incidents, and we, at least, thoroughly enjoyed it. One of the Navajos present at the meeting objected to the nomination of Indian judges at the polling places on the grounds that there are no honest men on the reservation, with the exception of two missionaries. The Custodian started to object, but changed his mind, and let the matter slide.

During the winter months much moisture has fallen, and much of it has soaked into the ground, softening it to a considerable depth. This may be good for the country, but it doesnt help the trail across from White House. The softening of the ground has resulted in some minor slides of rock on the slopes above the trail. At present there is one mass of rock about halfway down the trail, weighing, probably, around two tons, nearly blocking the trail. It may be necessary to dynamite it, in order to properly clear the path. Moisture and freezing also have caused cracks in the roof of the upper tunnel to widen and there have been numerous falls of rock therein. More is expected, and at present the tunnel is unsafe for travel.

Soil Erosion men are again at work in the canyons, but the depth of water in the canyons prohibits the use of cars, and the men have to get into them via the White House trail. The trail is only about four thousand feet long, going down, but several miles long when one is returning to the rim. Its length increases in direct proportion to the number of miles one has walked while in the canyons, preceding the return climb. The Soil Erosion fencing has stood up fairly well over the winter, though there are a few cases where some damage has been done to the fencing by the flowing water.

There is a report in general circulation, which as yet I have been

unable to confirm, regarding the loss of an Indian's horse in the quicksand of the wash, during this winter. It sounds very plausible, however. It seems that a Navajo was crossing the wash on horseback, below the mouth of the canyon, when his horse stepped into a patch of quicksand. The Indian managed to salvage his saddle, but was unable to aid his horse, which sank rapidly into the sand, completely out of sight. I can readily believe the account, having had some experience with the quicksand during the late summer and fall months. Patches of quicksand constitute a real menace to motorists who attempt to drive into the canyons before the flow of water has ceased, and because of that danger, we do not permit cars to drive in the canyons when danger from quicksand is deemed great.

It is hoped that the coming month will bring us an increase over the number of visitors who came to the Monument this month.

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SAGUARO NATIONAL MONUMENT — Charles Powell, Ranger.

The privilege of introducing Saguaro to the rest of the family is appreciated. This monument, which is noted principally for the Saguaro, or Giant Cactus (Carnegia Gigantea), the largest of which are estimated to be from two hundred to five hundred years old, is reached by the visitor by traveling due east from Tucson fifteen miles over two very good roads. Since this monument became a member of the family July 1, 1934, I think it may be called a twin of the Chiricahua National Monument, and as sponser of both, I feel more that honored.

A visitor asked me how I managed to keep busy in such an isolated place so I showed him around a little. I called his attention to the fact that he came directly through a maze of roads to a stop in front of the Ranger Station, because of small signs, which he had followed without giving the matter a thought. Then I showed him some of the signs being painted. When we reached the top of Observatory Hill, I showed him the camp which I called the 'Hermitage', where I keep house (after a fashion) and explained that I haul water, gas and oil from Tucson, a total of twenty one miles, and that it is necessary to drive twelve miles to obtain five cents worth of salt, or a gallon of coal oil.

As we strolled along up to the hill, I pointed out some twenty varieties of the cacti which grows naturally in this part of the monument, and several specimens which I have transplanted, the latter including the 'Rainbow' which I brought from home and the bisnaga which will be further classified when Dr. Thornber comes out next Thursday. This visitor remarked before leaving that he could see why I had no time to be lonely.

The study of cacti becomes more fascinating as one delves deeper into its mazes. While I am trying to avoid the use of Latin names which

I am learning, with the aid of the University of Arizona Bulletin on Arizona Cacti by William P. Stockwell and Lucretia Breazeale. As soon as I get a specimen definitely classified I am tagging it with a label bearing the Latin name and all of the common names by which it is known.

Just at this time several interested visitors have joined in the search for a specimen of the night blooming cereus (Peniocereus greggi) several of which have been reported near the Ranger Station, but which are very hard to find because of their protective coloring.

It begins to look as though we will have a place to put all of the labels Mr. King has ordered as soon as they arrive, and I think we can add a few to the list soon. There are a number of plants other than cacti growing on the Monument and I think we should label them too.

I wish some of the automobile manufacturers would put out a car like the 'one hoss shay' which would wear out all at once. This pick-up of mine was a disappointment to me at first, but now that I have it repaired in half a dozen places, I am beginning to like it. In fact, I feel like Mr. Lee Hart remarked yesterday, "She's a mighty good car for the shape she's in". I have worried a great deal about the expense of repairing the car, and have written two letters to you asking advice, only to find that the repairs were so imperative that the car would be ruined if driven while I waited for your reply. She's all right now and as I look back the expense does not seem so much considering that the car is so handy and that I would not exchange it willingly for any other car you have.

I do not want to forget to mention our visitors. Average for medium dull week days, twenty. Sundays, ninety. Twenty one states have been represented. Thre visitors were from England, and two from France. Visitors from other states outnumbered local visitors two to one. Local visitors are mostly cactus fans. There will be an increasing interest from now on as the cactus blooms appear. The local newspapers are promising publicity. Dr. Caroline E. Furness of Vassar, Dr. and Mrs. E. F. Carpenter and Mr. and Mrs. J. D. Williams of the University of Arizona, all astronomers, held a weiner and marshmellow party on the summit of Observatory Hill Friday evening, March 22, 1935.

One more item. Dr. J.J. Thornber promises to spend a day with me next week placing temporary labels. Also he will go to Chiricahua as my guest next June to place our permanent labels.

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GRAN QUIVERA NATIONAL MONUMENT W. H. Smith, Custodian

Again I find it time to submit the monthly report of the activities of the Monument for the past month. I find my register contains 293

visitors who entered the Monument in 68 vehicles. I notice that most of those registered were local people, only six states being represented with New Mexicoans heading the list. This number shows a decided increase over last month, but is slightly under the registration of March, 1934.

Weather conditions have not been favorable for travel the last month. There were several small snows the first of the month that kept the road in bad shape and the last part of the month was the worst for sandstorms that I have ever seen; it blew almost every day. Despite these sandstorms the weather is warming up gradually and it looks like Spring is not far away. The grass is beginning to get green and weeds are coming up; so it we do not have a killing frost things will soon be green. There was enough snow and rain during the winter to put plenty of moisture in the ground; it being wet about three feet down now. If too much wind doesn't dry it out, the lookout for the stockmen and farmers will be more promising than it has been for some time.

I hear that the road from Mountainair to the Monument has been made a State Highway and there is some talk of getting it worked as a PWA project. They plan to run the road on to Carrizozo; so if they go ahead and fix this road as they are talking of doing, and connect us up with two main highways, it will stimulate travel through the Monument considerably. I understand the road will be divided into five mile sections and the people on relief in each section will put the road in shape and gravel it.

I have spent the last few days rearranging the Museum since it was robbed. I moved the empty cases toward the back and the desk nearer the door where the light is better. I hired two of the local boys here a couple of days and made a general cleanup of the grounds in the ruins and around my living quarters. We moved the unsightly refuse down into one of the arroyos and buried it. I had quite a collection of weeds in some of the Indian dwellings after these few days of wind. These I had the boys gather together and burn.

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EL MORRO NATIONAL MONUMENT E. Z. Vogt, Custodian

The Ides of March came in with ten days of snow and storm making it an even worse month than February. Frost came out of the ground leaving the roads the worst in history. For a time this village was entirely snow and mud bound, no travel being possible except by horse in either direction. Even telephone conversation was reported to have been bogged down on the phone line connection with the outside world.

Visitors to our Monument were absolutely lacking until the 21st when a party of four from Denver, came, conquered and saw the old Spanish inscriptions, walking ankle-deep in snow around the shady north side of the cliff to study the "escrituras" of Gov. Eulate 1620, Gov. Nieto 1629 and

Gov. Martinez 1726.

We regret that Hugh Miller, Chief Clerk, and his Engineer companion did not make it through on the 18th. But who would not have turned back when in the middle of the road a 60 HP caterpillar was encountered buried in the mud up to the lettering on the radiator ?

Desperate conditions bring action. The town people here got so "het" up over the road conditions that they sent a committee of us to Gallup to meet Mr. L. G. Griffin, Project Engineer for seven counties in New Mexico for the FERA. To him we put up such an appeal for rural road betterment that he promised to build and gravel with FERA labor the road from Gallup to Ramah even over the Zuni Reservation to the Valencia County line -- a distance of 50 miles -- provided we can get the State Highway Department to furnish a supervising engineer, the machinery and fuel for the same. We are now waiting for a telegram from the State Highway Department giving us an appointment. When the wire comes at least five of us including an Indian Service official, perhaps Mr. Trotter of Zuni, are going to swiftly make the 200 mile trip to Santa Fe. There we hope to get the State and the FERA started off on an actual construction program which will forever end the desperate road conditions which have faces this country since Coronado got his solid wheel wagons bogged down in bottomless "barro" in 1540. Our appeal and effort extends to El Morro and on past to connect with Highway 66 at Grants.

When I am away from El Morro more than a few days, I get worried about the chance of some vandalism there. After the storms of the early part of the month had subsided I decided that I could not let a visit be postponed any longer. So saddling up Snort, whose back was getting too springy anyway, I rode out to El Morro on him. The ground was still covered with snow on the 12th, but the warm sun had melted the snow on the cliff. This had run off in the reservoir and filled it within three feet of the spill-way. I was fearful lest the reservoir had filled and ran over, with resulting erosion damage to the great 15,000 cubic yard dirt fill we put in last winter under CWA. Being satisfied with that, I rode slowly around the area of the inscriptions. Everything was all right. Erosion dams were doing business nicely in the arroyos. The Ranger cabin and blacksmith shop had not been touched. The trail I did not examine since I had to unsaddle, let the horse roll, water and eat his oats which I had packed in a 'morral'.* Starting back about 2 PM, I stopped at the Lookout Ruin, a large and important prehistoric ruin three miles north of El Morro. No signs of fresh vandalism were seen for the last month. Four or five rooms had previously been dug in, but of course there are literally hundreds of rooms which have never been touched.

* Spanish meaning feed bag.

A sharp wind drove me into the timber so I took the trail along the mesa top where several of my Navajo friends live. At Chato's hogan there was an outdoor shelter in which a dozen squaws were cookig blue cornmeal tortillas on a sheet of iron over the hot cedar and oak coals, roasting mutton on heavy wire broilers and making good smelling coffee. After dismounting I heard the chant of a medicine man coming from the hogan. Being invited I joined the circle around the fire and regaled myself with the fine roast mutton salted with hand ground Salt Lake (Catron County, N.M.) salt, tortillas and coffee.

Inside the hogan I witnessed the bathing of the nude body of Mariano Chato with sacred water from a tightly woven medicine basket. The washing was done by himself assisted by the Medicine man Sam. Even his turquoise beads were purified in the warm yucca or soap weed suds before the water was poured into a pile of sand upon which the basket bowl rested. After mixing with the sand, the little brown pile was carried out on the skin side of a sheep pelt by Chato, the father of the sick son who had been suffering with dropsy.

There were three singers, Patricio, Frank Martine and old Dick Jose Pino, besides the chief physician who sat before his fetishes, buck skin bags of herbs, medicine and feather wands. Patricio handled the gourd rattle which furnished the time for the long earnest chants which were to continue through another night. Kay-chee, Petaga, Chato el Viejo and Navajo Jake graced the side of the camp fore opposite the doctor's chorus while Mariano conducted his ablutions back of the fire opposite the door of the small but cozy hexagonalhogan not over 20 feet wide within.

After carrying out the sand I talked some with Chato who I had asked to watch the Lookout Ruin about two miles from his home. He told me that a Mexican by the name of Esteban Baca had been coming horse back with a pick and shovel to do the digging. That information was a shock to me as I knew Esteban well, he having been one of my finest carvers on the stone steps at El Morro last winter. But after second thought as I was riding home through the woods I recalled that last summer Esteban told me that he, in company with Adon Gonzales, had worked for the long-deceased ethnologist, Frank Cushing, way back in the 80's. When he was gone a week from the excavation, Cushing had left rather suddenly. The Navajos had told him that Cushing had taken a number of heavily loaded gunny sacks from some ruin high up in the cliffs by lowering them by ropes to the ground. He told me he thought Cushing had discovered an important cache of old Spanish gold and was lowering the same to his companions who quickly broke camp and went to Zuni and then to Santa Fe. Esteban has the lost treasure bug and that apparently has made him do the digging. I am certain he will not return since my inquiries have gone to him and will be enough to stop further damage to the ruin.

During the month botanical labels were mounted on small boards and placed on the trees, bushes, etc., which are found along our trail. We need labels for the pine, oak and two more species of cedar as well as a number of the bushes and grasses.

Through Chief Engineer Kittridge we received two gallons of the #46 preservative solution perfected by Mr. Frederick T. Martius at Stanford University. On the 23rd I went to the Monument with my son to look things over and to make the initial test of this new protective material which we hope will be more effective that Dri-wall . We selected the least known inscription, the one I first found in 1920, to the south and some 50 feet from the water cove. This reads, "On the 12th of December of 1701 passed Arellano as inspector". Penciling with black lead very carefully we then painted the old Spanish words with the new solution. Our impression of the effect was very promising, but, of course, it was too early yesterday to know how stainless, and how perfectly the inscriptions will be protected.

In view of the forth-coming visit of Assistant Director Tolson, Chief Architect Vint, Resident Architect Richey and others, a visit I am looking forward to with great expectancy, I was very anxious to get a test made the Martius solution so as to get it passed on by the triumvirate now coming this way for Monument inspection. We note also the coming of Big Jim Hamilton, Assistant Engineer, whose cheerful face we hope soon to see.

During the month El Morro was favored along with Chaco Canyon, Canyon de Chelly and Zuni with very fine mention in the Ford Motor Co. broadcast from Denver about Gallup, the Land of Enchantment. We note the coming historical broadcasts by the Standard Oil Co. from Phoenix to which we intend to listen.

In Radio Series No. 2 of Historical Subjects sent out by the Washington office it is noted that El Morro is still located in Central New Mexico and that De Vargas came in 1695 to put down the effects of the rebellion in 1679. Governor Eulate's 1629 inscription is still attributed to Governor Francisco Silva de Nieto. The latin inscriptions have no modern supporters though when Simpson came in 1849 I believe he thought a few of them were in latin.

During the month we have cooperated by furnishing materail for publicity to the Billings-Chapin Co. of Cleveland, Ohio, whose house organ will soon publish an illustrated article on this Monument. Solomon Alverez of Las Cruces, N. M. has been helped with pictures and historical data for a lecture to be given by him. Dr. F. W. Hodge of the Southwest Museum at Los Angeles has been put in touch with Mr. Ellsworth of the Visual Instruction Department of the Park Service for a complete set of the wonderful pictures taken by Mr. George Grant, official National Park Service photographer, last fall.

NATURAL BRIDGES NATIONAL MONUMENT Zeke Johnson, Custodian

I am always glad when the monthly report of the Southwestern Monuments arrives and I eagerly devour every sentence it contains. I like to hear what people and custodians are doing and note the progress and improvements that are being made to take care of people and show the many wonders, both natural and historical, that abound in the Southwest. The reports of the various cistodians are interesting and all seem to have about the same ring, all wishing for about the same things and all anxious to do their jobs well; and most of all are like myself -- still begging for financial help and longing for improvements at the various Monuments. I guess we are all alike in this regard; all in love with our job and wishing to put it over in a big way. But it seems terribly slow the way the mills of the gods grind.

I have been working all winter, trying to get something in the way of roads and improvements for the Natural Bridges. The State legislature has been in session and I am acquainted with nearly all the bunch, also the state senators and I know they are all in sympathy with me and my desires. There have been speeches made in both houses and the projected hook-up between Mesa Verde National Park and the southern Utah parks via the Natural Bridges. I have written both of our senators, also both congressmen and Mr. McDonnell, Chief Engineer of the Bureau of Public Roads, and they all report to me that they will do all they can to help promote the project. Also the State Road Commission are very kind to me and my desires. It seems like the very air is full of enthusiam over it and it is talked in every lobby, but will it ever get started ?

The present road from Blanding out to the Monument is in about as good condition as it has ever been, but it is very poor at best and I am anxious for spring to come so I can make it passable for the coming season. How I long for better roads and a little cottage or custodian's quarters and a water system. I believe I would be the happiest man on earth with just that much.

I was just reading this morning my report and that of yourself about me in the December issue of 1933 and it made me laugh. I was then begging for roads and a cabin to live in and still am but with more fight than ever and I learn that both of these improvements were projected for 1936.

The short piece of road at the approach of the Monument that was surveyed by Mr. Hamilton is a bad thing and very hard to navigate and some cars have trouble on it and it seems that I cant make it any better without money for what I can do to Help washes out every time ti rains and it sure is an eyesore to me but I am powerless without some help from somewhere. You know the good book says; Ash and you shall receive. Well, I am still asking and am trying to get some help from the National Forest by putting some CCC boys out there this spring.

I was surely interested in Custodian Budlong's plans for a museum in a recent issue of your report. I too will need a museum building some day, but not as large as the one he conterplates. There are many possibilities in this region of the San Juan and the Bridges, but I do not disturb them nor will I until I get a place to put the things one can find. I had a very fine lot of specimens of sandals and pottery with other things which I had thought were hidden, but someone found them and took the entire lot.

Since I started this report the Salt Lake Tribune called me up for pictures and data on the Natural Bridges and the San Juan scenic wonders, to take up a full page in an issue to come out early in June.

If I live until the 16th of next month I will celebrate my 66th natal day. I am getting to be an old man in years, but am still very young in body and ambition. **********

CHACO CANYON NATIONAL MONUMENT T. C. MILLER, Custodian

The approach roads for the first time in many days are dry enough to travel, but are very rough because of so much rain and snow and rainduring the first part of themonth. March has been a very busy and satisfactory month with lots of action and new things to see and do. Associate Engineer Walter Attwell arrived on the 27th and departed on March 1st for headquarters. I accompanied him in order to bring back a Dodge truck that has been assigned to this Monument.

Enroute to headquarters we went through the Petrified Forest and I had the pleasure of visiting my old boss, White Mountain Smith, Mrs. Smith and the entire staff. The Petrified Forest has so many new improvements that I hardly knew the place. There are new parking areas, a new hard surfaced road and in general it is a fine looking Monument. After having a delicious meal with the Smiths and Mr. Attwell and Mrs. C. M. Bell, we drove on to Winslow where we spent the night. On the 2nd we visited Walnut Canyon and found the road freshly graded with heavy travel through the monument. We had lunch in Phoenix and arrived at the Casa Grande National Monument at about 3:30 PM. On the third I spent the day talking with the Superintendent, the Chief Clerk and the entire staff. I made the ruins trip with Ranger Caywood and a party of visitors and heard a fine lecture on the Casa Grande Ruins. Upon visiting the new museum it surely made me envious to see all those fine artifacts displayed and have them explained in sucha fine manner by Naturalist King. I also learned something about their problems in handling visitors. On March 4th I visited Tumacacori and heard a good line on missions by Custodian Boundey. I met Mr. Paul Beaubien and looked over his excavations at the Monument. In all it was a splendid trip, both inspirational and educational. On the return trip I visited Saguaro, another of our wonders of the Southwestern Monuments. I returned to headquarters and de-

parted for Gallup and Chaco Canyon on the 25th. If other custodians of the Southwestern Monuments have not made this trip, it is one I can highly recommend.

TRAVEL:

308 visitors arrived in 98 cars coming from the following states and foreign countries: Arizona, California, Colorado, Minnesota, Nebraska, New Mexico, Utah, Texas, Wyoming, Washington, D. C., England and Germany. Among special visitors were the following: Mr. Henry Vance, Senior Forester of the Indian Service, Superintendent Stacher of the Eastern Navajo Reservation, Walter G. Attwell, Associate Engineer from Coolidge, Mr. Stanley Morse of the Landscape Division, Mr. Charles Quaintence, Wildlife Technician, Chief Ranger and Mrs. C. R. Markley, all of Mesa Verde National Park. Mr. F. Morgan Pryse, Indian Affairs, Washington, D. C., Mr. T. Marion Wilkes and Mr. C. S. Rust , all Indian Service Officials of Albuquerque, N. M., Mr. Ed. Sargent of the State Highway Commision and Mr. Gene Gordon, Assistant Engineer from Coolidge.

WEATHER:

The maximum for the month was reached on the 15th at 62 and the minimum 16 on February 26th. There were 11 clear days, 6 part cloudy and 11 cloudy days. Precipitation was .58 of an inch of rain and snow.

TELEPHONE SERVICE:

Telephones were installed at this monument March 1st, one phone at the Chaco Trading Post and one at the Custodian's residence.

RUINS STABILIZATION:

A party of engineers under Mr. Howard Leslie arrived on March 14th for the purpose of mapping ground floor plans, side wall elevations and contour elevations of Chetro Ketl and Pueblo Bonito. Because of the complicated ancient construction and the fact that a second occupancy of entirely different construction and formation was built over much more ancient ones will necessarily require much time to complete the work. At Present the work is progressing satisfactorily.

LAND MEETING:

The Gallup Chamber of Commerce called a meeting on the land situation of the Chaco Canyon National Monument March 8th. Mr. Hugh Miller, Chief Clerk, Mr. W. G. Atwell, Associate Engineer, Mr. J. C. Tovrea, and Custodians T. C. Miller and Johnwill Faris of Chaco and Aztec National Monuments, were the representatives of the Park Service.

San Juan County was represented by the Chambers of Commerce from Farmington and Aztec. U. S. Land Commissioner Mr. Frank Vesley and Assistant Mr. Carl B. Livingston, Santa Fe, New Mexico. The School of American Research and the University of New Mexico were represented by Doctors Hewett and Zimmerman. **********

YUCCA HOUSE NATIONAL MONUMENT Also by T. C. Miller

I have visited this Monument twice, once with Mr. W. G. Attwell on February 1st and again on March 21st. The road from Highway 666 to the

Monument was dry but very rough. I found Mr. and Mrs. Ray Ishmay at home and very busy with their farm and stock. Mrs. Ishmay reported but one car for the month. It contained four visitors. The road has been almost impassable because of so much rain and snow. Now that old Sol is doing his duty again the prairie dogs are out, the wrens, robins and meadow larks are back and spring is just around the corner. The Yucca House National Monument approach road has no sign to direct visitors into the ruins without signs, I think it is a good idea not to put up signs until some much needed improvements have been made on the fence, gates and some erosion work done on one arroyo that is sure to take out one corner of the ruins if it is not fixed real soon. A warning sign is needed to help convince pothunters that there will be no vandalism of any kind allowed. One of the attractions on that monument is the fine cool spring of clear water that comes out of the hill under the ruins. There has been no work done on the Monument and it is well worthy of protection and maintenance. The prehistoric ruins are now a cluster of mounds with very little signs of walls rising above their surfaces, but because of their large size and extent there is every reason to believe that when excavated they will prove to be of the greatest educational and archeological interest. The mounds of the village rise to a height of at least 18 feet above its foundation, surrounded by many smaller mounds. I believe Yucca House will be one of the finest archeological units in the Southwestern Monuments when it is fully excavated and developed.

Now Boss, along with this new monument to report on I would like to tell you about our increase in personnel in these monuments. On March 19th a son was born to Custodian and Mrs. Carroll Miller.

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CONGRATULATIONS TO THE CARROLL MILLERS AND THEIR NEW RANGER!!!

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CAPULIN MOUNTAIN NATIONAL MONUMENT Homer J. Farr, Custodian

For March I am glad to report approximately 611 visitors and for some unknown reason a large percent of these came from Alabama. One might guess they do not hibernate al long as we do. A rather unexpected but pleasant visitor was Paul Wilkerson who came in the early part of the month to take some moving pictures of the old Volcano and as Paul put it, "It is hard to get a moving picture of a dead volcano," so we procured some 500 school children from the Capulin Schools and from surrounding towns in this manner got some action in the picture.

Weather has been rather warm, no moisture and much high wind. All roads are open and in fair condition but mighty dusty.

Bettle control has been in progress for about two weeks and about two thirds of the beetle infested trees have been removed. I am in charge as Foreman of the project which is being done by FERA labor. Upon close examination some of the insects were found to go below the stump and attack the roots and for this reason it was decided to remove the infested trees roots and all. I find there are about two hundred trees that have been killed by the beetles. This control project and clean-up has already beautified and added a certain degree of safety to the Monument, as a dead pinyon tree in the center of a thicket of trees is almost as much of a fire hazard as a gasoline can in the kitchen. A full report on the Beetle Control project will be submitted at the close of the work which probably will not be before April. Compliments fo the Coolidge office for the splendid arrangement of the February report.

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TUMACACORI NATIONAL MONUMENT — George L. Boundey, Custodian

Visitors for march were 1837. The month started out with quite a snow storm, but fortunately we have had very little dust. Several nights we had quite low temperatures, but no injury was done to the fruit trees. This will be a wonderful year on the desert as we have had enough rain to bring out those blossoms which need considerable moisture. The Vermillion Flycatchers were not discouraged with the snow, for they were all here on the first of March according to schedule.

We enjoyed the visit of Mr. Art Woodward from the Educational Department at Berkeley. I took him for a trip back in the mountains to see a collection of early spanish weapons. We were caught in a snow storm on our return trip.

Mr. W. G. Attwell and some of the Engineering Department paid us a short visit and surveyed the foundation walls which had been excavated by Mr. Beaubien during the month.

It takes about three times as long to take an interested party through the Monument than a disinterested one. This winter tourists have been very interested so this has been a busy month. I will be glad when we have a suitable museum to display material in. It will add to our number of visitors.

Work at the Monument has slipped along lively this month just as it always does after a visit from the Boss. We are only sorry that he does not come oftener.

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TUMACACORI FERA — PAUL BEAUBIEN, Foreman.

I began the month by excavating along the south side of the patio.

Here as everywhere else many walls have been destroyed and large holes dug through the brick floors wither by treasure hunters or the curious. One of the latest finds was a brick drain leading form the tanks in front of the mission to the inside of the patio. A problematical structure four feet by sixteen feet was found in the orchard. Open at the rear end and with a constricted outlet, it probably served to raise the water level in an irrigation ditch. A raise in the floor at the downstream end with a corresponding dip near the other suggests a secondary purpose. There is a description, dated 1860, in your booklet of Tumacacori which speaks of a bathing pool and washing vat in the orchard.

The lime kiln north of the grave yard was re-excavated that the engineers might make a detailed drawing. Several mounds in that vicinity were trenched without results. Three test trenches were made in vain west of the mission where an early drawing by J. Rose Brown had located a large group of buildings. Several rooms have been excavated southeast of the patio without contributing any important information.

I have reached one conclusion that may be of inportance. I believe the black decoration in the present mission walls was made of over-fired bricks and are not slag from the smelters as is commonly supposed. Most of the slag here contains some copper and might discolor a white plaster wall. It might be a mistake to use the slag in a building program whcih calls for that type of decoration.

Mr. Arthur Woodward was here a few days to inspect my work and make suggestions. I wish that he had come sooner before so much had been refilled. Perhaps he could have solved some problems that are still puzzles to me.

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PIPE SPRINGS NATIONAL MONUMENT — Leonard Heaton, Acting Custodian

The past month has been regular March weather with its snow, rain, mud and cold and warm days, mixed up so that one could not say we have had too much of one and not enough of an other.

We have not had any out of state visitors to the Monument this month. Our local travel has been about the same with an estimated total of 195. I do not look for an increase in travel until the later part of April, as the road to Grand Canyon National Park is blocked with several feet of snow.

The work that has been done this month is some that I had planned to do in February, but because of storms I had to put it off until now. I had the Richfield welders do the work on the cattleguard on the 6th and 7th. It took them an average of two hours and twenty minutes to so the welding on each seven foot section. I then hired three men to place the guards and grade the road. They also placed the gates and fence on either side of the

guards. The fence around the Monument is now almost completed with only about 250 yards to be done on the northwest corner, where there are plenty of rocks which will need a lot of powder to blast out post holes.

On March 16th I had two men help transplant evergreen trees. There were 14 pines and 26 junipers set out in the southeast quarter of the Monument.

While doing the grading of the road I had the good luck to find a part of an old hinge that was used to swing the big gates. At first I thought it was just an old rusty bolt, but after it had been cleaned there was unmistakable evidence that it had been hand forged.

The following birds were ween during the month of March:

Redwing Blackbird
Rusty Blackbird
American Raven
Pinyon Jay
Robin
Killdeer
Meadow Lark
Junco
Northeastern Crow
Mountain Bluebird
Several species of Sparrow
Desert Horned Lark
Cassin Kingbird
Western Horned Owl
Red-tailed Hawk
California Quail
Bluebill Duck
House Wren
Western Mockingbird
Shrike
Gilded Flicker
Stilt Sandpiper
Crested Flycatcher

Our animals and reptiles are coming to life again, the little striped chipmunk can be seen running over the old houses and rock walls most any time and cottaintails and jacks make their appearance out in the meadow at might. Mice and longtailed rats can be found getting into most everything in the house.

I am leaving for a tour of some of the Monuments in Arizona on April 5th and expect to be gone until April 14th. While I am away I have secured the services of Grant Heaton to look after the place.

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WHITE SANDS NATIONAL MONUMENT — Tom Charles, Custodian

This has been a bad month for the White Sands, at least from the standpoint of freakish winds. Our prevailing southwest wind is a joy, it piles

the drifts into high, pointed ridges with curves andripples, it sweeps the floor of the canyons clean and gives the Monument a brand new coat of white. But when the old "wind debble" executes a flank movement and comes in from across the highway it is awful. The sand doesn't BLOW in, it pours in. We havd had plenty ofthese cross winds this month. I could not keep the sand off of the road at one of the drifts, let alone four of them. I tried a few of the old time snow sheds to see if I could not start eddies in the wind which would sweep the highway clean. It worked at one place but at the others it did not help. Only a few cars got stuck in the sand and we tried to be around there f om time to time to help them out.

In the past month there were 702 tourists registered out in the "heart of the sands". There were four stormy, wet days on which we did not have a visitor and two days on which we had only 7 visitors, so we had an average of about 30 registered for the days on which they could get over the road. As only about half of the visitors register, we estimate that we had approximately 1500 visitors the past month or 60 each day during permissible weather. Three fourths of these came from an area within 150 miles of the monument. Of this registration there were 274 from New Mexico, (123 of whom were from towns other than Alamogordo); 253 registered from Texas and 175 from 26 states and six foreign countries.

The event of the month was the visit of Associate Director Hillory Tolson, Superintendent Frank Pinkley, Chief Architect Thomas Vint, Chas. A. Richey and Dale King. Plans for future development of the monument were discussed on the ground. The party also visited the proposed Artesian Well addition.

A. E. Borell, Wildlife Specialist, spent a week here studying the Artesian Well area which is proposed as an addition to the White Sands, to be purchased under the sub-marginal program. Mr. Borell counted 240 ducks on the lake one morning. He identified mallards, pintail, baldpate, cinnamon teal, greenwinged teal, ruddy, shoveller, Gadwell and bluebill. He also found 10 white pelicans and two ringbilled sea gulls. There were some 25 shore birds including Wilson snipe, stilt, snowy plover, greater yellowlegs and two species of sand ipers. He found a total of fifty species of migratory birds there at the lake in the six day visit. Mr. Borell also had a report from Mr. Garton, the present owner of the lake, that 200 ducks and a few longbilled curlew nested there last year.

The White Sands broke into good company this month whenrthey had their picture printed in the Teacher's National Magazine, the Instructor, under the title, "Teacher's Travels in the U. S. National Playgrounds". The Carlsbad Cavern is the only other New Mexico attraction featured.

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CHIRICAHUA NATIONAL MONUMENT E.C.W. ACTIVITIES H. O. Harmond, Proj. Sup't.

During March, Chiricahua Nat'l. Monument experienced considerable belated winter weather and a generous quantity of snow and rain. This has started water running in many of the canyons and particularly in Bonita Canyon. With the quantity of snow falling on the higher slopes the water resources should be vastly improved over last year's.

Two new projects have been started on the Public Camp Ground Area in Bonita Canyon. These consist of the concrete Septic Tank for sewage disposal and the Comfort Station, which now has the masonry walls well advanced and a sufficient quantity of rock for its completion has been hauled to the site. Lumber has been received for the camp tables and construction of them has commenced. We are trying to have all improvements in shape for the summer visitors and campers.

A great deal of progress has been made on the rock-walling, bank sloping and landscaping of the Sugar Loaf Mountain horse trail. The end of this month should find us pretty well completed here and the trail crew about ready to start construction on the Echo Canyon section. The latter (now under survey) when completed will lead through Echo Park and tie us into the Rhyolite trail, already constructed.

Construction of the Sugar Loaf Lookout House is proceeding. The mule pack train for the past two weeks has been hauling up cement, sand, lumber, etc. The excavations are completed and the boys are working on the forms for the footings and cellar foundations. A good supply of water for the concrete was derived from melting the snow and storing it in barrels thus gaining some on the amount to be brought in by pack animals.

Three projects to be completed this month are: (1) Bank Protection on the Bonita Canyon Highway, where some 8500 linear feet of rip-rap and revetment was laid, averaging 11 feet wide, (2) Roadside Cleanup on Bonita Canyon over approximately 6 miles, and (3) Telephone Line connecting Sugar Loaf Peak, Rhyolite and Bonita Canyons with Massai Point and on to a junction with the forest line to Portal. This should serve us until we biuld the new line connecting the monument direct with the Mountain States' line at Portal, a distance of around 17 miles.

Mr. Harry Brown's crew of P. W. A. workers are making continued progress on lengthening many existing culverts and installing new culverts on Bonita highway, raising masonry headwalls and building drainage flumes.

The heaviest rock slide so far sustained on this road occured on March 12th, estimated at around 250 cubic yards of material. However traffic was blocked for only 3 hours, when the bulldozer cut a way through. This gave us all a clear idea of what may be expected from time to time, until the proposed "back-sloping" can be accomplished. We all hope this may take place in the Fifth Period, just ahead.

Chiricahua was visited during the month by Mr. A. H. Kottnauer, mechanical inspector sent out through the courtesy of Chief Engineer Kittredge to inspect all motor vehicles and heavy machinery. He was with us March 7-9.

Ass't Engineer G. H. Gordon visited us the 13th and 14th inspecting various

work projects. Other official visitors included Forest Supervisor Fred Winn on March 24th, and Mr. T. H. Wirt, Forestry Inspector for National Park Service out of the Berkeley office, on March 25-26.

A moving picture program given by Mr. W. A. Mc Dowell of the Forest Service on the 28th had as a new feature one reel with sound pictures.

The Army has been busy installing new lockers, one for each enrollee, which are a very acceptable addition to the comfort of the men in barracks. They have also commenced the construction of a setic tank and expect to start the sinking of a new well. These latter improvements should raise very materially the sanitary standard of our camp.

Our sincere congratulations to Superintendent Pinley and the others connected with the enhanced edition of "Southwestern Monuments" which greeted us with the February number. From now on we may all strive to keep it on the "up and up".

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MONTEZUMA CASTLE NATIONAL MONUMENT — Martin L. Jackson, Custodian

GENERAL

Stormy weather prevailed during the greater part of the month resulting in very poor road conditions. In fact on the Oak Creek Canyon Road maintenance crews were so busy that a special guard was posted in Flagstaff to keep visitors off of the route. This caused a large drop in the attendance at Montezuma Castle. New construction work is being carried on around Jerome, Cottonwood and Bridgeport to the Sedona Sections of State Route 79 making it more difficult to reach the monument. There is an F E R A crew resurfacing and straightening the road between Cottonwood and Camp Verde. There is also a petition afoot to turn the road from Roosevelt Dam to Route 79 over to the state for maintenance. Many of the signs placed by the Park Service at road intersections have been mutilated or destroyed and visitors are finding it increasingly difficult to reach the monument for that reason also. There have been several complaints in the past ten days. Snow and rain have benefited the range conditions in the surrounding country appreciable. It is even rumored that steers are selling for 7¢ per lb. in New Mexico--over twice the price payed last year. While stormy weather is not so good for the monument business, it does help others.

VISITORS

There was a sharp drop in the number of visitors this month over last, caused, no doubt, by the conditions listed under "GENERAL". Total count for the month was five hundred and ninety-seven (597). Foreign visitors: Ireland, Germany, Austria, and three parties from England. Special visitors for the

month were: Mrs. H. M. Miller, wife of Chief Clerk Miller at Casa Grande, and Lt. Moy of Fort Logan, Colorado, who by the way, gave Charlie Steen of Tonto National Monument quite a boost.

WATER

On March 6th, the engine running the water pump broke down resulting in the need for some parts. Although the order was sent off immediately, we have not received said parts to date. This has made it necessary to carry water from the creek for washing purposes and to operate the rest rooms. Drinking water is being carried from the nearest neighbor over a mile away. One of the main needs of this Monument is an adequate water system. Since camping has been prohibited for the last two years in front of the Castle, we have not had an attractive place that appeals to the visitors. Until enough water is available to do some extensive planting this condition will never change. With the present water system, it is not even practicable to do any planting around the existing buildings.

FLOOD WATERS

Last month, we reported the sinking of the revetment wall at the west end resulting in the loss of a large quantity of silt. This month the flood waters have been even higher and have washed the gravel covering from the septic tank built just last summer. With a few more high floods it is quite possible that the tank will be washed completely away.

SPRING CLEANING

At idle times the Ranger and Custodian have been cleaning the grounds of the Monument around the buildings and picnic areas. Mrs. Jackson, the concessioner, is at present weilding a wheelborrow herself.

BIRD NOTES

About two weeks ago we noted the arriival of the robins. They are usually here long before this but possibly the bad weather has hindered their arrival. Most of them have migrated toward the northern part of the state by now, however. During the early part of the month, hundreds of bridled tit-mouse were observed in the sycamore trees along the Castle trail. But they, like the robins, have gone north with the first touch of spring weather. We have very rarely seen ducks on the creeks of the monument before other than the common Red-Breasted Merganser, or fish-duck. This winter, however, I personally saw several Mallards and possibly some Canvass-Backs. The most prevalent bird on the Monument this winter has been the Purple Finch or the Cassin Finch. These birds are here in hundreds all during the year, winter and summer alike, and are constanly singing. We list these birds among our most valued. About a week ago, a number of Ruby-crowned Kinglets were noted in the brush along

the northern boundary of the Monument. As soon as the trees leaf out there will be many more varieties of birds with at least three species of Hawks. These I shall try to classify and submit in future reports.

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BANDELEIR NATIONAL MONUMENT — Earl Jackson, Custodian

VISITORS

427 visitors came, in 22 cars from 28 states, Washington D. C. and four foreign countries. British Columbia, Quebec, China, Scotland, and Patagonia were represented. Our travel figure compares with 280 visitors for March of 1934. The four highest states in order were; New Mexico, Colorado, California and Texas. These state figures are from auto licenses and number travelling in each car.

WEATHER CONDITIONS AND ROADS

The month has been, as was to be expected, very windy and dusty. Precipitation was negligible, being .10 inch. Several days were cloudy, but rain was only a promise. Roads are very dry and dusty, but in fair condition.

While eastern Colorado, Oklahoma and Kansas have been nearly suffocated by dust, this section has had little trouble from violent dust storms. Frijoles Canyon is well protected from strong wind currents, as they break up in other canyons before reaching here from the Rio Grande Plains.

SPECIAL VISITORS

On February 25, J. F. Zimmerman, President of the University of New Mexico, was a visitor to the ruins and March 1, we greeted Mr. A. C. Hill, Jr., Chief of Communications, N. R. A. March 10, Hugh Miller arrived for a two day stay and at the same time, Mr. Al Kottnaur, Master Mechanic for the Park Service was in to check over E. C. W. heavy equipment.

March 18, Mr. and Mrs. W. H. Wirt arrived for a four day stay and I believe Mr. Wirt was well pleased with the E. C. W. progress here. Bandeleir was the scene of much Park Service activity on March 25. Mr. Hillory A. Tolson, Assistant Director, and Mr. Tom Vint, Chief, B. O. P. A. D. arrived as per inspection tour from Washington D. C., accompanied by Chuck Richey. Mr. Pinkley, with Dale King, Junior Park Naturalist for Southwestern Monuments, arrived at the same time.

When these men were joined by Project Sup't. Chase, Resident Landscaper Morse, Bill Shape, and the custodian, a visit to the ruins was taken in and immediately thereafter followed inspection of construction activities in the

canyon, and then all heads went together in a huddle. As a result, ye humble scribe was delighted at the decisions the visiting officials rendered.

All was quiet on the western front by nightfall of the 25th, but it was felt by all that momentous things had been accomplished.

IMPROVEMENTS

See Construction Report, by H. B. Chase.

NATURE NOTES

Spring is on its way. Buds are bursting, the weather is warming up, the deer and birds tell us that romance is in the air.

GENERAL

Travel has made one of the most phenomenal rapid jumps here in the last ten days I have ever seen. If visitors increase at this rate through the coming season, we are really going to have some heavy crowds to handle.

The first camper since last fall tried our camp grounds a few nights ago, and three or four parties have spent the night there since. We can well rejoice, in anticipation, that we have a good sized camp ground, for it is going to see plenty of use this year. From the end of October to the first of March, the weather is too cold for any campers here, as the camp ground is on the shady side of the canyon and seldom thaws out in that period.

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TONTO NATIONAL MONUMENT — Charlie Steen, Ranger

Another busy month on the Apache trail ! 749 visitors made their appearance and of these 515 saw fit to climb the trail and eleven took the trip to the upper ruins. Traffic on the highway has been very heavy -- more cars are going through now than ever before. The new signs seem to be doing their part in enticing a proper percentage of these travelers to the ruins.

This has been a very beautiful month. For the most part the weather has been perfect, however, on March 3rd I opened my eyes to see three inches of snow on the ground. Thesaguaros looked very peculiar with caps of snow. The abundant rains since January first have caused a profusion of flowers in the mountains -- the Monument is alive with color. At present we seem to to be at the peak season for the small annuals. The cacti and larger plants are beginning to show signs of budding, but I understand they wont flower for another month.

During the past ten days the State Highway Department has kept a FERA

crew on the entrance road blasting out the larger rocks and putting the road in shape. The local foreman said that he will run a blade over the road once or twice a month from now on to keep it in shape.

I took two days off to go to Chandler to see friends and the 'dig' at Snaketown. While I was away Tom McCurdy of the Gila Pueblo came to take some borings from the beams in order to get dates for these ruins. Dr. Haury will come up sometime in the near future to do this. Mr. and Mrs. Gladwin were also visitors during the month. Mr. Gladwin has offered some Salado pottery for the museum here as soon as it is completed.

On the 13th the engineers almost walked on the first rattlesnake of the season. On the 15th I found the first Gila Monster and two days later a wild honey bee backed up to me and stung me on the upper lip.

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AZTEC RUINS NATIONAL MONUMENT — Johnwill Faris, Custodian

The later part of February and most of March has constituted practically all of our winter. Visitors for the month total 282, which is a decided increase over March of last year. Those passing through have been very liberal in their praise of our new unit and we are certainly proud of the reception it is receiving.

During the early part of March it was my pleasure to attend a conference in Gallup where many important National Park problems were discussed. I particularly enjoyed the reaction of some of our State officials toward our efforts in behalf of the tourist and natural resources over which we preside. The press in recent weeks has been quite liberal in its praise of our service and in view of the fact that New Mexico is planning an elaborate celebration in honor of the 400th anniversary of the coming of Coronado. They are naturally expecting a considerable influx of vistors and I feel that it behooves our service to not only offer every cooperation, but we should take it upon ourselves to see that our National Parks and Monuments in New Mexico be the outstanding attractions in this state for the celebration.

Shortly after my return from Gallup it was our pleasure to entertain both Hugh Miller and J. H. Tovrea. We were especially glad they could make the visit after we had elaborated on our attractions here. We hope that it will be possible for each and everyone in the Southwestern Monuments organization to see this unit. Our new building completed under PWA is ready in almost every detail. We will be able to present the unit earlier this year than any year during my administration. I still plan on a few buckets of paint bring out some of our features but am pleased with the appearance even now.

While it is still freezing at night and our weather is somewhat un-

settled, we have an excellent prospect of a superabundance of weeds and I can almost work up up a sweat in this sub-zero weather thinking of the hoeing that will of necessity come our way within the next few weeks. I am somewhat disturbed over the proper handling of our unused area and if at all possible will let some competent individual grow light garden produce on the area in exchange for keeping it in a presentable condition. Of course, I realize and shall make it quite clear to any individual that this will not obligate us in any way to carry on in a like manner but that it will be only for the summer and the crops must be of such a nature that they will be entirely removed in the fall of the year and his relinquishment of the area complete. It will be understood most emphatically that the Park Service has a number of trees that will be guarded most carefully. I will make every attempt to get our area seeded to grass at which time its care will be reduced to a minimum.

While it may seem somewhat distant, we would especially desire that your consideration be given to an early provision for the completion of our parking area. As you realize, our crushed gravel is passable and very much superior to the past status of our parking area, yet in its present condition, and as a first impression, the visitor gets that incomplete and half finished picture. We have exerted ourselves in our Great Kiva and Administration features and invite the public with great pride, but many remark with horror at the sight of our front yard as compared with the unit otherwise.

The City at the present time is establishing a stone crusher where it would be possible for us, if we could act comparatively soon, to obtain sufficient gravel to finish all walks to and from the ruins proper. Your personal acquaintance with our area in wet seasons enables you to realize the importance of definite walks and since our Master Plan provides the features I felt it imperative to mention the possibility of their cost being lessened due to the chance to obtain crushed rock at a reduced cost.

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WUPATKI NATIONAL MONUMENT — J. W. Brewer, Ranger in Charge.

WEATHER:

March was March -- and the wind blew hard and often. Temperatures; Maximum 68 and minimum 21. Precipitation; unmeasurable trace on March 5th.

TRAVEL AND ROAD CONDITIONS:

The Monument entrance road is in its naturally poor condition, not much changed by winter. 33 visitors used it, 8 of whom came no farther than the Citadel. Work is progressing on the new highway 89, and a handsome cattle-guard (about 12 feet wide) has been placed at the entrance road turn-off.

VISIT OF NATURALIST TECHNICIAN:

Mr. A. E. Borell, of the Wildlife Division arrived the evening of

February 27th to check up on feed and water conditions for antelope on sections east of Heiser Wash, with regard to the advisability of their inclusion in an enlarged Wupatki National Monument. Because he was a stranger to our unmapped back roads I guided him. The first morning was spent in inspecting range conditions on Black Mesa, part of the area in question. That afternoon we drove and hiked along the Little Colorado River trying to locate the township line which would be the eastern boundary of the area. The second morning we drove to Grand Falls and approached the township line by driving downstream along the river. Eddie McKee, Naturalist at the Grand Canyon, suggested the advisability of including Grand Falls in an extension of Wupatki National Monument. Mr. Borell was impressed with the scenic and geologic interest. We also saw the Long Fort, a ruin on an island of the river, four miles below Grand Falls and approximately three miles upstream from Wupatki. The morning of the third day we made a tour of Antelope Prairie, and the country around Citadel and between that country and Crack-in-the-Rock. Mr. Borell then returned to Grand Canyon. We greatly enjoyed having Mr. Borell and agree with Earl Jackson that he does cover the ground.

PLANT LIFE:

Two interesting observations Mr. Borell made were tumors on the Rabbit Brush caused by wasps; and, in some areas, the rodent destruction of yucca. Leaves of the yucca are chewed off almost to their base, giving the plant a pineapple-like appearance. It might be well to note here, too, that Mr. Borell identified as atriplex the plant which is locally called "chamiso".

One of the earliest plants of the Monument is pretty well along. It is the one that Hopis prepare and eat much the same as we do spinach; they call it Kwee-ee-vee. This word, like lots of English words, has other meanings, applying also to a "dandy" and an eater of good things". Incidentally, the experimenting modern dwellers of Wupatki have eaten their first mess of Kwee-ee-vee and survived! It is similar to spinach, without the sand. The plant is a variety of bee-weed.

ANIMAL LIFE:

A raccoon was taken March 2nd by Dan Fernandez west of Wukoki(NA 303) Ruin. Elevation 4800. Length 29 inches, tail 11 1/8 inches and hindfoot 4 7/8 inches. Soil association is Moencopi Sandstone and windblown cinders. Grassland phase of Upper Sonoran Zone.

I am informed by Mr. Borell and Mr. Hargrave that this is an unusual specimen from that area. To my knowledge no raccoon has ever been recorded from San Francisco Peaks or Painted Desert regions.

After Mr. Borell's earlier visit I obtained further information regarding the number and location of dead or slaughtered antelope near the

Monument. Eighty dead antelope were reported to have been seen within the last year; I was able to locate only six at this time. This information was written to Mr. Borell, who stopped by to see some of these carcasses on his way to White Sands. He visited and photographed two carcasses, both os which had been butchered for the meat.

Miscellaneous:

Gene Gordon visited us twice this month, the first time bringing with him Howard Leslie, Ray Hitson and Mr. Williams who all stayed a week mapping Citadel and Wupatki wall areas.

Hugh Miller paid us a short call on his way east; we were very glad to see him at Wupatki and gave him directions for the short-cut through the crater dotted land to Winslow. This country is very humpy, but we trusted Mr. Miller's familiarity with this type of formation would prevent them confusing his route.

Richard Van Valkenburg, archeologist with 1934 CWA at Wupatki, now with the Soil Erosion, spent the night with us last week. Dick has many friends among the Navajos near Wupatki; so we spent the evening calling at hogans. At Peshlacai Etsetti's camp we learned the Navajo name for Wupatki. It is(spelled as it sounds to me) Ah-neh-seh-b'kin or the House of the Ancient Enemies.

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SUNSET CRATER NATIONAL MONUMENT J. W. Brewer, in Charge.

Tht total travel figure since December 23rd is 53 registered visitors. On and after December 30th entries were written in assorted pencils and various colored inks, indicating the removal of the pencil and chain that were put there for those who came without the means to register. On my way back I will install a new pencil on a length of picture wire; but never will we know how many visitors were unable to register.

On the 13th of January O. W. Moore of Williams, Arizona wrote, "snow up to your neck". The date of the next entry is February 22nd, more than a month later. A party of 5 registered the following day, and then one month elapsed before the next entry by Dean Eldridge (Dean Eldridge Museum) who wrote, "could not make it around, too much snow". on March 23rd.

The entrance road is very badly gullied and wind-blown in spots. Generally it is in very poor condition. Today the road was free of snow except along the north slope where we were stuck last month; here are still the remains of a large drift. A drift fence along this short stretch might make the Monument accessible during more days than is now the case.

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WALNUT CANYON NATIONAL MONUMENT J. W. BREWER, in Charge.

With the exception of deeply rutted roads and windblown pines things look good at the Monument. The ranger cabin is still intact and apparently unmolested. Between the screen door and the wooden door I found this very tragic sounding cry for help; "Dear Ranger -- I'm stuck in the mud one-half mile back toward #66. Have you any suggestions? Gone to see the cliffs now. Stanley Feitler". Then: "Back from the canyon. Very interesting. I'm westward from here. If you can help I'll be much obliged. Thank you". Boss we know he didn't get any help from "dear ranger", and he was 6 miles from the nearest telephone. What he did, or how, I don't know, but it would have been swell if someone had been there to help him.

The right fork road from the parking area is obstructed by a windblown pinyon, and a small pine has been uprooted near the trail above the registration house. Everywhere there is evidence of terrific wind storms. Some clean-up work should be done before the summer trade swoops down on Walnut Canyon.

The registration sheets are gone! The binder Paul made is still nailed down, but the sheets are gone! I am hoping that Walt Attwell got there and took them, because otherwise I'm afraid the wind has blown them away. New ones are now securely nailed down with a pencil attached.

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CASA GRANDE NATIONAL MONUMENT Louis R. Caywood, Park Ranger

TRAVEL:

Travel for this month was greater than it has been for any March since 1929 and 1930. The total number of visitors who were contacted through guided parties to the ruins and the museum was 3335. There were 315 guided trips through the ruins and 292 guided trips through the museum. This is an increase in registration of almost 20% over the total of 2785 for March, 1934. Besides these contacted visitors there were 422 who used the facilities offered at the Monument. In main these were people who came to use the picnic and playgrounds.

Every state in the union was represented except Maryland and Delaware. Arizona led with a total of 1450, California second with 563, Illinois 143 and New York 115. Tourist travel through Phoenix and Tucson, according to the Arizona Daily Star (Tucson), proved to be the heavist in the history of the two cities. (March 8, 1935)

A number of noted visitors were taken through the ruins and museum. Mr. Charles M. Schwab, steel magnate, from Pennsylvania and Mrs. Davenport Galbraith dropped in on us for a brief visit on March 2nd.

F. D. Richey, E. C. Auchter and K. A. Reison, all of the Department of Agriculture , Washington, D. C., asked to be remembered to friends in the Park Service at Berkeley. Ex-president Charles Gates Dawes and party were conducted through the ruins by Superintendent Pinkley. Two neices of Judge 'Kenesaw Mountain' Landis of baseball feme spent an enjoyable hour on March 25th.

Park Service officials who visited the Monument were:

Carroll Miller, Custodian of the Chaco Canyon National Monument spent considerable time at the Monument from March 3rd to March 5th.

Mr. A. E. Borell, Wildlife Technician, looked over the Monument noting the number of birds and animals. He said it was truly a wildlife sanctuary.

Mr. and Mrs. W. H. Wirt stopped in on their way from Chiricahua National Monument to Mesa Verde National Park. Mr. Wirt is Forest Inspector.

Mr. W. Webber of the Chief Engineer's office at San Francisco spent a very enjoyable day visiting the Monument and adjacent country on March

Mr. and Mrs. Frank Kittridge and daughter dropped in on their way to New Mexico. Mr. Kittridge is Chief Engineer for the Park Service at San Francisco.

Several of the staff of the Gila Pueblo at Globe have been visitors here on their way to and from Snaketown. Mr. and Mrs. H. S. Gladwin had a picnic on our grounds and then were taken through the ruins by Superintendent Pinkley.

WEATHER:

Except for a few days of bad weather at the beginning of the month when almost an inch of rain fell weather conditions here have been favorable for traffic. The total precipitation for the month was 1.42 inches,.95 of an inch fell on the 2nd and 3rd with the remainder falling on the 8th, 9th and 10th. The maximum temperature for the month was 87 on the 30th and the minimum was 30 on the 21st.

While the northern Monuments are complaining of snow, rain and mud, we are basking beneath the pleasant skys of sunny Arizona. Gentle breezes waft the scented pollen of thousands of desert flowers right to our door step and into our windows. Yellow and orange poppies literally cover a number of nearby hillsides. The cacti are beginning to bud; so before the month of April is over one of the most gorgeous sights ever to be presented to Arizonians will be seen on our green flower strewn hills. Old timers say the desert is the greenest that they have ever seen it.

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BANDELIER, ECW ACTIVITIES H. B. Chase, Project Superintendent

Pouring of the footings of a two car garage and fuel room building at the Ranger Station area was completed March 5. Wall construction of tufa building stone was started immediately and at the time of this report is approximately 35% of the walls are in place.

The public camp ground comfort station has been completed with all the fixtures in place and plumbing completed and tested. Inside partitions have been painted and with the exception of small parts of the window grill work the building is ready for public use.

Baring unexpected complications, the barn will be completed with the close of this enrollment period. All wall and roof work is complete in place, there remaining only the exterior openings to complete, and the built in doors and the necessary clean-up work to finish the job.

Considerable planting has been done this month. The island within the parking area is now completed with considerable tree and shrup planting in the vicinity of the proposed headquarters building. Additional planting has been carried on along the entrance road.

The fourth cattle guard located on the Los Alamos School road passing through the Detached Section was completed this month.

Additional cow sheds, corrals and hay barn formerly used by the concessionaire have been dismantled and the areas cleaned up. This leaves only one small barn to be torn down. This will be done before the expiration of the period.

A rock quarry operation has been in progress all month supplying building stone for the buildings under construction. In addition approximately 150 cubic yards of building stone has been quarried and hauled to the site of the proposed office building for use immediately upon the arrival of the proposed plans.

Excellent weather conditions for work has prevailed the entire month at this camp. *********

ENGINEERING REPORT G. H. GORDON, Ass't Eng.

The first two days of the month the field crew was at Casa Grande From the 3rd to 15th they were at Wupatki, The work at the Monument consisted of mapping Citadel and the taking of wall evevations at the Wupatki ruins.

On March 15th the crew moved to Chaco Canyon where a map of Chetro Ketl was started. This work continued until the end of the month. This covers the field crew and myself. No personnel changes were made.

ENGINEERING REPORT ( Cont. )

March 1-2 At Casa Grande, working up field notes and making out monthly report.
March 3 Left Casa Grande at 1:00 for Flagstaff and arrived 11:30.
March 4 Went to Wupatki and went over Stabilization Plan with crew.
March 5 With Dr. Colton nearly all day. Made a trip out to Wupatki
March 6 Left Flagstaff for Casa Grande
March 7,8,9,10, 11. Casa Grande working up Stabilization Reports.
March 12 - 14 Chiricahua National Mounment.
March 15 - 18 Gila Cliff Dwellings.
March 19 - 20 Casa Grande National Monument
March 21 At State Highway Department getting information in regard to proposed road from Flagstaff to Cameron.
March 22 At Flagstaff getting land ownership adjacent to proposed entrance roads in this territory.
March 25 - 28 Chaco Canyon National Monument working on Stabilization.
March 29 - 30 Exploring limestone caverns on Wupatki National Monument.
March 31 Left Flagstaff at 9:00 AM and arrived at Casa Grande at 8:00 PM.

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Report of Associate Engineer Walter G. Attwell.

March started in with me in the field at Chaco Canyon for an inspection of Chaco, Hovenweep and Yucca House.

During the month I visited all of the Southwestern Monuments where construction work is in progress.

At Tonto and Bandelier topographic surveys are nearing completion.

Plans and programs have been prepared for the ECW camps at Bandelier and Chiricahua and the tow prospective camps at Saguaro and Wupatki.

Engineering study has been made of the projects in the proposed new PWA bill and many of the plans are already completed.

Every project at the present time in my district that has funds is under way.

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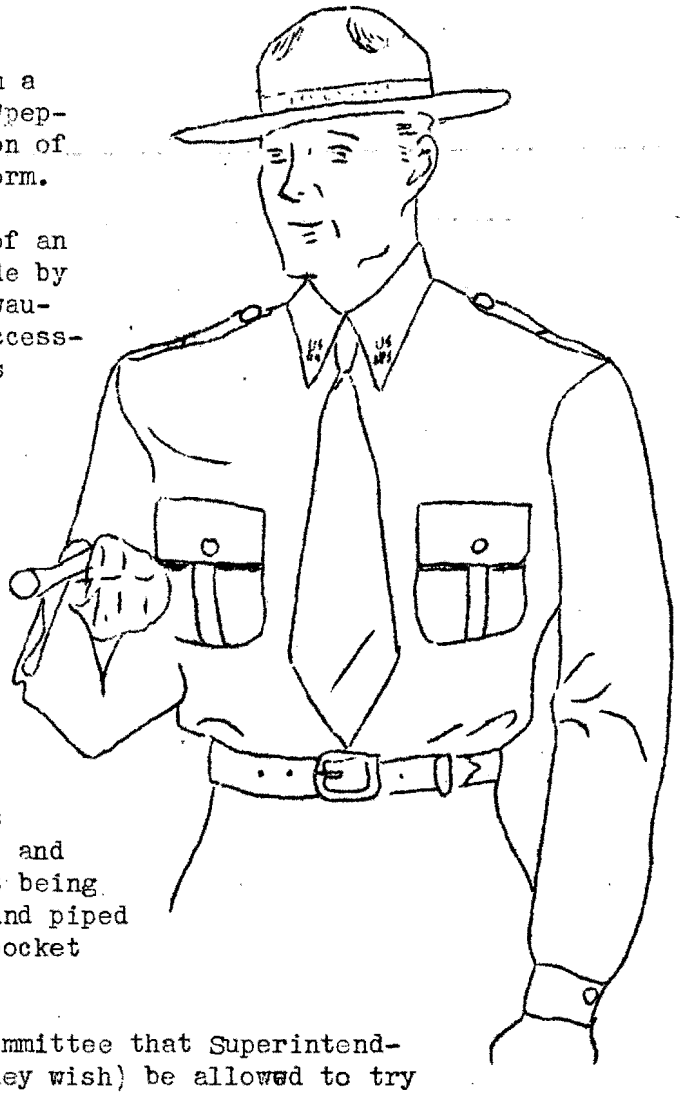
# THE SOUTHWESTERN MONUMENTS SUPPLEMENT TO THE MONTHLY REPORT

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

SHOP TALK, GOSSIP, AND OTHER INTERESTING THINGS ABOUT THIS AND THAT: THE WHOLE CONTAINING SOME INFORMATION AND NOT MUCH MISINFORMATION ABOUT WHAT GOES ON IN THE SOUTHWESTERN MONUMENTS.

# UNIFORM CHANGES?

By
Dale S. King



For some time there has been a movement afoot toward the "pepping up" and standardization of the National Park Service uniform.

First step was selection of an odorless brown dye (No. 99, made by the Fiebling Chemical Co., Milwaukee) which has proven quite successful in rendering various shades of brown to a uniform Cordovan color. A quantity of this dye has been ordered, and Southwestern Custodians and Rangers are not only invited but urged to secure it from us. Detailed prices will be published later.

At the recent Superintendents' Conference at Washington, a Committee went further into the problem, suggested beige (a sort of a cross between tan and gray) breeches, and possibility of the present coat being equipped with shoulder straps and piped with red along the straps and pocket flaps.

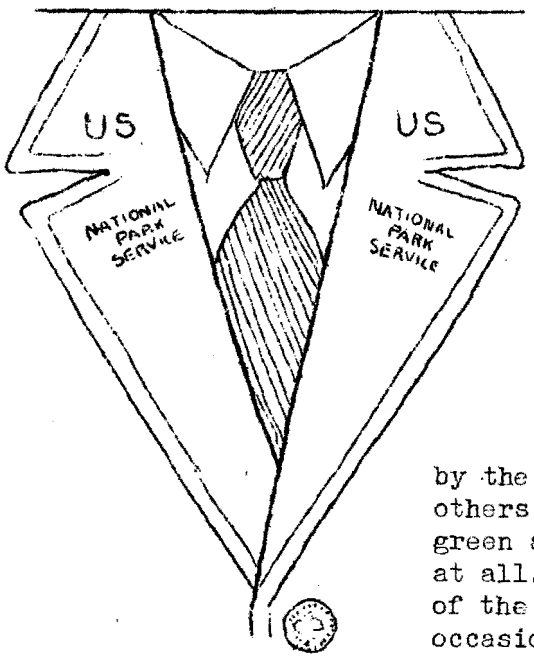
It was suggested by the Committee that Superintendents (and Custodians too, if they wish) be allowed to try out the new uniform for a year before requiring the other grades to purchase it. Thus, minor changes can be adjusted before the uniforms are generally adopted.

Drawings and samples by Fecheimer of the proposed outfit together with comments by Superintendent Thomson of Yosemite have reached this

Office, and we are sending them on to you herewith in abridged form. Our comments are appended, and we would like to have you men in the field send in your suggestions and criticisms.

COAT

Yosemite is flatly in favor of the present coat. About 60 men studied the drawings and without exception were opposed to the red or any other type of piping---they think it is the uniform not of a Service but of a servant, and there are further practical objections that the piping will fray and soil readily.




(Southwestern Headquarters Staffmen feel the same way, except we think the addition of a shoulder strap would add to the uniform's peppy appearance.)

BREECHES

Yosemite favors the Elastique Beige breeches---they harmonize excellently and contribute notably to the "pepping up" of the uniform, as desired by the Director and the majority of the others. The other two colors, a dark green and an olive drab, were not liked at all. Yosemite recommended that slacks of the Beige be authorized for suitable occasions, as heretofore.

(Southwestern Staffmen concur.)

HAT

Yosemite in favor of a slightly wider hat band than the present one.

(Southwestern Staffmen concur.)

SHIRT

Yosemite feels the white shirt is ideal for dress, but not good for duty wear. They all like the tan Aerocrat shirt sent out by Fecheimer (see sketch on opposite page). The use of this shirt, with shoulder straps, gives a natty uniformed appearance when worn without a coat. As Yosemite temperatures run all summer from 90 to 105 or 106 degrees, and as many

other Park and Monument units suffer similar or even higher temperatures, the coat-less man is a very important consideration.

(Southwestern Staffmen concur.)

BOOTS

Yosemite and Southwestern men are very pleased with the brown boot dye mentioned earlier in this article.

NECKTIE

Yosemite strongly favors the black necktie, principally because it insures a uniform appearance instead of so many shades of green as have always been in use, and will give better service because green ties have not been cleanable. Removal of spots, even with cleaning fluid, leaves a ring or discoloration. Black ties will be not only more uniform and neat, but also more economical.

(Men at Coolidge agree.)

CAP

Yosemite nor the Coolidge Office voted on the cap, believing that since it is not used in the west, eastern men should have full choice of what they want. However, the new drawing seems to be an improvement.

INSIGNIA

Yosemite: "We still lack a significant insignia. If we had one that meant something, it could replace the USNPS. Without such a symbol, we apparently have to continue the "USNPS", but some of our people think we should substitute a device as per the accompanying drawing. (See sketch on preceding page.)

"The coat and shirt should be provided with holes for the insertion of the insignia to insure that the devices are located uniformly and correctly.

"I think the gold and silver stars denoting length of service should be made about 50 percent larger."

(Coolidge men differ slightly. Most agree that since service stars mean nothing except to Service men, why make them larger? Two of the force consider the U.S. on the accompanying drawing unnecessary. The Boss feels that the "National Park Service" should be slightly smaller. But all agree that

the idea is sound.)

DISTINGUISHING FEATURE

Yosemite: "Here there is general strong feeling that the temporary contact groups should be instantly distinguishable from the permanent contact groups. The simplest way will be to add a green patch just above the upper left pocket of the blouse bearing the caption "Temp. Ranger" or "Temp. Naturalist"; the permanent men to wear merely "Ranger", "Naturalist","Supt.", etc.---these to be used only by groups that normally contact the public extensively."

(We do not see any particular reason for this, unless it is in the minds of Park men that a slight mistake by a temporary man would be excused more readily by visitors. However, on the other hand, some persons might resent or question the authority of temporary men so designated. All in all, Coolidge men are not in favor.)

Yosemite: "We think also that there should be a brassard worn on the left sleeve just below the shoulder, showing the name of the unit in which the wearer serves ("Yosemite", "Casa Grande", "Great Smokies", etc.). This will not only distinguish the assignment of the wearer, but will also add a bit of color, the need for which has been so much discussed. We favor having this in the form of a sewed-on woolen patch of the same color as the hat, with the word embroidered in gold or black; these to be worn only by the permanent employees....This device also automatically distinguishes between the field men in the Parks and the men of the staff and the cooperating groups."

(We are heartily in favor of the brassard idea. However, in our particular case, we would rather have the Southwestern Monuments men designated by a single emblem denoting the group. In other words, the Monuments setup is rather that of a big Park with 25 sub-divisions. Designating a man "Casa Grande" or"Sunset Crater" would be comparable to a label "Pasture Wash Ranger Station" at the Grand Canyon.)

Yosemite: "....very much pleased with the proposed new general layout. As we are removed such distances, we can't settle the small details quickly, and it is recommended that the Committee adopt the two-tone uniform with the present coat, the Beige Elastique breeches, the tan shirt for duty wear and the white shirt for dress, the black necktie, and the new dye for the boots, and that Superintendents secure such outfits under existing instructions, and that we use the year during which they will be under study and fire to work out the smaller details."

(Southwestern Staffmen concur, with such exceptions as are above noted. Let's have comments from the Field Stations.)

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# MUSEUM STUDIES AT CASA GRANDE

By Louis R. Caywood

This brief study is being made in an attempt to obtain desirable and necessary additions to the present museum and will be justified at each step.

Importance of the Casa Grande ruins cannot be too highly stressed. The Casa Grande itself is the only clay walled ruin of its type in the world which is now standing. A number of well preserved Pueblo ruins of the masonry types can be visited in the Southwest, but the only preserved Hohokam site in existence is within the bounds of the Casa Grande National Monument. So why should there not be the finest Hohokam museum displays to accompany this fine ruin? Why should not the best presentation of the lives of these Hohokam people be found at the Casa Grande National Monument Museum?

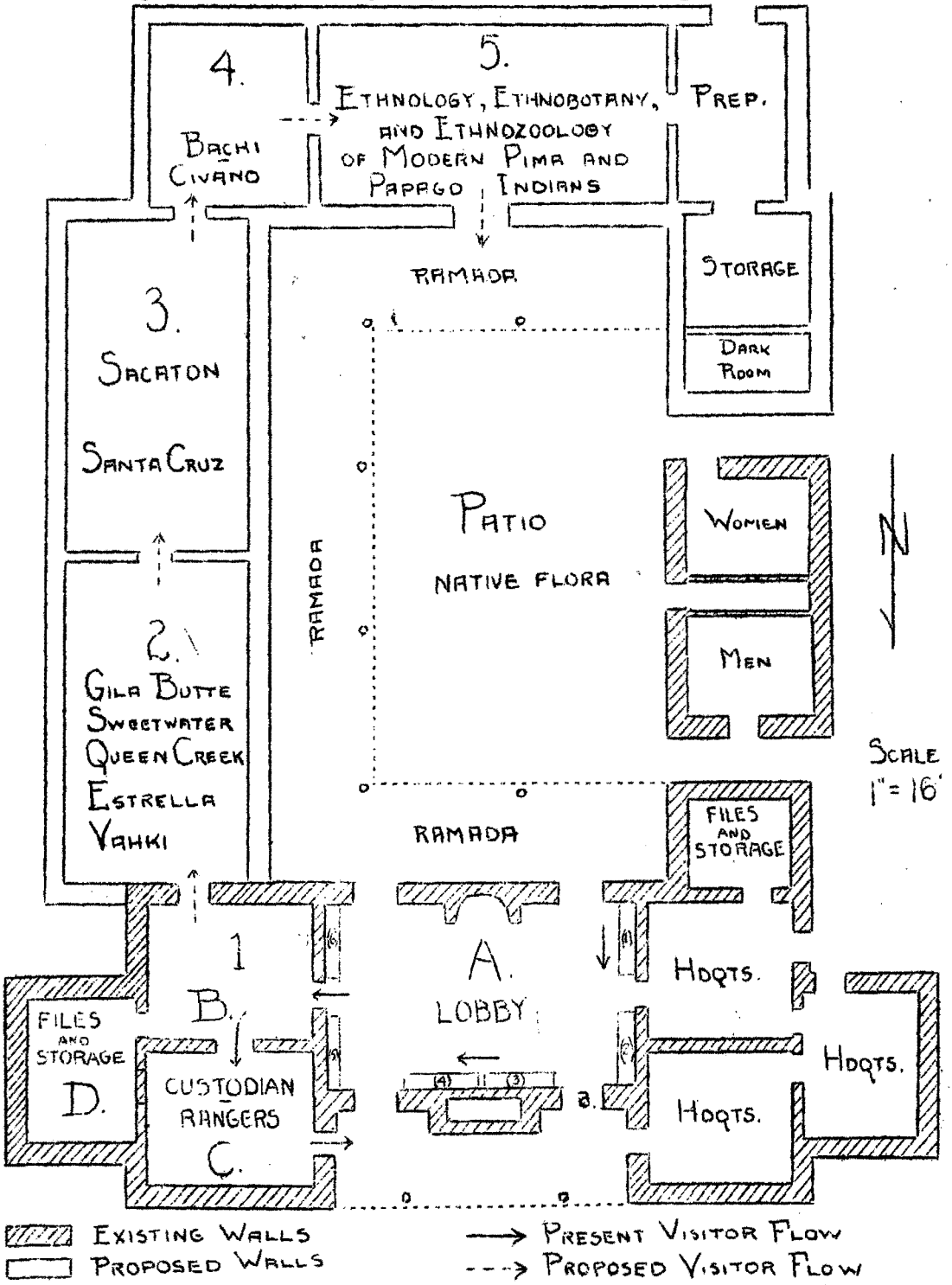
Knowing that a much longer and more complete archaeological story of the Gila and Salt River areas can soon be told, it is only right that plans be made for the proper telling of this story. Archaeological work being carried on by the Gila Pueblo of Globe at Snaketown on the Gila River Indian Reservation is bringing to light more evidence daily. There is work being done near Phoenix at Pueblo Grande which will also bring new evidence for this story. Work already done by Mr. Carl A. Moosberg of Sacaton added considerable in the way of artifacts and burial customs, but the greatest additions and refinements to our story have come from the researches of the Gila Pueblo.

## EXISTING FACILITIES

The present museum layout is shown on the plan on the next page as the shaded portion. The large room (A) is where our present story is told. In room (B) are several cases showing small artifacts, i.e., shell, stone, clay, textiles, a case of representative pottery of the Southwest, and several charts. Room (C) consists mainly of modern Pima, Papago, and Apache handicarft with two charts. Room (D) was made ready for a preparation room and storage room until space was needed for the Engineering Department. It is now used as an office, drafting room, and map file room.

The story of the Hohokam now told to the visitors centers in room (A). Entering the room through door (a) they are conducted to a case marked (1) where the story begins with the earliest period that we have

# Proposed Museum And Preparation Rooms
## Casa Grande National Monument



previously known, the Colonial or Santa Cruz Phase. The flow started here continues around the room as marked by the arrows where the successive stories of Sedentary (or Sacaton Phase) and Classic (or Civano Phase) are told. The points brought out show the pottery development, architecture or house type development, burial customs, agriculture, and religion so far as is known.

Room (B) now contains three glass top cases, two wall cases and four wall charts. The various displays in the cases are jewelry of stone and shell, clay objects, stone objects, and a case of representative pottery types of the Southwest. One wall chart of sherds shows pottery types of the Southwestern culture areas and periods classified in chronological order. This display was given to us by the Gila Pueblo at Globe. Another chart shows dated ruins of the Southwest according to data known several years ago. Due to rapid changes going on in Dendrochronology this chart should be replaced as sooh as possible by a revised chart. And a fourth chart shows the food areas of North America.

Room (C) is the present ethnology room showing modern Indian pottery, basketry, implements of warfare, etc. A map showing the Indian reservations of the Southwest is helpful to many visitors in orienting themselves. There is also in this room a large map chart or pottery percentage chart of the state of Arizona showing the percentage of types of pottery found in each quadrangle. A few pickled snakes and insects, a stuffed Gila Monster, a stuffed Western Horned Owl and some specimens of petrified wood make up the rest of the displays in this room.

On Sundays, holidays, and other busy days the flow through these three rooms becomes so congested that many people do not see all of the displays.

PROPOSED ADDITIONAL ROOMS
FOR EXHIBITS AND FOR PREPARATION PURPOSES

The following outline of plans with justifications for additional display rooms should be considered in planning. Mr. Frank Pinkley, Superintendemt of Southwestern Monuments, and the local educational staff concur with these preliminary plans.

Location:

The proposed addition will consist of two wings enclosing a patio to the south of the present museum building.

Purpose:

To extend the archaeological story of the region to include a

postulated period when the first peoples were passing through the valley before they began to settle down as agriculturalists. Then bring it up through the various periods of development through the period of decline to the present time.

Such a story is more than justified at the present time because of the work being done 30 miles from the Monument by the Gila Pueblo. The finds of the various institutions and individuals should be combined into a story to pass on to the interested visitor and the student. It is no more than right that when such evidence is exhumed that it be passed on by methods which the National Park Service has developed.

Building:

The building would consist of four additional rooms for display purposes, a preparation room, a storage room, and a dark room for photographic purposes. A ramada would be built on three sides of the resulting patio.

PROPOSED MUSEUM LAYOUT

A. Lobby:

The proposed lobby is at present the main room of the museum where the archaeology of this region is told. In this room would be placed appropriate furniture for anyone wishing to rest, write, or study. Around the walls might be placed pictures of other Southwestern Monuments. On a central table would be a few books on the Southwest in general and albums containing pictures of points of interest in the Southwest. This lobby would be the gathering place between trips to the ruins and museum.

In the room marked (1) would be a story telling how man came onto the American continent. Also the fact should be brought out that he was nothing more than a hunter. Tell how he spread and moved from one place to the other. Show present language groups and how widely separated they are. In general, then, this would be an introductory room to show the average visitor that man has not always been a farmer, but that there was a hunting stage before the agricultural stage. It is not so much this fact as the point to make the visitor see this and make him remember it.

Going on to Room 2 there would be the evidence so far uncovered as to how the earliest agriculturalists lived---portrayed by pottery shards, house types, etc. These phases as tentatively outlined by Mr. H.S. Gladwin and Dr. Emil W. Haury of the Gila Pueblo

at Globe are as follows:

Vahki---the earliest period. Undecorated pottery and large houses.
Estrella
Queen Creek
Sweetwater
Gila Butte

In Room 2 one good diorama of a period of which there is the most evidence would be in order. A model of a trash mound cut showing the early houses beneath the debris would be good. A map of Snaketown showing trash mounds, houses, irrigation ditches, etc., would be extremely valuable. An a progression of house type models beginning in the earliest period and going through to the last period should be made.

Room 3 would show later periods which have been named by the Gila Pueblo as follows:

Santa Cruz
Sacaton

Appropriate maps of sites excavated with ground plans and models should be made for these periods.

Room 4 would contain the following periods or phases:

Civano
Bachi

Casa Grande is included in the phase called Civano. These more recent phases have a wealth of displayable material, but dioramas and models would be the best ways to present the evidence to the average visitor.

Between the time of the evacuation of the Casa Grande and the coming of the Spaniards there is a phase or two of which there is very little known at the present time. One phase has been called Bachi. Between now and the time that any displays will be made or any buildings obtained it is fairly probable that more will be known of this phase. Room 4 will be the room in which the story of Casa Grande and the story of what happened to the Hohokam after the abandonment of Casa Grande up to the coming of the Spaniish will be told.

Room 5 will tell the story fo the modern Indians of this region including the relationship between the nomadic Apaches and the sedentary Pimas and Papagos. The ethnobotany and ethnozoology of these

Indians would also be treated.

From this room containing the modern material the visitor will be conducted through the patio where specimens of the native flora would be growing. On metal labels would be the names of the plants with their uses by the Indians of the region. Beneath the ramadas of the patio would be displayed some of the heavier artifacts, such as mortars and pestles, manos and metates, storage jars, etc. This would complete the conducted museum trip and the visitor would then to back into the lobby where he might further his study of the Southwest from material on reserve there.

The preparation room, storage room and dark room are absolute necessities to carry on the proper work of the Monument and the Southwestern Monuments. The room marked D has been the preparation room, but under the present congested conditions this room has been turned into a drafting and map room. The room marked C is our present ethnology room. It would be turned into an office for the custodian and the rangers. Room D would then be used as a files and storage room for the custodian with a door cut between C and D.

This completes a skeleton outline for a proposed addition to the present Casa Grande National Monument Museum. There are many gaps to be filled, suggestions to be made and plans for displays to be worked out, but for the present this will be a mark to aim at.

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THE PRESERVATION OF OUR RUINS IN THE SOUTHWEST

We now have with us Mr. Frederick T. Martius who for the past year has conducted theadobe conservation research at Stanford University.

After all materials submitted by manufacturers failed to meet the requirements, Martius continued to carry on this work as his time would permit. Finally he developed a formula which in laboratory tests fully met all of the rigid requirements for the preservation of not only ruins built of adobe but those built of sandstone or other materials as well.

Field tests so far have proven the merits of his compound which, for the present, has been designated as "x".

It is of interest that Martius should have become connected with work which is somewhat related to the accomplishments of one of his immediate ancestors, Carl Friedrich Philip von Martius, whose memoir appears in the Smithsonian Institution's Report for 1869 on pages 169 to 178 from which we may quote:

"The family of the celebrated botanist and ethnologist, to whose memory this sketch is dedicated, traces its origin back to Galeottus Martius, a famous physician and astrologer, born in 1427, at Narni, Umbria. About the year 1450 he occupied a professional chair at Padua, but, persecuted by the Inquisition on account of reformatory tendencies and compelled to leave Italy, he subsequently went to the court of the learned King Matthias Corvinus of Hungary, who appointed him his counsellor and librarian. The descendants of Galeottus mostly spread themselves over Germany, and many are known to have pursued learned professions, thus forming an ancestry worthy of their distinguished successor."

Carl Friedrich Philip von Martius on his travels and expeditions in South America, particularly in Brazil, wrote numerous works in the Latin and German languages, many of which were translated and published in the English language. Among the remarkable number of one hundred sixty titles a few may be mentioned which may be of interest to our personnel:

Contributions to the ethnography and philology of America, especially Brazil.

On Bushmann's work - The traces of the Aztec language in Northern Mexico.

The past and future of the American race.

Names and plants in the Tupi language.

The physical condition, diseases, physicians, and remedies of the aborigines of Brazil.

On the preparation of the arrow-poison Urari among the Juri Indians on the Rio Yupura, in North Brazil.

The creation of the Negro: a Brazilian legend.

Natural History of Palms (Historia Naturalis Palmarum). A monograph unique in its kind which caused to famous Naturalist Alexander von Humboldt to exclaim: "As long as palms are known and mentioned, the name of Martius will not be forgotten."

May we hope that our Martius in his work for the conservation of our ruins may win distinction as a "Chip off the Old Block".

*********

RUINS STABILIZATION IS MOST NECESSARY NOW WHILE WE STILL HAVE RUINS TO STABILIZE. TWENTY OR THIRTY YEARS AGO WOULD HAVE BEEN THE TIME TO HAVE DONE IT. AND TWENTY YEARS FROM NOW WILL BE TOO LATE. RUINS MAY WELL BE LIKENED TO ANY DEPRECIATING ASSETS. THEY ARE THE ASSETS OF THE AMERICAN PEOPLE.

EDUCATIONAL ACTIVITIES:

Mr. Robert H. Rose was called to Berkeley for the period of February 12 to March 23 for the preparation of museum studies and supervision of the making of Museum displays for Southwestern Monuments. Following is part of his report on Museum planning:

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The most important task completed during the month was a general report on Museum and Educational development in Southwestern Monuments with special reference to Museum needs. This general survey for the 25 Southwestern Monuments was made according to the following outline:

Name of Monument

A. Location and accessibility

B. Annual travel (1934)

1. Distribution by seasons or by months
2. Character; local or out of state; length of stay

C. Educational features possessed by particular monument.

D. Plans for protection and interpretation of ruins or other educational features.

E. Structure proposed for particular monument

1. The Museum unit
   a. Rooms and subject material of each
   b. Sequence of rooms and visitor circulation
   c. Suggested dimensions of each room

2. The Administration unit
   a. Offices, files, etc.

F. Trails to ruins, Nature Trails, Etc.

G. Exhibits in place (Trail sides, etc.)

H. Comments

This outline followed through in detail for each monument, gives a picture of the situation as a whole. It seems the knowledge of location and accessibility, annual travel, general educational features of the monument, etc., will assist us in knowing our problems better.

The next step (on which some progress has been made already), is the preparation of a report on the actual museum buildings themselves. This outline will take up in greater detail the building, architectural suggestions of general nature, location, functions and other problems.

Exhibit outlines for Bandelier, Casa Grande and other proposed museums have also been given attention. This is to form a part of the general educational development report referred to above.

Case layouts for five Aztec cases were worked out; labels printed; label copy made; the exhibits put up on a test exhibit background, etc. The cases for the new Aztec Museum were ordered. The matter of deciding on just how to apportion the allotment for cases and for exhibit preparation was the occasion of a good deal of planning.

Other details considered and worked on were as follows: Twelve lantern slides were colored. Relief map projects for Bandelier and de Chelly were drawn up and work is to proceed. The bird traps, the Moosberg cremation model, etc. were a part of the work given attention.

**********

Here is a good story on Jimmie Brewer as told by his wife. . . . . .

Dear Boss:

There may be some doubt as to just who this joke is on, but is is a good story. It might be called the "Tale of the Mysterious Pot-hunter" or "Why Custodians Age Before Their Time". The first episode occurred well over a month ago. We were on our way to town; as we rounded the bend and came in sight of Citadel we plainly saw a figure on top of the ruin; there was no car in sight; we suspected that the figure was no open and above board visitor, but a pot-hunter we were having the good luck to catch red-handed. The short distance to the ruin was covered in a hurry and Jim ran to the top of Citadel hill; he was gone quite a while and returned with only a very puzzled expression. Whoever it was had vanished without a trace; there was no signs of digging and he had evidently had time to take his tools with him! I drove back to the bend -- no, we hadn't mistaken a post or stones for a figure -- it was gone now; Jim reconnoitered the hill, looked for a horse, a car, peeked under stones -- no luck. The hasty departure made it all seem more mysterious and suspicious. When we failed to find any trace of the culprit we easily imagined he had a car, that it was parked below the mesa, and somehow a pot-hunter had escaped from under our wery noses. We felt just a bit foolish -- I mentioned a slight misgiving as to Jim's qualities as an apprehender of pot-hunters. We decided not to mention the incident as it seemed best to ignore it in the hope that the person would unsuspectingly return when drastic me'sures could be taken. So for weeks we made a point of driving quietly (as the truck permits) by Citadel when we were in that vicin-

ity. Finally one day Jim's ruse seemed to be working -- coming around the bend we again saw the figure on top of the Citadel. With grim determination Jim started on the chase -- when the figure suddenly came to life, stretched great wings, and soared away. Yes, it was an eagle. I think on the whole, that Jim felt relieved -- it is probably better to be fooled by an innocent eagle than by a designing pot-hunter -- at any rate, the ruins had not suffered. ----Sally.

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## NATURE NOTES AT CASA GRANDE NATIONAL MONUMENT

FLORA:

Everything growing on the desert is green and many of the shrubs, trees and cacti are in bloom. The mesquite is budding out and will soon be blooming. The creosote bushes (Covillea mexicana) have been blooming since the 10th of March. All of the cacti are beginning to bud. The ocotillo has leafed out and will be blooming in a few days.

FAUNA:

Every animal and bird is mating. There are young rabbits, some a month old already. The ground squirrels look as though there will soon be large litters. The quail are thinking of nesting. In the ruins the Western Horned Owls have finally hatched their young on top of one of the walls. A Say phoebe has a nest in a post hole in one of the rooms and a number of Rough Winged Swallows are thinking of nesting in post holes also. They probably saw the Phoebe in her post hole and got the idea from her.

Mr. A. E. Borell, Wildlife Technician, spent a morning looking over the Monument. He stated that it certainly was a wildlife sanctuary. He straightened me out on a lot of birds that I wasn't sure of.

We have a bird banding station here and so far have been fairly successful in trapping and banding a number of birds. Ten Government Sparrow traps were sent us by the Berkeley office. Of these we will use about three or four here and send the rest our into the field; so any custodians or rangers who could use one or more send in your order. So far we have been able to catch 27 English Sparrows, 5 Cactus Wrensand 30 White-Crowned Sparrows. The 5 Cactus Wrens and 30 White-Crowned Sparrows were banded with Biological Survey bands. A very limited number of these bands are on hand but a few can be sent out after it is known what kinds of birds can be caught in the type of trap that we have.

The best joke so far is on a lady who seeing a bird in a trap let him out and told us that she saw the little fellow in that terrible mess of wire and finally found a way to let him out. E.R.G.

## HOW THE MONUMENTS GET THEIR MONEY

Custodians recently received copies of the preliminary estimates for the fiscal year 1937. Since perhaps some of the newer men are not familiar with the procedure which finally results in the allotment of specific sums to the respective monuments and since some even of the older men regard the process as darkly mysterious, it is timely to explain something about how the monuments get their money.

While a number of special programs have been submitted in connection with the various emergency appropriations, each involving a somewhat special procedure, the regular fiscal year appropriations are based on a standardized procedure prescribed by regulation. As an introduction to the subject, the following section is quoted from the Appropriations Estimate Manual:

> Section 101. The Budget and Accounting Act 1921 (42 Stat. 20), requires the President to submit to Congress on the first day of each regular session, the Budget, setting forth in detail among other things: (a) Estimates of the expenditures and appropriations necessary in his judgment for the support of the Government for the ensuing fiscal year; (b) estimates of the receipts of the Government during the ensuing fiscal year; (c) the expenditures and receipts of the Government during the last completed fiscal year; (d) estimates of the expenditures and receipts of the Government during the fiscal year in progress.

Congress usually takes up the appropriation bills for running the government departments, the so-called "supply" bills early in the session each year. The supply bills now being considered in Congress are to provide funds for the fiscal year which begins July 1, 1935. As soon as the amounts carried in the bill for the Department of the Interior are known, the Director of the National Park Service calls upon the superintendent for preliminary estimates covering the cost of operating the Monuments for the fiscal year following that provided for in the current legislation. Thus, this office was recently asked to prepare preliminary estimates for the fiscal year 1937, which begins July 1, 1936. It will be seen that needs must be anticipated nearly a year and a half before the bebinning of the fiscal year for which funds are sought. This fact in itself explains why desirable improvements must often be delayed exasperatingly after every one concerned is agreed that they are desirable. It makes clear the necessity for careful advance planning, and it handicaps the hair-trigger sort of man who receives his ideas as inspirations in his sleep and must put them into execution before breakfast.

In the preliminary estimates the superintendent simply tells the Director in a letter how much money it will take to run the monuments for the fiscal year under consideration. Each monument is treated separately and the "increases" are explained carefully. The Bureau of the Budget, the press, the taxpayers, all resent increases. There is something about the word that carries a flavor of extravagance and a suggestion of wasteful expenditures. When officials of the National Park Service (or any other service) are called before the Bureau of the Budget or the House Ways and Means Committee, it is said they are called to "defend" the estimates. Thus it will be seen that increases in the preliminary

estimates must be fully "justified" if they are to gain the approval of the Director, who in turn must defend them before the Budget Officers and the Congressional committees.

The superintendent, from his knowledge of his monuments, recommends that provisions be made for needed personnel, equipment, operating expenses. He knows just how badly off some of the monuments are, and explains - often year after year - how urgent this and that situation is.

The preliminary estimates are reviewed by the Director, who, with the requirements of other park units in mind, notifies the superintendent of the amounts approved for submission in the final estimates. The amounts again are approved for each monument individually. They are then carefully broken down in this office, by cost accounts. There are thirty-four cost accounts prescribed for Administration, Protection, and Maintenance; for example, 101 Administration, 104 Ranger Service, 208 Electric System, 226 Quarters Operations. Not all of them apply to each unit, but those that do are the items of which the estimate for a given monument is made up. The Bureau of the Budget, however, makes its comparisons on what is called an "Object of Expenditure" basis; hence, each one of these cost accounts must be broken down to show just what "Objects of Expenditure" are contemplated under it. The common objects of expenditure, with their symbols, are as follows:

01 Personal Services
02 Supplies and Materials
03 Subsistence and support of persons
04 Subsistence and care of animals
05 Communication service
06 Travel expense
07 Transportation of Things
08 Printing and photographing
09 Advertising and publication of notices
10 Furnishing heat, light, power, water, and electricity
11 Rents
12 Repairs and alterations
13 Special and miscellaneous current expenses
30 Equipment

This information by monuments is then consolidated on prescribed forms, for the Southwestern Monuments as a group, both by cost accounts and "Objects of Expenditure," so that in its final form the estimate shows, for example, how much is asked for the Southwestern Monuments as a whole for Account 101 Administration, just what it will be spent for; i. e., 01 Personal Services, 02 Supplies and Materials, etc., and how much each monument is to receive for 101 Administration. The increases, which will be given critical examination all along the line, are very explicitly explained, showing just what increase is asked for each monument under each cost account. The regular fiscal year appropriation for the Southwestern Monuments for 1935 includes 92 cost accounts. There will be over a hundred for 1936. It will be seen, therefore, that the compilation of these figures is a sizable task even after the amounts have been decided upon.

When the final estimates have been prepared and all of the various forms completed, they are again submitted to the Director, who again reviews them and consolidates them with the estimates submitted by other Park Service units for presentation to the Bureau of the Budget. In the Bureau of the Budget, certain officers specialize on the estimates of certain departments and thus gain a remarkable familiarity with the conditions presented in the estimates. Officers of the National Park Service are called before the Bureau to give testimony "defending" the expenditures which they have recommended. The Budget officer must be convinced that the increases shown are really necessary, and, even should he be convinced, Budget limitations may still prevent him from incorporating the increases in the Budget submitted to Congress. It is here that provisions which seem vital to the custodian, close to his own reservation, vital to the superintendent, who knows the need, are lopped off. On the Budget officer devolves the fight to stop the mounting cost of government. The "increases" shown on the estimates submitted by all government agencies, are this "mounting cost," hence it is natural that the increases should suffer the most at the hands of the Budget. The custodian, who thus finds very real needs unprovided for, may feel that he and his monument have been the victims of malice, favoritism, neglect, or whatnot, when in fact the result came about in a wholly impersonal, detached way.

By the time the Budget officer gets through with the estimates, drastic cuts may have been made in the amounts recommended by the superintendent and defended by the Service. The amounts finally allowed by the Bureau are consolidated with estimates submitted by the other government agencies into a bound book entitled "The Budget of the United States Government." The Budget for the fiscal year ending June 30, 1936, now before Congress, is a book of nearly 900 pages 9x11½ inches, crammed with figures in very smalltype. Estimates for the National Park Service become a part of the Interior Department supply bill. These supply bills are first introduced in the House of Representatives, where they are referred to the House Ways and Means Committee. The Committee holds hearings of its own, to which again Service officials may be called to defend their estimates. The bill finally emerges from committee, is passed by the house, follows a similar course in the Senate, and finally receives the President's signature by which it becomes a law.

The superintendent is notified of the amounts finally approved for each monument and is asked to suggest an "Outline of Work," showing by cost accounts how he thinks the money ought to be spent. This is necessary because the figures submitted in the final estimates have by now been so changed that the original outline can no longer be used. If this revised outline is approved by the Director, he issues an "Allotment Advice" and an approved "Outline of Work" from which the first allotment ledger pages are set up and the Monuments are ready for another fiscal year.

-- H. M. M.

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Mr. Robert Rose returned to Coolidge from Berkeley only to hear of the death of his father in Indiana. Mr. Rose left immedialety by plane to attend funeral services.

**********

Superintendent Pinkley and Park Naturalist Dale King left on the 22th for White Sands to meet Assistant Director Tolson and Chief Architect Vint in order to accompany them over the Southwestern Monuments.

**********

## SIPAPU CAVERN

G. H. Gordon, Assistant Eng.

March 29th and 30th Associate Engineer Attwell and the writer arrived at Wupatki National Monument at 10:30 A.M. for the purpose of exploring certain openings in the fault line that extends in a northerly and southerly direction through the western half of the Citadel group. In the party were several members of the staff of the Museum of Northern Arizona and the acting custodian of Wupatki National Monument.

So far as the writer knows these caverns do not have a name. As one opening suggests the mythical sipapu of the Pueblo Indians, it was christened Sipapu Cavern. The other being near Loma Ki Ruin was named Loma Ki Cavern.

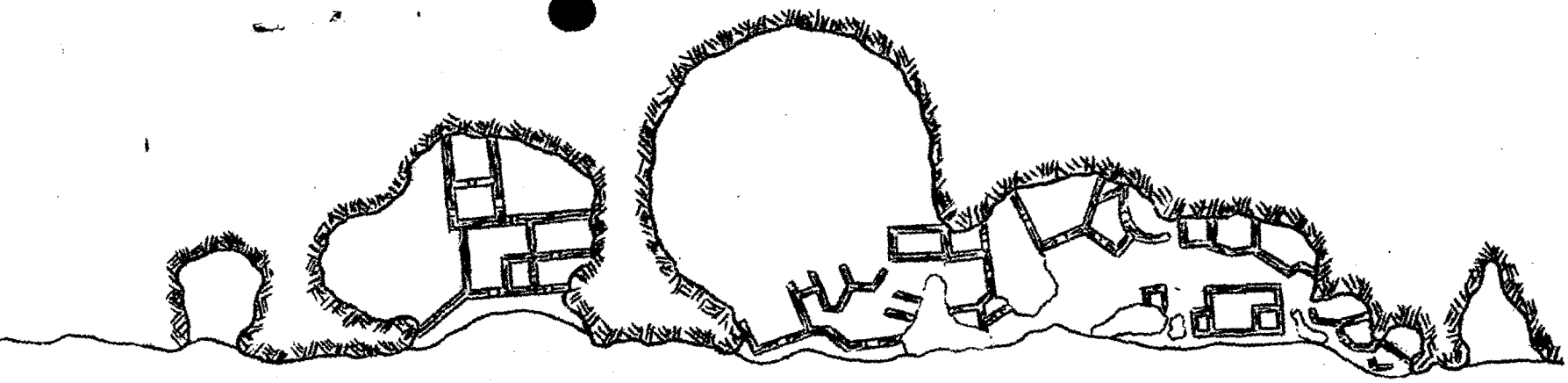
Sipapu Cavern was entered and explored by the writer to a depth of 240 feet. This depth was as great as could be explored with the equipment that was available. Further exploration of this cavern was deferred until the following day when better equipment would be obtained.

Loma Ki Cavern was explored by Associate Engineer Attwell to a depth of 128 feet. At this depth the bottom was reached. In the cavern a peculiar shaped head of antelope with horns attached was found.

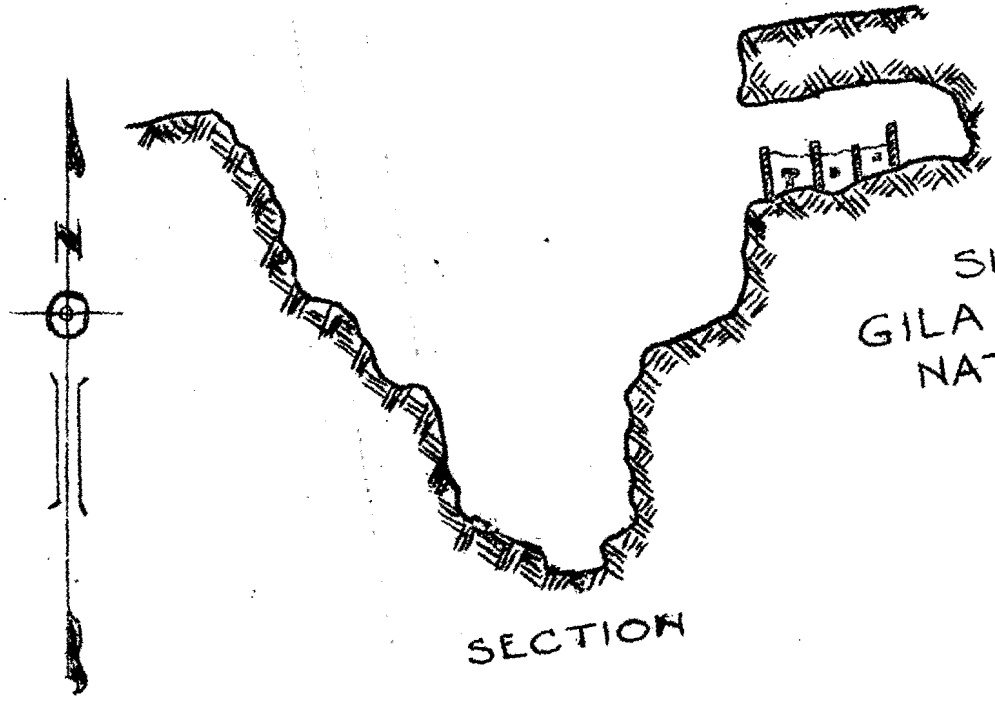
on March 30th the writer made another attempt to reach the bottom of Sipapu Cavern, but was frustated at a depth of 290 feet by the nature of the rock. Great quantities of loose material were encountered and it was deemed unsafe to attempt a greater depth at this time.

In the near future another attempt will be made to get to the bottom. Also a complete report will be submitted together with drawings of the cavern.

*******



PLAN




SECTION

SKETCH PLAN
GILA CLIFF DWELLINGS
NATIONAL MONUMENT
MARCH, 1935
G. H. GORDON

## A VISIT TO THE GILA CLIFF RUINS

By G. H. Gordon, Assistant Engineer

Saturday morning, March 16th, at 6:30, I left Silver City, New Mexico, for Gila Cliff Ruins National Monument. From Silver City the road goes through Bayard, Santa Rita and up the Mimbres Valley to within two miles of San Lorenzo where the road turns left to the north into the Gila National Forest, then on to the Goforth Ranch on Sapillo Creek. This is approximately 53 miles.

The car was left at the Goforth Ranch and horses had to be used across the divide between Sapillo Creek and the Gila River. The trail then led along the floor of the Gila. A number of river crossings have to be made before one finally gets to the little box canyon in which the Ruins are located. They are about two hundred yards up the box canyon on the west of the West Fork of the Gila River and are on the north side of the canyon about 150 feet above the floor of the canyon. This gave a southern exposure to the ruins.

Originally, a series of seven caves contained dwellings, but at this time only four of them have the remains of buildings in them (see accompanying sketch). The other three caves have had all walls removed some time in the past. There are, however, enough of the walls and blackened ceillings to warrant the statement that these caves had also been occupied.

At the present time there are the remains of some thirty five (35) or more rooms on what would have been the ground floor. Most of the buildings have been two story. This is indicated by the vigas. At some time past these buildings have been subjected to fire and consequently all vigas have been burned or partially burned to the wall line.

Floors of the rooms are covered by several feet of fill in places. This covering undoubtedly contains a great deal of material. From the surface of this material a small collection of fragmentary artifacts was picked up.

The walls show good workmanship. The lines are quite straight for this type of construction and corners are sharp. The openings are quite uniform and one excellent example of "T" shaped doorway was found. The walls are quite uniform as to thickness.

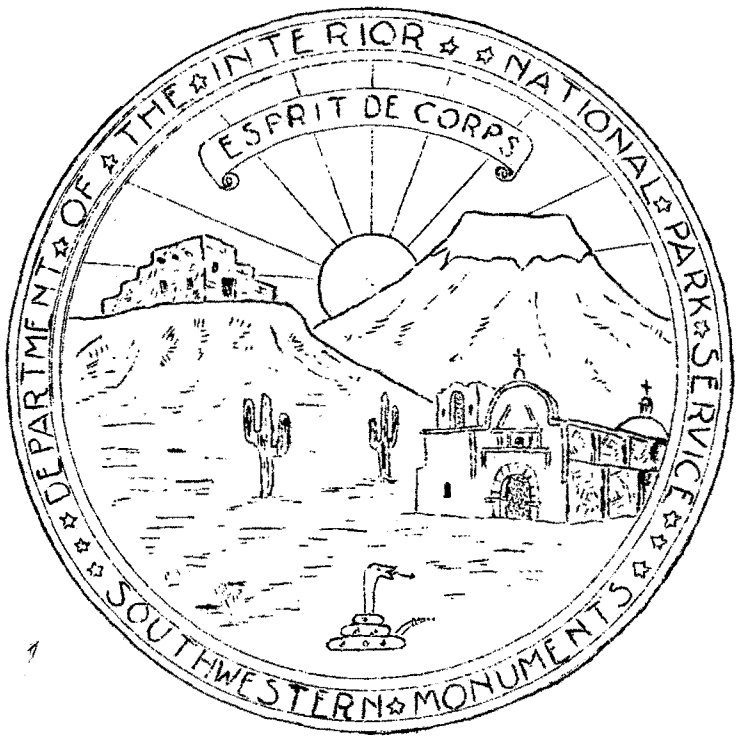
While I was there I saw evidence that some digging has been done. In my opinion it cannot be said that the site had been potted. Within the last month the site has been visited by five amateur diggers from a nearby CCC camp.

*********

# SOUTHWESTERN MONUMENTS

# MONTHLY REPORT

## APRIL 1935




DEPARTMENT OF THE INTERIOR

NATIONAL PARK

SERVICE

LIBRARY
NATIONAL PARK

# S O U T H W E S T E R N  M O N U M E N T S

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## SOUTHWESTERN MONUMENTS PERSONNEL

HEADQUARTERS Southwestern Monuments, Coolidge, Arizona. Frank Pinkley, Superintendent. Robert H. Rose, Acting Assistant Superintendent. Walter G. Attwell, Associate Engineer. Dale S. King, Junior Park Naturalist. Hugh M. Miller, Chief Clerk. Robert Cole, E.C.W. clerk.

GENERAL FIELD MEN: Harry Langley, Assistant Landscape Architect. Charles A. Richey, Junior Landscape Architect. J.B.Hamilton, Assistant Engineer. Gene H. Gordon, Assistant Engineer. George H. Hopper, Assistant Engineer. Andrew Clark, topographer. F.F. Martius, Research Engineer. J.H. Tovrea, Chief Engineering Aide. Howard Leslie and N.G. Hanson, Transitmen. Ray Hitson, A.B. Pinkley, Howard Williams, Walter Smith, C.E. London, E.Z. Vogt, Ralph Bollinger, Rodmen.

FIELD STATIONS

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, Custodian.
4. Canyon de Chelly---Chin Lee, Arizona. Robert Budlong, Custodian.
5. Capulin Mountain---Capulin, New Mexico. Homer J. Farr, Custodian.
6. Casa Grande---Coolidge, Arizona. Hilding F. Palmer, Custodian. Louis R. Caywood, Park Ranger.
7. Chaco Canyon---Crownpoint, New Mexico. Thomas C. Miller, Custodian.
8. Chiricahua---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, Sustodian.
15. Navajo---Kayenta, Arizona. John Wetherill, Custodian.
16. Pipe Spring---Moccasin, Arizona. Leonard Heaton, Acting Custodian.
17. Rainbow Bridge---No Custodian.
18. Saguaro---Rt. 2, Box 654, Tucson, Arizona. Charles Powell, Custodian.
19. Sunset Crater---Flagstaff, Arizona. J. W. Brewer, in Charge.
20. Tonto Cliff Ruins---Roosevelt, Arizona. Charles R. Steen, in Charge.
21. Tumacacori---Box 2225, Tucson, Arizona. George L. Boundey, Custodian Martin E. Evanstad, Park Ranger.
22. Walnut Canyon---Flagstaff, Arizona. Paul Beaubien, in Charge.
23. White Sands---Alamogordo, New Mexico. Tom Charles, Custodian.
24. Wupatki---Flagstaff, Arizona. J. W. Brewer, in Charge.
25. Yucca House---Cortez, Colorado. No Custodian.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
SOUTHWESTERN MONUMENTS

Coolidge, Arizona
Mayl, 1935

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

Dear Mr. Director:

The first several pages of this report will contain a general account of activities over the Southwestern Monuments district as a whole.

## SOUTHWESTERN MONUMENTS GENERAL

### WEATHER AND TRAVEL:

A survey of the reports from individual monuments shows that April has been a month of unsettled weather over most of the region. Windy weather, sandstorms, rain and snow flurries are reported from monuments in northern Arizona and New Mexico. Even White Sands which usually wears a smile and has mild weather at this time of year, reports a hectic month due chiefly to dense dust from dust storms farther east settling over the region. Pipe Spring up north of the Grand Canyon where blustery weather might be expected through April, reports that on the whole the month has been good.

In general southern Arizona weather conditions have just about run true to form for April. A few light showers have occurred during the month and the desert has literally been in bloom. For some five or six days during the second week of the month the atmosphere was filled with dust which caused unseasonably high temperatures. This dust which had floated from somewhere to the east extended from El Paso to the Colorado River. Later the dust cleared away and now the usual clear atmosphere and fine visibility prevails.

### FIELD TRIPS:

On page 194 at the beginning of the Supplement to this report you will find an account of the field trip which the Boss and Dale King made with Assistant Director Tolson and party.

On Friday April 19th Bob Rose accompanied by Paul Beaubien made a field trip to Tumacacori on matters relative to the research project that was carried on there.

ENGINEERING ACTIVITIES:

Some of the engineering activities during the month include:

1. Inspections of Bandelier and Chiricahua ECW Camps.
2. Field trips to Flagstaff on business relative to equipment for the proposed Wupatki camp.
3. Continuation of field work and mapping of underground walls of earlier buildings at Tumacacori.
4. Topographic mapping of Tonto National Monument.
5. Topographic mapping of Frijoles Canyon has progressed toward completion. Some smaller areas of the Canyon on larger scale must be done to facilitate planning of future work there.
6. Road maps, locations, etc., for the porposed Wupatki Camp and spur camps at Citadel, Sunset Crater, Walnut Canyon and Montezuma Castle.
7. Topographic mapping of proposed development area, El Morro National Monument.
8. Field and office work on proposed entrance roads to Walnut Canyon, Wupatki, Sunset Crater, Chaco Canyon and Montezuma Castle National Monuments.
9. Maps on Saguaro National Monument ownership, Montezuma water system and proposed wuins repair at Tumacacori.
10. Instructions were given on ground to PWA crews on trail construction at Wupatki; a P.W. crew is working on sewer and water systems at Gran Quivira and a well contract has been let.
11. Post construction work is progressing at Chiricahua and at White Sands.
12. Plans for all ECW projects at both Chiricahua and Bandelier have been prepared.

CONSTRUCTION:

Working drawings have been received on the Canyon de Chelly Residence (PWA) and Garage; comfort stations (ECW) ,Chiricahua; comfort station (PWA) at Gran Quivira; and preliminary sketches on several miscellaneous projects. Advertisement for bids on the de Chelly residence will be made as soon as final approval by the Director is secured.

ECW ACTIVITIES:

From the reports of project superindendent Chase of Bandelier and Hammond of Chiricahua the following items describing the progress in these camps during the month have been taken:

Bandelier:

1. Finishing work done on windows and grills of Camp Ground Comfort Station.
2. Completion of window and door openings together with installation of mangers made completed project of Concessionaire's barn.
3. Two-car garage and fuel room at Ranger Station completed.

4. Small shrub planting by barn, comfort station and trial.
5. Quarrying and hauling of building rock to site of proposed headquarters comfort station and utility area.
6. Camp ground extension started; clearing and grading of main road completed; campsite stalls where fills are necessary are being put into shape.
7. Rough grading of hotel parking area and moving of foreman's quarters and completing gaps in truck trail all due for early completion.

Late enrollment and the camp condition period have held work to a smaller average this month but with recent addition of 76 new enrollees and the receipt of approved plans, progress should pick up materially in May.

Chiricahua:

1. Water development in Echo Canyon for proposed fly camp is started and Lineal survey of Echo Canyon Trail is completed.
2. Masonry walls of Bonita Camp Ground Comfort Station completed and materials for plumbing and carpentry should be available soon.
3. Staking out of trench for Bonita water line is started.
4. Camp Ground Sewer System will be completed excepting hook-up with the Comfort Station.
5. Construction and grading of Camp ground roadways is making good progress.
6. Basement, cistern, footings and masonry walls on Sugar Loaf Peak Look-out House are practically completed.
7. Sugar Loaf Trail is nearing completion.
8. Maintenance work on Bonita Canyon Highway has continued this month.
9. Additional surveying on proposed headquarters Area Service road has been done. Work on signs and posts for campground has started.

VISITING PARK SERVICE OFFICIALS

Among visitors to Headquarters during the month, were:
1. Assistant Director H.A. Tolson of the Washington Office. See page 194 for the account of this trip.
2. Chief Engineer F.A. Kittredge accompanied by Mrs. Kittredge and daughter, Kathryn.
3. Chief Architect Thos. Vint.
4. Park Naturalist Paul R. Frank of Mesa Verde with Mrs. Franke and children.
5. Resident Architect Harry Langley.
6. Acting Custodian Leonard Heaton of Pipe Spring National Monument and family.
7. Landscape Architect Richard Sias of the State Parks Division and Major Cully.

REPORTS FROM THE MEN IN THE FIELD

GRAN QUIVIRA — W. H. Smith, Custodian

I find it time to submit my monthly report of the activities of the monument for the past month. I find that my register shows 373 visitors entering the Monument in 94 vehicles. This number shows a slight increase over last month and a decided increase over the same month of last year. I find nine states and Washington D. C. represented on the sheet this month which would show that there is more out of state travel than we have been having here the last few months.

During the past month we have registered quite a list of official visitors among whom we find the following: Assistant Director Tolson, Superintendent Frank Pinkley, Chief Architect Tom Vint and Naturalist Dale King. This party agreed that the location of the proposed Administration Building might well be changed. There has not been any one in here to survey the new site for the proposed building yet and I do not know where it will be located this time.

On date of April 14, 1935 I registered Mr. J. B. Wannyn, Professor at the Los Alamos ranch school, at Atovie, New Mexico. He and a number of his students spent a short visit here. They seemed to be greatly interested in the Monument.

Weather conditions have been very unfavorable for travel the past month. Taking the month as a whole it has been the worst month I have ever seen. The wind has blown as a continual gale and the dry weather has kept plenty of dust loose. The gale and this dry dust make a mighty disagreeable combination. On April 18 local showers fell that helped settle the dust somewhat but they were not worth much for moisture. The outlook for this year's crop at present is not as favorable as it might be. The wind has evaporated about all of the moisture we got last winter and we are not getting any more.

On date of April 11, Mr. H. F. Brown who is in charge of the sewre line work here arrived. Mr. Brown began work on April 17, with a small crew of six men. He started the work on the man hole at station one plus ninety and on the Septic tank. He will work between these two points first as the survey of the upper line from the proposed Administration building to station one plus ninety will be changed as has already been mentioned. With the small crew Mr. Brown is working they are moving lots of dirt and the work is going along nicely. The well driller who got the contract to finish the deep well here and complete the water system has not arrived yet with his rig but we are expecting him any day.

**********

CANYON DE CHELLY NATIONAL MONUMENT — Robert R. Budlong, Custodian

Our visitor season has started at last. Total number of visitors for this month, 101. Of these, 58 descended the White House Trail. Five States were represented, and one of our visitors was from Breslau, Germany.

Water continues to flow from the canyons in ever-increasing quantities. Travel in the canyons is, of course, impossible, and our visitors can only

drive to the rim and descend the trail. Of the 58 visitors who descended the trail, 49 waded through the flowing water to the other side of the Canyon, in order to reach the White House ruin.

The high light of the month was the visit of Assistant Director Tolson, Chief Architect Vint, Chief Engineer Kittredge accompanied by Mrs. Kittredge and their daughter, Superintendent Pinkley and Naturalist Dale King, Assistant Engineer Hamilton and Resident Landscape Architect Chuck Richey. We had but one regret, and that was that the visit of these officials could not have been a much longer one. We hope they will pay us other and much longer visits in the near future.

On the 15th, 16th, and 17th of the month we had the pleasure of having Mr. Edwin V. VanAmringe, of Pasadena Junior College, Pasadena, California, visit this Monument with a large party, consisting of fifty-two people, in thirteen cars. They were making a geological tour of this part of the country, visiting several other National Monuments as well. They were well equipped for camping and spent two nights camped in a shallow side-canyon near the Thunderbird Ranch. Mrs. Budlong and I were the guests of Mr. and Mrs. VanAmringe at supper the evening of the 16th, at their camp. It was an occasion long to be remembered by us.

Weather has been most unsettled, with rain, snow, and sandstorms, and some clear, warm weather. As I write this report, snow is on the ground, though melting rapidly. Late yesterday evening the sandstorm we had been having all day long turned into a snowstorm, and it snowed steadily throughout the night. If the coming month brings us good weather we expect increased visitor travel to this Monument.

**********

BANDELIER NATIONAL MONUMENT — Earl Jackson, Custodian

There follows the April monthly report for Bandelier National Monument:

VISITORS: Visitors numbered 643, arriving in 183 cars. They registered from 33 states, Washington, D. C., England, and Java. This travel figure compares with 440 visitors for April 1934. The six highest states, in order, were: New Mexico, 457; Colorado, 51; Texas, 26; California, 19; Illinois, 12; New York, 10. The number of Harvey Car visitors has picked up considerably this month.

Our travel looks quite well so far this spring, considering that much travel through the middle West has been prevented by the severe dust storms of the last two months, which have affected regions closely adjoining our own.

WEATHER AND ROADS: April showers came in with gusto just before the first of the month, and precipitation was 1.03 inches. There has been much cloudy weather, and one or two mild freezes. Some snow has fallen in Santa Fe, but none in Frijoles Canyon. Roads are in good condition.

SPECIAL VISITORS: March 26- Mr. Kittredge and Mr. Attwell were in for a brief inspection. With them were Mrs. Kittredge and daughter, Kathryn.

March 28 - Mr. Allen C. Bell, of the Bell School for Boys, Lake Forest, Illinois, was a very interested visitor. March 31 - Dr. and Mrs. H. P. Mera paid a brief visit to the ruins, after a fairly long absence. Dr. Mera is with the Laboratory of Anthropology in Santa Fe, and is probably the foremost authority in New Mexico on pre-historic pottery. He expressed high approval of the new trail system installed by the C.C.C.

April 6 - The faculty and students of the Brownmoor School for Girls, Santa Fe, spent the day with us. They were all exceedingly interested in the ruins. The custodian, carrying with him the burden of University reminiscences, was amazed and delighted to find such a thoroughly well behaved group of girls.

April 9 - Miss Sheila MacDonald, youngest daughter of England's prime minister, arrived for a stay of a day and a half. She was en route back to England after a world cruise of eight months. She visited all the ruins in Frijoles Canyon and on the Detached Section, walked the lower canyon trail to the river, and saw the country from Inspiration Point, (eight miles west of here) and on the conclusion of her visit was very enthusiastic in her impressions of New Mexico.

April 12 - Captain and Mrs. H. E. Minton, from Fort Bliss, were interested visitors. April 23 - Miss Frances Gillmor, formerly a student at the University of Arizona, was very enthusiastic. Miss Gillmor may be remembered as the author of "Thumbcap Weir."

NATURE NOTES: A person who has had the fortune of going through the springtime of the year in New Mexico is indeed fortunate. Frijoles Canyon has come out of its winter hibernation in leaps and bounds. Almost overnight, with the coming of April showers, it has put on its spring clothing of green. The cottonwoods and willows are almost leafed out, flowers are popping up everywhere, and one of the most beautiful sights in the whole section is a dense thicket of wild plum near the Long House which is a solid mass of snowy flowers.

Alert squirrels are more numerous than I have ever seen them. Chickarees seem scarce so far in the canyon. Quite a few rock squirrels make themselves evident, and chipmunks are here in multitudes. Recently near the Upper Crossing of Frijoles I found three western Yellow Pine trees which had been almost completely stripped of needle clusters; those wasteful squirrels will cut off an entire cluster of pine needles to get at their"squirrel bananas", and sometimes very nearly kill a tree by destroying its feeders. Squirrel bananas are the stems on which the needle clusters grow; the rodents cut off a section of stem from two to five inches long and eat all the bark off it, cluttering the ground beneath the tree with dozens of the bare stems which are discarded when stripped.

Several bunches of turkeys have been seen recently, and appear to be in good condition. Evidently the winter was not too hard for them.

GENERAL: I regert to report that on a recent inspection trip through the Detached Portion of the monument I found evidences of vandalism in Tsankawi Ruin. Three of the rooms had been pretty thoroughly pot-hunted by industrious diggers. Great quantities of broken pot-sherds were scattered over the refuse

pile they had thrown out. I doubt if anything of value was found, for they had done scarcely any clean-up of the floor. This vandalism must have occurred in the first week of April. I have been back twice since and saw no fresh signs.

On the eighth of this month a report came in that the Cochiti Indians were having a turkey hunt in the wouthern portion of the monument. I hiked down there at once, and after covering thirty miles, found no tracks or fresh hunting signs. So, well and good for this time; however, I know the Cochiti and Santo Domingo Indians do enter Monument territory on some of their hunts. In spite of all the intermittent patrol work that can be done on the reserve, those Indians are going to get some game. Those are their ancestral hunting grounds, and they can't get over the habit of going out to get a turkey or deer whey they are hungry. They will listen very respectfully to the white man's admonitions against hunting, and agree with him that it is wrong to hunt on a game preserve--then next day, if the impulse strikes, they are back at the traditional activity of meat-getting, irrespective of boundaries.

Our new camp ground is proving quite popular of late. Nearly every day sees several picnic parties availing themselves of our camp table and fire grate benefits, and they speak very highly of that development. Santa Fe people repeatedly bring friends out to see the ruins and picnic on the grounds.

Tomorrow I am expecting a group of sixty delegates to a Rotarian Convention being held in Santa Fe; they plan to picnic here and spend the day. On May 2 the Social Science Section of the Southwestern Association for the Advancement of Science will picnic here and spend the afternoon seeing the ruins. This association is holding its annual meeting beginning on April 29th, meeting this year at the Laboratory of Anthropology in Santa Fe. Much additional archaeologic interest in this section is expected as a result of that projucted visit.

Will sign off for this month, and get ready to try to out-talk all those scientific gentlemen when they come.

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CHACO CANYON NATIONAL MONUMENT T. C. Miller, Custodian

The activities in the Chaco Canyon National Monument for the month of April were as follows:

GENERAL

Approach roads have been passible but very rough the entire month. Only a few days this month the roads were slippery because of a few light snows.

WEATHER

The weather has not been bad this month but we have had lots of different kinds of weather, bright warm sunny days, sand storms, snow storms, sleet, hail, and rain. The maximum for the month was 71 degrees on the 13th. The Minimum was 23 degrees on the 11th. Precipitation .21 inches of rain and melted snow

was recorded for the month.

TRAVEL

472 visitors arrived in 144 cars, busses and school trucks, coming from the following states; Arizona, California, Colorado, Kansas, Maryland, New Mexico, Ohio, Tennessee, Texas, Utah, Washington and the District of Columbia.

RUINS STABILIZATION

The mapping and measuring of the ground plan of Chetro Ketl is 75% complete. This work is under the supervision of Mr. Howard Leslie, who was transferred on April 24th to Wupatki. It is hoped the crew will soon return to complete the work at Chetro Ketl, and may Pueblo Bonito, so that the much needed repair work may be done.

FENCING

Word was received on the 23rd . that Secretary Ickes had alloted $30,000 to fence the Chaco Canyon National Monument. We are very anxious to get this fencing under way and eliminate all grazing in the Monument. The grass, brush and weeds are getting green. The Monument is over stocked, and we need this years growth of vegetation to help prevent the Canyon from eroding away.

SPECIAL VISITORS:

The Monument was inspected on March 27th. by Mr. Hillory A. Tolson, Assistant Director, Superintendent Pinkley, Southwestern Monuments, Chief Engineer Kittredge, Chief Landscape Architect Richey, and Naturalist Dale King of Southwestern Monuments.

Supt. Stacher of the Eastern Navajo Reservation held a meeting at the Monument Headquarters with the Chaco Canyon Navajos on March 28th. The purpose of the meeting was to discuss the Wheeler-Howard Bill.

Dr. Edgar L. Hewitt, Director of the School of American Research and the University of New Mexico , and Party arrived April 6th. and departed on the 7th. The Junior and Senior Classes of the Aztec High School spent the day in the Monument on the 6th. Assistant Engineer Gordon arrived on the 7th and departed on the 15th.

Engineer Clifford of the Soil Erosion Service arrived on the 16th. and departed on the 18th. Mr. Clifford was making a study of the Erosion control work to be done in the Canyon. He was assisted in his work, as much as possible by the Custodian.

Mr. Frederick T. Martius from Standord University who perfected the Preservative solution for Prehistoric Ruins, arrived and departed on the 17th.

Mr. E. Z. Vogt, Custodian of El Morro National Monument arrived at Chaco Canyon April 22nd. to work as rodman on Engineer Leslie's crew, filling the vacancy made by the transfer of Mr. Ray Hitson.

CAPULIN MOUNTAIN NATIONAL MONUMENT Homer S. Farr, Custodian

I have the following report to make for April:

Some five hundred visitors came to Capulin Mt. this month. These included several school groups from Turpin, Okla., Grenville, Des Moines, and Capulin, New Mexico. All were present with their schools. A one inch snow fell last night and this is about all the moisture we have had this month.

High winds and dust storms continue but we are in hopes this slight moisture will retart them for a few days.

Some Rim and Crater Trail work has been started this month and the Trails are already showing improvement, Very little has happened this month worth reporting. Our tourists begin next month and we hope to have a large number of visitors this summer.

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YUCCA HOUSE NATIONAL MONUMENT Inspection report by T. C. Miller

On April 22nd. I made an inspection trip to Yucca House National Monument. Found the roads in good shape.

I left the Chaco at 6:10 A. M. arrived at Yucca House 10:10 A. M. I spent four hours around the Ruins and returned to Chaco by 7:00 P. M. The country around Yucca House looks fine-nice and green. There were no fresh signs of vandalism around the ruins. I noticed quite a few tracks around the Ruins, and was told by Mr. Ismay that we had cars this month from California and Indiana, as well as a few cars from Colorado. Travel for the month was estimated at 6cars and 22 people. Would it be permissable to establish a register in the Monument so that we would have a permanent record?

Mr. Ismay showed me where the Park Service Spring under the Ruins was making Sub-Marginal land out of about 15 acres of his farm. Mr. Ismay asked me if the Park Service would take the water out on top of the hill and turn it in to the ditch, so that it would not do further damage to his land. This work can be done at small expense.

While walking through the ruins and examining the holes made by Pot Hunters I walked right up on three diamond backed rattle snakes taking a sun bath. I noticed the absence of the usual grin of greeting the Park Service Folks expect while visiting a Monument.

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SUNSET CRATER NATIONAL MONUMENT J. W. Brewer, in Charge

Since writing the last monthly report I have been to Sunset Crater three times. At this Monument travel increases greatly with the coming of spring weather to the mountainous part of northern Arizona. This month visitors totaled 273. Of this total the majority of people were from California and Arizona; eighteen other states, widely distributed geographically, Washington D. C., Mexico, and Germany were represented.

On April 12th I accompanied the official inspection party-- Mr. Vint, Mr. Tolson, Mr. Pinkley, Mr. Langley, Dale King, and Dr. Colton--to Sunset. April 1st. Mr. Martius and I visited the Monument. Walt Attwell registered on April 22nd. On the 15th. Jack Snow, staff photographer for the Museum of Northern Arizona, visited Sunset. During this month Pomona College and Santa Ana Junior College brought their geology field trips through this Monument.

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AZTEC RUINS NATIONAL MONUMENT — Johnwill Faris, Custodian

It is hard to realize that it is time for another monthly report, but the calendar insists that it is the last of the month, so here goes.

Visitors for the month total 554 which is a fair April for the Monument. This number is a few less than April 1934, which was our best year since 1931. We can easily account for this slight decrease when we take into consideration the past few weeks with its days of unsettled weather. In direct comparison to other years I feel that we are starting a season that will surpass any since my term as Custodian. All press releases indicate that Colorado is working for, and is expecting, the largest tourist season in years, and if that is the case, there is no doubt but what Aztec will get a large number that may visit Mesa Verde. We expect some increase due to the California-Pacific International Exposition to be held this year in San Diego.

As I sit here, Boss, writing this report I cannot but be impressed with the general view one gets from the office window. From the chair in which I sit, I can see an orchard of over a Hundred apple trees, all in the bud and some on the verge of blooming; off to the right lay some twenty acres of alfalfa land, all green and uniform in color; a fine parking area and entrance gates the Landscape Division has designed for us, which all goes to aid us in our work, since the first impression visitors get is important. With all the dust storms in many sections of the country and with so many of our tourists passing through these areas, very few fail to be impressed with the fine valley in which the early people chose to build.

One of the highlights of the month, of course, was the visit of Assistant Director Tolson and party. We were most fortunate in their making us a visit, and do not recall in my time at Aztec when we had a more representative group than this party. Every division of our Service was represented with the Chiefs of both the Landscape and Engineering. We certainly hope that the entire party enjoyed their time with us as much as we enjoyed them. If any suggestions or criticisms followed we would very much appreciate a review of them, that we might profit from the viewpoint of others. In this connection we would very much appreciate hearing from any of the Monuments that ever get any complaints of Aztec. I might say that we get little or no complaint about other Monuments, and I hope they receive very little on us. However, if they will pass on what they do get we will certainly attempt to see that the same complaint does not occur twice.

Since writing the above, three cars from Virginia and a group of fifty seven students were shown the ruins. With such a rush the necessity of preparing for larger parties is forced upon us with such reality that I am led

to ask, "Boss, what are we going to do about it?" Of course the above may not occur with any regularity as yet, but it was not very long ago that we would have considered serving a party of over sixty in a couple of hours impossible.

I am in receipt of word from San Francisco that our shipment of cases is enroute, and that will help very much in our work. The new building just completed with the able supervision of Inspector Gebhardt, is never passed up by visitors without come comment as to its beauty etc. I certainly take great pride in telling them that our own departments made possible such a unit, and tell them also that they want to see it when we get it finished. Several have expressed the desire of having a summer home on the style of our new lobby and one family even took notes on the work to incorporate in plans they are forming for a home. I guess we will have to take our hats off to the designers.

Before I forget, I want to pass along a compliment the parties from Virginia gave the Casa Grande force. They took pains to mention that the ranger from Colorado was most pleasant and so thorough in his explanation that they were still impressed with their visit to Casa Grande. Good for you, boys; we welcome a standard such as that to aim at.

The discussion regarding uniform changes was most interesting, and as a whole I am in accord with the ideas of our headquarters crew. Personally, I do not like the idea of a different type coat and breeches, but it may work out very good. I will want to see it before I make the change at Aztec. I do not especially favor the particular park or monument designated on the uniform. While in one way it might tend toward pride, I can see a breaking away from the"service as a whole" feature that we are trying to make all our men feel. I greatly fear that we already have too much "Aztec Ruins", "Casa Grande", "Yellowstone", "Mesa Verde", etc., and not enough "National Park Service". Will not the bassard feature create rivalries that may defeat the purpose for which it is intended and result in ill feeling among our different units? If we were all big enough to appreciate that other places have things we do not, it might be all right, but many of us cannot realize that <u>it takes all of us to make the Park Service</u>. Our visitors sense this in many of our larger Parks especially,and with all respects to our big brothers,they are doing in this case more harm than good.

Now, Boss, see what you have gotten me in to by asking for comments. If Aztec comes up missing a Custodian look to some of the large Parks for the murderer. No, seriously, I don't blame them a lot for I wouldn't trade Aztec for any three of the Big Parks with a couple of Monuments thrown in for good measure. I am trying to overcome a growth of this feeling, however. I hope, Boss, that this is a graceful exit from a bad mixup. Anyway, as we embark on a busy season, I want all the units to know that we will try our very best to impress each visitor that there are other places within the Park Service besides Aztec. However, in so doing, I do dare the entire service to send away a visitor more satisfied than we are going to this summer at Aztec. We may not have many of the things that others of you have but we are going to make as much of what we have as anybody. And in closing may I add in small letters after the above, that in case we do not, that you can all credit the failure to the individuals rather than the Monument. We have the grandest unit

within the Service.

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Johnwill's comments on the proposed uniform changes, Chief, are good but his little lecture on instilling a pride in the Service as a whole is better. Speaking of being "murdered" for these comments; we hope the time never comes when we will have to "murder" a man for advocating pride in the whole organization and for giving courteous, intelligent service to visitors.

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WUPATKI NATIONAL MONUMENT J. W. Brewer, Acting Custodian

WEATHER: Generally fair. Precipitation: .05 of an inch (rain). Temperature: mean high 70; mean low 44.8. The dust storms prevailing over the west settled on Wupatki April 12, 13, 14, seeming to come in from the north. It was interesting to note the rise in temperature while the dust was in the air. April 11, high was 65, low 35 ( no dust); April 12, high 65, low 52; the second day of the haze the temperature rose to 79, the highest for the year. After the 14th the low gradually dropped back to the low forties.

E. C. W. With the tenth of April came a flood of NPS and ECW B.L's and freight arrival notices. I hadn't been advised to expect any shipments, but since it involved no financial transaction I accepted, and am still accepting, great quantities of various items of equipment and supplies. Walt Attwell and I have secured a vacant garage in which to store the above. I have secured padlocks and will install them as soon as the present tenant vacates. I believe it best to paint the windows and post U. S. Property signs to lessen the attraction for burglers.

TRAVEL: A total of 70 guests visited Wupatki Pueblo while 13 registered at Citadel only. The Crack Exploration parties swelled the total attendance to 101 for the month.

Our newsworthy visitors were, in order of their appearance on the register, as follows: Dr. Colton, who came three times during the month; Dick Van Valkenburgh of the Soil Erosion Service; Mr. and Mrs. Martius of Palo Alto, experimenters in preservatives; Leonard Heaton, Custodian of Pipe Springs National Monument, with Mrs. Heaton, her mother, and some fine little Heatons; the NPS party, escorted by Dr. Colton, and composed of Assistant Director Tolson, Chief Architect Vint, Landscaper Langley, Superintendent Pinkley, and Junior Naturalist King; Katharine Bartlett, Curator of Anthropology and Archaeology for the Museum of Northern Arizona, John McGregor, Curator of Dendrochronology for M.N.A. and Mrs. McGregor; Clifford Armack, Curator of Biology, M.N.A.; Walt Attwell, and Gene Gordon, NPS Engineers.

WILDLIFE: The Brewers moved in on us a hundred strong. I saw one light on a sheep's back at Heiser Spring. That happened to be a black one, and let me add, this is not to be mistaken for a Brewer "black sheep" or such. It was a Brewer blackbird ( Euphagus cyanocephalus cyanocephalus). Six were noted on April 16; many Brewer sparrows have also been noted. One specimen of the former was taken and prepared.

The call of a Poor-Will was heard on the evening of the 18th as Sal

and I were watching the moonrise. The first occurrence noted last year of the Poor-Will was on April 5.

On the 19th doves were seen at both Wupatki and Heiser. I gathered up a specimen of Gambel Sparrow (Zonotrichia Gambeli) on the 19th. Both bird specimens collected this month were adult males.

On the tenth while Sal and I were driving out to Walnut Canyon we observed a brazen coyote loping slowly in front of us; after giving us a good once-over he hightailed it across the wash.

The Bar-B-Bar cowboys, driving a herd of cattle, jumped 6 head of antelope on the north side of the saddle between Doney Mountains on April 22. This is about four miles from Wupatki Pueblo--the first recorded observation we have of antelope this near the pueblo. ( N. A. 405)

PRESERVATIVES: I am submitting the following data on preservatives to establish a permanent record and a starting place from which results may be determined:

The following have this month been sprayed with Mr. Martius' liquid "X" (two coats put on 24 hours apart): (1) the center section above plaster of the west side of the east wall of R 41; (2) the right hand side (south) of the plastered area.

The following have been sprayed with Mr. Martius' liquid #46 (two coats put on 24 hours apart): (1) the left side (north) of the plastered area mentioned above; (2) the plaster and firepit in NA 2765 (pit-house); (3) the five displayed floor levels and the fire-pit in R 28 of the pueblo.

UNIFORM CHANGES: I do not feel especially qualified to comment on the uniform changes because I have had little experience with the uniform now in use. However, since you have asked for opinions from Southwest men in the field I would like to say that I would not care for red piping on the uniform unless accompanied by patent leather boots with a two-inch top border in red. This border should be suede and Chinese red in color.

No fooling, I do think the shirt sketched in the last report is a good change from plain shirt or coat--both practical and good-looking.

This A. M. before we left the Monument Howard Leslie, Mr. Williams, and Mr. E. Z. Vogt arrived. The project seems to be to re-locate the entrance road. Mr. Vogt showed us some very interesting photos of El Morro; we wish we could see the Monument first hand,

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WALNUT CANYON NATIONAL MONUMENT — Paul Beaubien, Acting Custodian

I found everything at Walnut Canyon in good shape. The entrance roads have been newly bladed by the county and 84 people used them Easter Sunday. Three hundred and fourteen people have registered this month.

An engineering crew under the supervision of Mr. Geo. L. Hopper arrived the

22nd. and are now busily engaged in taking topography. With a C.C.C. camp to be here soon, it appears that Walnut Canyon will soon be a greatly improved Monument.

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SAGUARO NATIONAL MONUMENT — C. E. Powell, Ranger in Charge

The Saguaro National Monument is now at its best. With the early Saguaros in white, the Prickly Pears in yellow, and the hedgehogs in purple, and with Zinnias and Primroses everywhere, the flowers show is on. The Versicolors will be next, and from now on, as fast as one of the Cacti ceases to bloom, another will begin, so there will be no monotony.

Fifteen hundred and twenty visitors have registered to date. As the Ranger station is midway between gates, it is conservatively estimated that one-third of our visitors do not register. This will be remedied if and when one main entrance way is established, and the road built in a loop. I believe the monument will be more attractive if a road is built along the foothills, as I found by traveling an abandoned road one can reach several places of unusual beauty back in the hills, and the vegetation over there is slightly different, though none the less beautiful.

Would I be shot at sunrise if I should mention that Saguaro, too, needs a museum? Sounds a little fantastic, at first, but that is just about what we do need. Not the conventional kind, but a museum filled with living plants. Only partially out of doors. Sooner or later, our landscape experts will be called upon to arrange such a natural garden and our cacti may be shown in a manner that even the casual visitor may understand and appreciate.

Did I tell you that we have a bulletin issued by the Carnegie Desert Laboratory, one issued by the Chamber of Commerce, and a large volume by Dr. J. J. Thornber, to study, now? In fact there are two from the Desert Laboratory, but one of them is quite small. Now, I want another one, written by Britton and Rose, then I will be contented until I hear of something else.

Dr. Thornber is making a study of the Saguaro, to determine more definately the age of the average plant. In this study, he plans to measure the growth of young plants , moderate sized plants, and old plants, and will thus have a definate means of determining just how old our Saguaros are. He says that even the best estimates are now nothing more than guesses.

Just after I mailed last month's report, Mr. and Mrs. W. H. Wirt, of Berkely, Forestry Headquarters, paid Saguaro a call. Our next Park Service visitor was Mr. Walter Attwell, Associate Engineer, of Coolidge, who came and departed without seeing the ranger, much to my disappointment. Then Assistant Director Mr. Hillory A. Tolson, Chief Architect Thos. E. Vint, Superintendent Pinkley, Architect H. Langley, and Naturalist Dale S. King, came and departed before a fellow could recite the name of one of our cacti. ( Wouldn't it be harder to say "Neo-mammillaria McDougalli" than "Jack Robinson")? Last, but not least, State Park Landscaper Dick Sias and Mr. Frank H. Cuelley called last Sunday.

Did I ever mention to you that you are training four rangers in one at

Saguaro? Well, I have been hoping to surprise you some day, but this is too good to keep any longer. Junior, Lee, and Bill Jim, have been coming up each Sunday and have been crowding Dad right along with their studies of cacti. It was Mrs. that found the first Night Blooming Cereus. Junior located the bees which I showed you in the Saguaro. Lee found the Cristate growth on the Cholla. Now Bill Jim, my five year old baby comes to the front by finding a big fat Night Bloomer with flower buds on it. These boys intend to study botany as soon as they can be admitted to the University (which is a long way off yet), but are now learning a great deal which will be useful to them later. They are a great help Sundays, when the crowd gets thick, and Dad is real busy.

I look forward to a time when there will be greater activity at Saguaro, so that I may see more of the Park Service personnel, at more frequent intervals I could stand the thought of a permanent job right here, although Chiricahua will be more pleasant in the summer.

Do you suppose that Dale S. King could come down some week day and spend a little time studying conditions here? I think such a visit would be of advantage to the service in several ways. Or would that be asking too much of a busy man?

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Charlie is bringing up a timely topic about a museum at Saguaro. We would welcome a report elaborating upon a scheme he thinks would work there; some sketches of his proposed arrangement would be useful.

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EL MORRO NATIONAL MONUMENT E. Z. Vogt, Custodian

The visit to our Monument, which came suddenly three days before the scheduled time, caught me away from home at the Monument where I had gone early in the morning to plant some yellow-clover seed on our restored area, while waiting for visitors. It proved that the only visitors we had that day was the Official party headed up by Assistant Director Tolson and in tow of Mr. Pinkley.

In the Rincon de Encino (Oak Grove) on the north side of the great cliff is where we built our camp fire, fried our steak in a dutch oven and made coffee. These hot fillers with the Harvey House sandwiches fortified and gladdened the party so thoroughly that the entire day went with finest enjoyment. Climbing the switch-back trail we were soon on top of the mesa where Mr. Tolson for the first time caught the great view which meets the eye on every side. Around over the old ruins, looking into Rafael Canyon (now thus named) past the greater El Morro ruin and down over the carved trail the party went, discussing scenery, archaeology, history, flora, fauna and administrative problems. Past the pictographs and on to the water cove and the inscriptions it took me quite some time to show our most important features. The impression of Mr. Tolson, Mr. King and Mrs. Kittredge, all of whom had never been here before, seemed to be that we had quite Some Monument--more extensive with much really beautiful scenery with great interest, much of it still undeveloped and some even undiscovered.

Chief Engineer Kittredge, Chief Landscape Architect Vint, Naturalist Dale King, Resident Architent Richey, Asst. Engineer Hamilton as well as Mrs. Kittredge and daughter were in the party in addition to Asst. Director Tolson, and Mr. Pinkley--enough to offer many master minds to the most important decision made--the location of the administration building.

Studying maps of both sides of the cliff, the party often huddled on the ground, all heads together discussing where best to locate the buildings. Not being satisfied with viewing the actual sites within the Monument the party entrained a mile beyond our boundary to the east where from a height we looked back at the grand cliff and visualized how from perhaps the same point the haven must have looked to Oñate in 1604 when he first sought shelter there en route to his "discovery of the Sea of the South". There was also the question of how effectively the road, the buildings and other man-made structures could be hidden so as to have the view unspoiled.

It was finally decided that the site should be just south and over the ridge from the rangers' cabin, where fine shelter, proximity to the historical inscriptions, inviting shade, joined with the precedence of old Spaniards, conspire to make it the final and best choice.

Night was coming on and no time was lost in motoring to my home, where we stopped just long enough to let out of the Kittredge car our girls, Jo Ann and Patty, who had spent a fine day with Katharine Kittredge, who had come with her parents. On to Zuni Pueblo we sped. Upon arrival many silhouetted figures outlined themselves, blanket clad, around the dance plaza. We knew there was a Zuni Dance on. Hurriedly getting out of the cars we climbed the ladders to the house tops. We were fortunate indeed to see a dance in progress by the Zunis who are generally conceded to be the most versatile and beautiful Indian dancers in the Southwest. They excell not only in tremendous dances of their own but also imitate as no other tribe the dances of the Comanches, Navajos, neighbor pueblo tribes and Apaches. The dance in progress was an Apache Dance, the chant in the Apache language, the costumes such as worn by the Apaches. It was almost over when we arrived but enough was seen to give all an appetite for returning to see more.

After introducing the party to the proprietor of oneof the trading stores, an hour was spent in viewing and buying handicraft of the Indians--rings, bracelets, necklaces, beaded good luck charms etc.

After a good night's rest at El Navajo Hotel at Gallup the party went to the Hogan office of the Chamber of Commerce. Here President Lawrence and Secretary Woodard had arranged for a conference with Director Zeh of the Navajo Indian Central Agency and his assistant, Mr. McRea. Mayor Sabin of Gallup and County Commissioner John Kirk joined in a short time. The matter presented was a carefully drawn-up petition to Secretary Ickes asking for a road program which would benefit the Indian Service and the Park Service chiefly since the plans called for an all weather road which would reach Aztec, Pueblo Bonito, Canyon de Chelley, El Morro, Zuni and other points where both services have need for a good road. The plan met with general approval by all parties since it would serve every one in the services mentioned as well as Soil Erosion survey, Biological Survey, and several other government departments. The general

public which wishes to visit and see these places of unique interest--all radiating from Gallup, sometimes characterized as the Indian Capital.

I was impressed by the clarity, moderation and "savoir faire" of Director Tolson in the conference in which Mr. Pinkley and Mr. Kittridge also entered. It was my feeling that the Gallup Chamber of Commerce had drawn up a very good petition, most admirably worded and in which the Chambers of Commerce of Aztec, Cortez, Durango, and Framington were joining. Every one out Ramah and Zuni way hopes it will be considered at an early date. There is no doubt that the up-keep of official cars doing business in this area will be saved thousands of dollars of expence if these roads are built before another winter, not to mention the increase of efficiency of all people who have to live and do business here.

On the 4th I attended another road meeting in which about 15 of us from the southern end of the county met with the F E R A officials headed by L. G. Griffeth who promised that the F E R A would furnish the men to build the road, not only to Ramah, but also to El Morro and on out over the mountain to Grants, if the equipment to build same could be secured. We have the promise of McKinley County's machinery for the 20 miles to the Zuni Reservation line, and the promise of Mr. G. A. Trotter's Zuni Agency equipment across to Ramah, but are in doubt as to how to get the machinery from Ramah on thru past El Morro to Grant.

The road is now so bad from Ramah to El Morro that it is no pleasure for any one to drive out there. Same is more true from Grants to El Morro. We hope that the conference with the F E R A will result in a smooth road at least from Gallup.

This conference was hald on April 4th. just after the riot there in which two men including Sheriff Carmichael and one Mexican were killed and some seven wounded. I was a block away when the shooting took place in an effort of communistic Mexicans to take two prisoners away from the sheriff's party. Running around in the alley back of the Independent office I found myself in an exciting situation, wounded lying around with the sheriff and "Sena" Velarde dead, two deputies wounded as well as several Mexicans. I stood in a crowd of Mexican women for the purpose of hearing their comments which were anything but conducive to peace.

The city of Gallup was soon under the protection of armed deputies, most of whom were American Legion men, who were determined that no further bloodshed should result and that all contra-government people whould be imprisoned. After dinner we managed to hold our road conference in the court house, where the windows of our room looked down upon the crowds in front of the jail.

Surveyor Howard Leslie , with Howard Williams and Ray Hitson as rodmen, arrived in response to Mr. Kittridge's telegram on April 4. I joined them as per orders in making a survey for a topog map to be used for laying out the parking area and entrance road which are to be built soon with P.W A funds alloted in 1934. I found them faithful and conscientious engineers with wide experience. On the 7th, being Sunday, I took them to the Perpetual Ice Cave. I found the perpetuity of that interesting place very much in danger by

visitors who chop out the ice, one third of the front now being gone. Another condition came during the winter when melting snow water froze during the nights, forced great chunks of lava rock from over-head down in front and over the ice, thus very much detracting from its scenic value and endangering those who venture down into the cave. My efforts to get the State Park Commission to preserve this wonder have never gotten any place.

The dust storms which so damaged many parts of the west have done no damage here. In fact, not a sign of the dust was ever seen until April 12 when for the first time it was noticed that an east wind brot a slight fog of dust which hung around mesa tops and up canyons for a day or so but the sun was not obscured.

The recent historical press release about the visit of daughters of Isaac T. Holland who carved El Morro July 8, 1858 and about De Vargas was mighty fine and was published throughout the south west.

I have sent a quantity of El Morro folders to be distributed on the passenger planes of the T. W. A. Air Line which flies over El Morro. The stewards point out the Rock from the air but Major A. D. Smith, Superintendent of the Western Division of the line, asks for literature to give their fares so that they will understand the story. Major Smith thinks many of their passengers may visit us by car some time and that it is not far off when landings will be made by smaller sight-seeing planes. The Major and his wife have been to El Morro and I have known them for several years. He was interested in knowing that the May number of "New Mexico" (Santa Fe ) will contain my article on our Monument.

On April 14 Juan Luis and his son, Acoma Indians, came to the Rock on their return from Salt Lake where they had been for salt for their families and sheep. They brot back herbs for medicine, had conch shells for bead making which they had taken down to the sacred water and other ceremonial paraphenalia in a buck skin bag. They went over the inscriptions and pictographs with me giving me some new and logical interpretations of the Indian carvings. After visiting the ruins above, they came down to their ancestors. They enjoyed it all so much they plan to bring a great many from Acoma some time after lambing and planting time.

On Easter Sunday I worked several hours on the trail before visitors came. Among these was a Señor Romero, probably a descendent of Pedro Romero who left his escritura in 1774. I learned from Mr. Romero that his 87 year old grandmother had some very old heirlooms of Spanish utensils etc. I plan to go to see them as possible material for our museum.

I am now at Chaco Canyon where we are making a map of Chettro Ketl where R. H. Kern, companion of Simpson, first made a map in 1849. It is most interesting work and gives me wider knowledge of things archaeological which I get from talking with Custodian Cal Miller, who has been most helpful to us.

This is written in Cal's office in a room in the great ruins of Pueblo Bonito and just before leaving for Wupatkiwhere we have been ordered for other engineering work.

From Pasadena, E.Z. again writes:

Jimmy and Sally got me on T W A about 7:30 last night (April 26) and I was so glad before we left to have the nice ride and visit with them. They took me to Dr. Colton's where I spent an absorbing half hour looking over his work, his old books, etc.

As he is going to Santa Fe via Zuni and El Morro I wired Evon, Jr. to be sure to meet Dr's party at our house Sunday morning and take them to El Morro. He would no doubt do so anyway but Dr. Colton is a great friend of the Park Service, and I wanted to be certain he saw El Morro and its treasures.

It seems, by the way, that I will have to go to Old Mexico and if I do that will give me a chance to make the contacts down there I want to make to get the utensils, armor etc. for the El Morro Museum.

The flight last night was beautiful, especially when we started to slide down over the mountains over San Bernadino and Los Angeles. The road and boulevard lights, the cozy homes in the foothills and even up in the mountains plainly visible owing to out-door lights, were lovely. So many colored lights too, all along the way.

Ray, my friend Mr. Smith, met me and took me to his home in La Canada, afterwards sending me over in his La Salle to this hotel where his men often stay.

The grey morning, now 6:15 A. M. is a far cry from the bang up days we have in Arizona and New Mexico. I am glad that I am to be back there where the birds sing my language.

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E.Z. writes later of his recent trip to California. He writes:

I am now at Winslow and Jimmy Brewer and his amiable wife are going to wait to see the new Douglass plane upon which I am going to California to meet my friend Mr. L. R. Smith, President of the A. O. Smith Company, Milwaukee.

By the way, while showing our new El Morro photos to Columbus Giragi, owner of the Coconino Sun, he introduced me to your Governor Moeur who was very interested in the pictures and intends sometime to come over to see our Monument.

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TUMACACORI NATIONAL MONUMENT — George Boundey, Custodian

Visitors for April total 1687. Winter visitors are staying longer this year or else there is more travel over the southern route, for our number of visitors is holding up very well.

We were very glad to have had a visit from Mr. Tolson of the Washington office, along with the Boss and Mr. Vint and the rest of the boys.

We have the excavations leveled and the Monument back into shape again. The FERA boys have 11,000 adobes made for future repairs and construction.

The uniform and the hat and several other items I ordered by air mail in honor of Mr. Tolson's visit reached here safely the following day.

Dust from the eastern dust storms has blown away and our skies are clear .

Along with our summer bird visitors are a number of purple grosbeaks. One of the boys found a humming-bird's nest with one egg in it.

The big irrigation pumps in this vicinity are lowering our water table to a point where we will have to deepen our well in the near future.

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WHITE SANDS NATIONAL MONUMENT — Tom Charles, Custodian

This has been a hectic month for the White Sands Baby. Almost 50% of the time since my last report the Panhandle dust has settled down upon us in all shades and degrees of intensity--from unpleasantness to blinding darkness. There were four days in the month when we had no visitors at all and in the 13 low days we had only 34 visitors or less than 3 a day.

Despite this unpleasant weather we have had 1054 register, as against 702 last month. Sunday, the 21st of April, was our biggest day since the opening a year ago. By an actual count of the cars and an estimate of the number in each car, we are sure that there were over 1000 visitors at the Turn Around that day. 260 of that day's crowd registered, which is about 25% of those present. There were 33 states and 6 foreign countries represented during the month. New Mexico had 516, Texas 317, California 42, Colorado 22, Missouri, Arizona and Pennsylvania 16 each, Kansas and Illinois 14 each and the rest from one to ten. There were 33 states and 6 foreign countries represented.

Our next job is the White Sands Play Day. This is the annual spring field meet of all the schools in Otero county. There are 3400 school children and it looks now that they will all be there. This is their first meeting at the White Sands. The local organization of Veterans of Foreign Wars will help us take care of the crowd. The town of Alamogordo will haul 1500 gallons of drinking water, the Alamogordo High School Band will furnish the music. Governor and Mrs. Tingley are to be guests of honor.

We had an unfortunate incident at the Easter picnics last Sunday. A little girl, about 6 years old, became separated from the crowd and strayed off in the wrong direction. Sheriff Beacham and 20 deputies tracked her all night long and until she got over onto the old lake bed and in the rough country to the south and west of it where her bare feet failed to make an impression. A car of New York tourists picked her up at 10 o'clock the next day, over on the highway, 20 miles from where she started.

I have never found the facts as to why she strayed away but one story, which seems quite reasonable, is that she played hard in the hot sun and when very tired she crawled under the shade of a yucca and went to sleep . When

she woke up her playmates were gone and she did not know which way to go. I believe the experience will have a beneficial effect on other mothers and children.

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PIPE SPRING NATIONAL MONUMENT — Leonard Heaton, Custodian

The report from Pipe Spring National Monument for the month of April will, I hope, be of some interest to you.

Our travel has been greater than last month and our visitors have increased from nothing to 212, an increase of 125 over April 1934. This is due mostly to the fact that two of our local district schools held an outing here April 1st. The Fredonia School having 87 present and the Moccasin School 19. The local travel only I estimate at 175, making a total of 387 for the month of April.

Among our visitors this month were Asst. Director Hillory A. Tolson; Chief Landscape Architect Tom C. Vint; Harry Langley, Asst. Landscaper; Chief Engineer Kittredge and Mrs. Kittredge and daughter; A.E. Cowell, engineer from Zion; John Q. Adams, and old timer who was here when the fort was being built and spent 25 years of his life riding the cattle range in and about Pipe Springs; Mrs. Wooley, a woman that spent several years living here; Mrs. Wooley has informed me that she has written an autobiography of her life while she was living at Pipe Springs . This I intend to get as part of our history collection.

On the 4th, Mr. Cowell and two helpers came out to check up on some elevations and install the weir that has been here for so long, so that now the waters of Pipe Springs are to be divided into three equal parts as directed by the decision of Asst. Secretary Oscar L. Chapman of November 2, 1933.

April 5th I had a surprise visit from Mr. Kittredge, as Cowell told me that Kittredge was due in Zion on the 7th, 8th or 9th and I had been debating the question of waiting till after he came in before going on my trip south. I was glad to have him here for an hour or so, going over the monument and getting his comments and criticisms on how I was handling the place.

April 22nd I was visited by Mr.Tolson, Mr. Vint and Mr. Langley, was told that Mr. Pinkley was to meet them here. These three men spent about 2 hours with me then went on to Bryce Canyon. In our discussion of the needs of the monument necessary to get it made a finished monument and to make some change in the master plan so as to have two separate conditions on the monument, they proposed making the road the dividing line. All north of the road is to be restored to a period of time when Pipe Springs was at its highest, say about 1880 or there about. And all south to be made to fit Park standards buildings with camp ground. The only changes are the Camp ground and the rest rooms which will be placed on the south side of the road.

It seemed to me that all of us were of the opinion that before much more could be done in restoring the old fort, a building to which the custodian could move into, must be provided. Which I hope will be soon for several reasons, personal as well as that of being in keeping with the purpose of the monument.

Our weather has been on the average very good. Two days of rain occurred while I was away with no frost to kill fruit or injure the young plants that are just coming thru. In a few more weeks our place will be covered with wild flowers.

There has been a lot of talk of the dust storms of the east and we have seen part of them here. The only difference between the eastern dust storm and the one we had here April 15th is that ours was smaller. But I do think that there was as much dirt and sand moved in Pipe Springs Valley for so small an area as there has been in some of the eastern stroms.

We had to use a shovel to get the dirt out of the rooms afterwards, as it was impossible to sweep it out. Another bad day came on the 23rd but not so much sand, as the wind was coming from the northwest.

We have had two pairs of flycatchers nesting here now, one under the porch as usual and one in the east rock house. There are plenty of English sparrows building nests in the buildings. Many birds stop off to rest and feed on their way north.

My visit to the several monuments this past month was well worth the time and expense it took. I am more able to appreciate their problems and the work that is being done by them. I feel more closely connected with the Park Service than I was before, due to the fact that I met the Custodians and Rangers and saw that their problems were about the same as I have here. You know it always looks like the other fellow is getting all the breaks till you see for yourself and you find that the breaks are coming your way as well, and that we are all in the same boat.

I believe I enjoyed the visitto the Wupatki Monument about as much as any. Why? Because I drove into the Citadel area in the night and unable to locate Mr. Brewer or a sign telling me which way to go, I stopped under two large cedar trees for the night. The next morning, awaking early, I found that we were camped in the center of an old ruined city, which was far beyond what I had expected. Then on to Wupatki we found Mr. and Mrs. Brewer living in an ancient Indian building enjoying themselves--as I imagine the young couples did that built them so long ago.

The Petrified Forest was great, but I was not there long enough to say that I saw all the grandeur of it.

At the headquarters of the Southwestern Monuments, my stay would have b een ideal if the Boss could have been there. But as it was I had pleasant time and it was only a short time till I felt like I had been acquainted there for years. It was a pleasure to meet and shake hands with the men that I have been writing to for so long, and I found that the opinion that I had formed about them needed very little changing. They are a jolly high class group of men and women willing to serve. If it were not so they would not very likely be there.

At the Tonto, Montezuma and Walnut Canyon Monuments the things to expect had begun to sink in, so I did not get the thrills as I did the first day out; not that they were any less interesting or anything like that, but I had no

idea of what to expect when I left home April 6th. Each Monument added to what I had already received, making my experience more full and now I am more able to appreciate what the National Park Service is trying to do for the people of the nation.

Now that I have seen a few of the Monuments I will not be satisfied until I have seen the rest of them. Even now Mrs. Heaton and I are starting our planning wherein next year we will be able to visit the other 18 of the Southwestern Monument System.

I traveled 1306.5 miles with the total traveling expense of $42.78 or just 3.11 cents per mile; not bad for a party of 8 people.

This account of my trip may be out of place in this repost but I thought you might like to know that it has done me a lot of good and if any one feels down and out send him on such a trip as I have been on and I am sure he will come back ready to carry on his part of the work.

I will say in closing that my troubles and worries have diminished by meeting up with you folks down there.

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From A. E. Cowell, Park Engineer of Zion National Park, we have the following interesting report which he sent to us on recent work at Pipe Spring:

The two cattle guards on the road at east and west entrances of Pipe Springs National Monument have been completed. They were constructed in accordance with Drawing No. PG-5094 with roadway 21 feet in width and a 12-foot tubular frame gate adjoining carried on 8x8" posts. The roadway section carried on abutments with end walls of reinforced concrete is made up in three units each seven feet in length and with made up of fourteen 35-pound rails are welded to four 7" I beams which are bolted to the abutment walls. Approaches have been graded, the only work remaining is painting such surfaces as require paint.

Some of the materials were purchased through Zion National Park purchasing department cooperating with Acting Custodian Leonard Heaton who assembled the remaining material and supervised construction. With good material and workmanship, a first class job resulted.

A concrete structure for distribution of water was constructed in the summer of 1934 by the Indian Service in accordance with plan approved by the National Park Service. Water is supplied from historic reservoirs through 3" pipe installed under C. W. A.

After measurement of the spring flow was made a wier was designed by the National Park Service to divide the flow into three equal parts. The weir is rectangular, with end contraction, cut from sheet brass. The cost of the wier plate was paid for from Indian Service funds, and it was installed by the National Park Service.

Final elevations have been taken of the monument system established under

C. W. A. Reference is to sea level datum determined from U. S. Geological monument established near the east boundary of the monument in 1934. Elevations will be stamped on the NPS markers at an early date.

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TONTO NATIONAL MONUMENT — Charles R. Steen, Custodian

During the past month I have worn out quite a bit of shoe leather and waggled my mandible considerably. 812 people visited the Tonto during the past 31 days, and of these 511 went to the lower wuins and 58 to the upper. There was only one large party during the month, a group of students from the State University, nearly all of these climbed the hill to the upper dwelling--which explains the large number of 58.

Gone are the days when I bewailed the lack of Park Service visitors. During the past month the following have shown up: Paul Franke, of Mesa Verde, Louis Caywood, Mr. and Mrs. F. T. Martius, Hillory Tolson, Dale King, Tom Vint, Harry Langley, Gene Gordon, Cliff London and, of course, the Boss. A pretty good crop! In addition, the governor, lieutenant-governor and ex-governor Dan Moody of Texas looked over the ruins one Sunday afternoon. Also Mr. and Mrs. Leonard Heaton and family of Pipe Springs.

The engineers finished their work here last week and left--the place seems rather dull without three or four men shouting back and forth and yelling about rattle snakes.

The weather for the past month has been perfect with the exception of three days during which a large portion of the top soil of Colorado and New Mexico hung suspended in the air.

On the twenty-third Dr. Emil Haury and Mr. Ted Sayles of the Gila Pueblo were here and took some beam borings in both the lower and upper dwellings. Contrary to my expectations the lower ruin offered many more datable timbers than the upper. The local forest ranger once told me that it was his belief that one time there was much more juniper in this country than at present. He seems to be right, a very large proportion of the timbers of both ruins are juniper; in the upper ruin, cottonwood and sycamore were also largely used. Yellow pine was used in both dwellings for planks. Only one piñon rafter was found.

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MONTEZUMA CASTLE NATIONAL MONUMENT — Martin L. Jackson, Custodian

While April has not been a big month in number of visitors, it has been a month that we have thoroughly enjoyed. It seems that our visitors have been unusually interested in our Monument and it naturally follows that interested visitors are interesting visitors. We had 1350 visitors which is only fifteen more than we had for the same month last year. Along with the above mentioned interesting visitors we got what I consider one prize car. Three ladies drove up and parked and got out of their car. The first lady wanted to know how come it got so hot here; the second got out and wanted to know what made it so cold here; the third got out and wanted to know why the cliff-dwellers built their houses so far from town.....?

Assistant Director Tolson, Chief Landscaper, Tom Vint; Superintendent Pinkley; Resident Landscaper Harry Langley, Naturalist Dale King, were here on the 13th of the month. We enjoyed their visit a lot but as Ranger Fish was sick that day and I was having to take care of the regular run of visitors, I did not get to talk to them as much as I would have liked. Dale King talked as if it might be possible for him to put in some time with us after the 1st. of July. We surely hope he does, as there are a lot of things we want to get straightened out on. We have numerous bushes and plants on the Monument that we are absolutely unable to identify.

In proof that conditions are better thruout the country, my wife tells me that during the past ninety days she has sold some rare old Navajo rugs that have been in stock in her concession since 1930. These pieces have been sold to people living in all parts of the country. She reports further that sales on all Indian goods to date this year exceed all other years except 1930.

TREES:

On looking over the sycamore trees on the monument I find a great many dead limbs. More than I have ever noticed before and I am wondering what last year's drought had to do with it. Naturally we regret very much to see a dead limb in our trees as it cuts down the shade very noticeably. In the summer time, of course, we need an abundance of shade as it gets plenty hot.

BIRDS:

Last week I positively identified our very common woodpecker, the red shafted flicker, as Colaptes cafer collaris. I have known of their residence here before but the species was uncertain.

On April 15 the Vermillion Flycatcher, Pyrocephalus rubinus mexicanus, was seen in the southern part of the monument. The canyon wren, Catherpes mexicanus conspersus, is of course, very common in the nearby cliffs now and will be here for several months. Several Arizona cardinals have been reported at various times during the month. Classification of this species is Richmondena cardinalis superbus. Our native quail, Lophortyx gambeli gambeli, are very much in evidence now but will be pairing off for nesting within the next month. These birds are present every day in the year and are very much appreciated by our visitors.

The following month should, if the weather is warmer, bring us several new species of birds which I will be able to classify and submit later on. The acquisition of a pair of field glasses has made identification of these birds positive rather than probable.

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The Montezuma boys are to be congratulated on their observations of birds and the identification of them. Records like these over a few years will be valuable.

However, there's one thing we dont understand and that is just how has Jack trained that typwiter of his to write in Latin? The Boss says he sometimes

tries it by writing some words and using the $ to strike them out again.

It is figured that Montezuma Castle will be one of the most interesting of the several bird banding stations we hope to establish.

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CASA GRANDE NATIONAL MONUMENT — Louis R. Caywood, Acting Custodian

VISITORS:

Visitor registration for April reached 3766 which was an increase over the same month last year when there were 2747 visitors. These 3766 visitors came in 990 cars from 43 states and Washington, D. C. Only the states of Vermont, South Dakota, South Carolina, Georgia and Alabama were not represented. These people were conducted through the ruins on 277 personally conducted field trips and 218 museum trips. Besides these visitors who were all contacted, there were 421 who drove in to use the picnic ground or some of the facilities of the Monument. Arizona 1965, California 850, Illinois 101, Texas 68 and Utah 62 were the leading states in order.

The Brotherhood of Railroad Engineers held their annual convention at Tucson this year. After the convention had ended they had as their outing on April 12, a trip to Coolidge via a special Southern Pacific train. Arriving at Coolidge at 3:00 P.M. they were brought to the ruins by members of the Coolidge Chamber of Commerce in school busses and private cars. Mr. Francis Seago, President of the Coolidge Chamber of Commerce, was in charge of the affair He helped divide the group of about 450 into parties of about 40. Each party was then conducted thru the ruins and museum by the personnel.

The Florence Union High School Band furnished music for the occasion. After the ruins and museum had been seen by all, eats were furnished by the members of the Coolidge Women's Club. There was a program of talks given by townspeople, Park Naturalist Bob Rose gave a talk on archeology answering vital questions which many had asked during their trip through the ruins. Everyone had a good time and praised the National Park Service and the Coolidge Chamber of Commerce.

Among well known visitors during the month were the following:

Ted Fio Rito and members of his famous orchestra, who stopped on the way to Tucson on April 6. Upon seeing the owls in the canopy they sang "I'm a Wise Old Night Owl", and the owls flew out from under the shelter. I wonder what power Mr. Fio Rito and his boys have over the owls?

Mrs. Stanley McCormick and chauffeur were here April 10. Former General John J. Pershing and May Pershing were here for a few minutes April 11.

Visiting Park Service officials were: Assistant Director H. A. Tolson, Chief Architect Tom Vint and Resident Landscaper Harry Langley on April 16. Thiswwas the culmination of a tour of the Southwestern Monuments for Mr. Tolson and Mr. Vint in company with the Boss. We were glad to welcome Mr. and Mrs. Paul R. Franke and family from Mesa Verde National Park who were with us almost all day on April 11. Mr. Leonard Heaton and family from Pipe Springs National Monument spent several days visiting. Mr. and Mrs. John Weatherill from

Kayenta dropped in for a few minutes to see us before returning to Navajo.

WEATHER:

The weather for April was good except for five days of dust which apparently came all the way from Kansas. It obscured the sun and brought a sticky heat with it.

The precipitation was nil. Maximum temperature was 93 on the 14th and the minimum was 30 on the 10th.

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BANDELIER E.C. W. ACTIVITIES H. B. Chase, Project Superintendent

Final finishing details to windows and grills of the Public Camp Ground Comfort Station were completed the last few days of March and made ready for the Public's use on April 1.

Completion of window and door openings together with the installation of mangers the last week in Mardh made a completed project of the Concessionaire's barn as of April 1.

The two car garage and fuel room at the Ranger Station was completed on April 23 and is now ready for use.

Planting this month has been confined to small bushes and shrubs, carried on principally around the camp ground comfort station, Concessionaire's barn and along the ruins trails.

A large crew has been working all month quarrying and hauling building rock to the proposed sites of the headquarters comfort station and the utility area. An additional 230 cu.yds. of rock have been delivered to building sites this month.

The camp ground extension was started the 22nd, clearing and grading of the main raod has been completed; and approzimately half of the road has been surfaced with local tufa gravel. Camp site stalls, where fills are necessary, are being constructed with the excavation from the office building basement.

Rough grading of the hotel parking area and moving of the Foremen's quarters comprised the work on the truck trail project. This work was contingent on completing the gaps of the truck trail and puts the project in line for an early completion.

A late enrollment together with the camp conditioning period has held the daily personnel turned to the technical service, to a much smaller average this month. However, with the addition of 76 new enrollees in camp and the receipt of approved plans the progress should materially increase during the month of May.

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CHIRICAHUA ECW ACTIVITIES — H. C. Hammond, Project Superintendent

With the advent of vastly better weather conditions at Chiricahua during April, ECW work projects have progressed more satisfactorily.

A start has been made on the development of a water supply in Echo Canyon to serve the proposed fly camp necessary for the trail crew work in that area. Lineal survey of Echo Canyon Trail is completed. Distance 6,000 feet.

At the Public Camp Grounds in Bonita Canyon the masonry walls of the Comfort Station building have been completed and the materials for the plumbing and carpentry work should be available at an early date.

The staking out of the trench for water supply pipe line in Bonita Canyon has commenced and crews will soon be excavating the trench and laying the pipe for a length of about 2 miles. This will provide a gravity water supply for the Public Camp Grounds and Administration Area.

With the end of April, the Camp Ground Sewer System, including the sewer line, Septic Tank, and filter trench, will be completed except for connecting up the Comfort Station plumbing.

Construction and grading of the Camp Ground roadways is making good progress and considerable rock blasting has been necessary.

At Sugar Loaf Peak the Lookout House construction has made continued progress. The basement, cistern, footings and masonry walls are practically completed and the carpentry work will soon be under way. Burros have replaced the mule pack train and are giving good satisfaction.

The reduced enrollment has slowed down the Sugar Loaf Trail work but very little now remains to finish this piece of construction.

During the month a borrow pit, located off the Monument, has been opened up for the purpose of supplying our increased needs for gravel and fill material. A tractor and fresno empties the gravel over a platform direct into dump body trucks. With this system in operation, work has been started on the obliteration of old roads, in addition to the requirements for the Public Camp Ground roadways.

We have received 78 enrollees to date, with promise of an increased number very soon.

Maintenance work on the Bonita Canyon highway has continued throughout the month over the entire length of road and a much smoother road surface is the result. We sustained another heavy rock slide on the 9th which required over a day's work to cut through.

Additional survey work has been done on the Headquarters Area for proposed service road; signs have been set up at the Rhyolite Canyon temporary comfort station; and work has started on a masonry sign post to mark entrance to Public Camp Grounds.

On the fifteenth of the month we were visited by Park Service officials including Assistant Director Tolson and Chief Architect Vint from Washington, Superintendent Pinkley and Dale King from Coolidge Headquarters and Resident Landscape Architect Langley.

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REPORT OF ASSOCIATE ENGINEER WALTER G. ATTWELL

Duties at the Bandelier ECW Camp regarding work program led me to start the month in northeastern New Mexico.

I visited the Chiricahua ECW Camp twice during the month, on the 5th and 6th, again on the 29th and 39th--on construction details of the different projects.

Trips to Flagstaff in regard to the equipment for the Wupatki Camp and to Tucson for the Saguaro Camp required several trips. Much of the equipment is already at these camps.

The field work for the mapping of underground walls on the museum at Tumacacori is complete. The final maps are nearly completed. This will add much to the permanent records of the early history of the mission.

Assistant Engineer Hopper has completed the field work on the topography of Tonto National Monument. When these maps are completed, they will materially assist in the development of the monument. Mr. Hopper and party are now at Walnut Canyon making a map of the monument area on the north rim.

Assistant Engineer Clark has completed a topography map on a 200 foot scale of Frijole Canyon at Bandelier National Monument. He and his crew will complete several small maps in the same area on a 40 foot scale--2 foot contour in the next three weeks. This will complete the necessary topography mapping on this monument for several years and permit the different branches to do future planning in a systematic manner.

Assistant Engineer Gordon has temporarily moved out of Chaco Canyon ruins stabilization to prepare road maps and locations for the Wupatki ECW camp at Wupatki, Citadel, Sunset, Walnut and Montezuma Castle. While at Chaco, Mr. Gordon made a reconnaissance of the road location from Thoreau to Framington thru the monument. He also made a topographic map of the proposed development area at El Morro National Monument.

Chief Engineering Aide Tovrea has completed maps on the proposed entrance roads to Walnut Canyon, Wupatki, Sunset, Chaco and Montezuma Castle; ownership of Saguaro; ruins stabilization of Tumacacori Mission and Water system of Montezuma.

Instructions were given on the ground to P.W, crews on trail construction at Wupatki and at Walnut Canyon and on Road post construction at Chiricahua. The Well contract has been awarded at Gran Quivira and a P. W. crew is placing sewer and water systems there. Post construction is progressing at White Sands.

With no exception, every project in my territory is under way and will be completed in the allotted time.

I ended the month enroute from Chiricahua ECW camp to Southwest Headquarters.

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ADDITIONAL FROM TOM CHARLES OF WHITE SANDS

Tom's red lakes again come into print in a recent letter from Harry Hommon in which the latter says:

It is noted that you expect the red water to return in the lakes on the monument within a short time. I will be very much interested in getting another sample of the colored water. The sample you sent me last fall was so old by the time I got it to the laboratory of the State Board of Health that the expert on Plankton could not definitely identify the organism. He felt, however, that it is "Quvaliella Salina". This organism is typical of a class that grows in salt water of high concentration. Apparently the reason that it shows up only at certain seasons of the year is that the concentration of salt is not great enough except during periods when the water has evaporated down to a certain percent of salt which is favorable for the growth of the organism.

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From the above monthly reports from the men in the field you might get a pretty fair cross section of what is going on and think that they are all busy and interested in their work,- and you would not be wrong if you did draw such a conclusion. I am sure, however, that you would have a very much better appreciation of the work that is being done if you could have been with us on our circle trip through the Southwestern Monuments and seen first hand the work these men are doing and some of the problems they have on their hands.

If it is at all possible, I wish you would consider dropping off and visiting some of these monuments on your western trip this summer. It would pep the boys up to know that the Chief himself was interested in what they are doing and I am sure it would give you a new slant into some of the southwestern problems.

Cordially,

Frank Pinkley

Superintendent.

# THE SOUTHWESTERN MONUMENTS SUPPLEMENT TO THE MONTHLY REPORT

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

SHOP TALK, GOSSIP, AND OTHER INTERESTING THINGS ABOUT THIS AND THAT: THE WHOLE CONTAINING SOME INFORMATION AND NOT MUCH MISINFORMATION ABOUT WHAT GOES ON IN THE SOUTHWESTERN MONUMENTS.

***THE TOLSON TRIP***

Chief, the latter part of March and the first half of April will be a time long remembered amongst the Southwestern Monuments as the time of the Tolson trip. It was the first time an Assistant Director ever came into the field and remained long enough to get a real idea of the seamy side of life among the monuments. If we didn't sell him on our work, and if he doesn't believe that we are on a man's size job and need a lot of moral and financial support, then there's no need of sending another Assistant Director down here; because we took this one through 3,779 miles of our district and showed him nineteen of our twenty-five national monuments, (he afterward saw a couple or three more), and poured facts and figures on him from the 23rd of March to the 16th of April; so if he didn't catch the idea, the only thing left is for you to come yourself. I believe, however, he is sold and I am going to suggest that Tom might test the matter by asking him at 12:30 a.m. what is the most important word in the Southwestern Monuments vocabulary. If he hasn't been to bed he will say "Tumacacori" and if he is waked out of a sound sleep he will say "Personnel". Under the circumstances either will be the right word; and you may pass him with flying colors.

Dale King and I left headquarters at the Casa Grande National Monument on the morning of March 22 and jogged the 419 miles over to Alamogordo, New Mexico, where, about 11 o'clock on the morning of the 23rd, we met Mr. Tolson, Tom Vint and Chuck Richey in the office of Tom Charles, whose avocation is running the White Sands National Monument but who has to spend an odd hour now and then selling real estate, insurance and so forth in order to make a living. We had a pleasant time at lunch with some of the members of the Chamber of Commerce and then drove the 20 miles out to the monument and spent the afternoon discussing its problems. I need not go into the details of those discussions except to say that there were times when they were hot and heavy, but we did all agree upon one important policy which will govern the future development of that monument. We have driven a road out into the heart of the sands so the visitor may get the unique experience of seeing a world without vegetation and being surrounded by an almost limitless expanse of pure white sand dunes. It was decided there, all parties agreeing, that this end of the road, which we generally call the "turn-around", would be held in as near its state of nature as was possible and man-made interpolations were to be kept out. This was a sort of compromise decision between the local viewpoint which wants to make a play ground at the turn-around and the national viewpoint which wants to hold it in a state of nature for the increasing thousands who will come from across the United States to enjoy it. The local wishes of the people within the Sate will be met by developing a play ground on a wide level bay of land along the road just after one enters the sands and it is here that the shade, fire places, tables, etc, will be placed. Personally I think this was a wise decision and I felt much better after it had been made.

We left the local fellows at the sands about sun-down and drove on over to Las Cruces for the night, arriving there about 7:15 p.m.

Next morning, Sunday, we left Las Cruces at 9:00 a.m. and drove by way of Gran Quivira to Santa Fe, about 400 miles, where we arrived at 11:00 p.m.

This put us into the Gran Quivira National Monument a couple of hours before sun-down and we had a chance to go over the ground pretty thoroughly.

It was decided here on the ground to change the location of the proposed administration building and museum from the east side of the parking area to the north side. The reason for this was a high cut bank which developed on the east side of the parking area when it was cut down to the grade line, making the administration building too high above the area to look well . The re-arrangement will look just as well or a little better so all hands seemed satisfied. This was the first time I had seen the entrance road at this monument since it had been finished. It is a fine road; a job well done. The vegetation inside the fence at this monument was in much better condition than that outside, showing the value of fencing our areas wherever we can and allowing them to go back to a natural balance.

Monday, the 25th, we spent at Bandelier National Monument, 42 miles by road out from Santa Fe.

It was here, I think, that we began to realize the value of getting three or four men together on the ground to iron out problems. We had some location problems at Bandelier which had been bothering us for the better part of a year. Reams of arguments had been written and a dozen or so maps and plans had been drawn. After the sight-seeing part of the visit was over and we had eaten, we went down on the administration area and in the next three hours came to more decisions than we had been able to arrive at in the preceding year. In this matter of letting little arguments grow into big ones by fertilizing them with a lot of correspondence, I am coming more and more to the conclusion that we could eliminate most of these troubles if we could have a resident landscaper as well as a resident engineer down here at headquarters. We talked this pro and con as we journeyed about the country and, while I admit there are administrative difficulties about making such an arrangement this year, I still believe it has marked advantages and look forward to the time when it will come. You have no idea how we can fuse ideas from three or four sources in one of our bull sessions and come to a general conclusion which we all can back from that time onward.

It is not my intention in this little sketch of the trip to give detailed descriptions of the monuments we visited. The boys are doing that from month to month in their reports and there is no need of my covering that ground. I do, however, want to say that Hub. Chase and his CCC boys at Bandelier are turning out some of the finest construction work you ever looked at. We are all more than pleased with the work we examined that day.

We finished up and got back into Santa Fe about 9:00 that night where we found Mr. and Mrs. Kittredge and Mr. Attwell had arrived a few hours before.

On Tuesday the Assistant Director had work around town until after noon and then we drove to Gallup for the night, getting in there at 10:35 p.m.

On this part of the trip we went out to see the historic old village of Acoma. You know I have long wanted to make a national monument of Acoma but the administrative difficulties seem too great. It is one of the most interesting Indian villages in the whole Southwest.

On the 27th we left Gallup at 9:45 a.m. and wound up in Farmington at 8:00 p.m., visiting Carroll Miller and the Chaco Canyon National Monument during the day. Amelia and the new baby were still in Gallup and we missed seeing them, but Carroll would not trust to his own cooking and had sent word to Gay Rogers to pick up enough grub for sixteen people and come on out and cook it and she did. It was served cafeteria style and the only trouble about that meal was that we had to climb that hundred foot cliff back of Pueblo Bonito right after it. We all went up on the cliff where you get that wonderful view of Pueblo Bonito and up and down the canyon for several miles, and in a couple of hours had settled two or three other problems which had been bothering us for some time. We still have plenty of them left at that monument you will understand, but they are such as could not be settled that afternoon or by the action of those present. I might say in passing, however, that mat ters at Chaco are in better condition than they have been in the fifteen years or so of its past history with which I am acquainted.

On the 28th we left Farmington and drove past Aztec Ruins National Monument to Mesa Verde National Park. We had a mighty fine visit with Johnwill Faris and enjoyed his ruins very much. He has about the finest administration building and museum that you will see in the whole Southwest and, if we can just get a little more speed on the installation of his exhibits he is going to give his visitors, this summer, a real thrill. If we can get the sums necessary to do the clear-up jobs which we talked over there that day, Johnwill's monument will be near the front among the Southwestern Monuments in the way of having its work caught up.

On the 29th we remained at Mesa Verde and I got a chance to rest up a little and watch the rest of the boys work in another man's district. Also this gave me a chance to renew a friendship of many years standing--running thru many conferences--with Superintendent Leavitt; make and renew acquaintances among his charming office force and also the men around the place; and, in general, loaf and invite my soul. I strove to leave the impression that, despite certain little phrases in past correspondence where reference was had to sniping off Southwestern Monuments, I never really had horns and a tail, or at least if I had, time had worn them off. It was a great relief to me to have Ernest assure me he didn't want any of my monuments, wouldn't be caught with one on him, and if I didn't watch carefully he would unload a couple of his on my doorstep some dark night.

I was sorry to miss Dev. who happened to be in Washington. It doesn't seem like Mesa Verde without Devlin. Naturally, also, Marsh and Jess and Crouch and a lot of the old gang were in my mind that day.

On the 30th we regretfully left the Mesa and visited Yucca House and Hovenweep National Monuments, getting to Gallup at 8:00 that night. I was glad to have the boys agree with our policy of holding Yucca House as a reserve national monument, putting up no road signs and in no way encouraging

the public to visit it. It is going to make an impressive monument some day but it will take $25,000 worth of excavation to do it and I don't know that we want any more excavation in that particular period andin that district for the next ten or fifteen years. The monument is in pretty good condition but needs a little clean up and fence repairs which we hope to get this summer.

Hovenweep was sort of thrown in for good measure. There was a quicksand crossing down that road about which I was uneasy, but while we were eating lunch at Yucca House we decided to have a try at Hovenweep and so went down and back that afternoon making the trip safely although we had to step lively across the quicksand. We visited only one section of Hovenweep but the boys agreed there were some mighty nice ruins and that it was an interesting hour or so spent there. Mr. Ismay, who lives near Yucca House, very kindly consented to act as our guide on that part of the trip. There are no signs to Hovenweep and the last half mile or so the road turns off in a brush track. We are not asking the public to visit that monument until we getmore personnel in that part of the country.

On Sunday, the 31st, we went out to El Morro National Monument and back to Gallup. Unfortunately Mrs. Vogt and Evon Jr. could not join us on this trip, but Evon Sr. was there and a good time was had by all as you will see in his monthly report.

Here again we had one of those problems of location which had been boiling around for the batter part of a year and in one afternoon on the ground we all reached an agreement. By this time Chuck Richey was bewailing the fact that we were changing everything in New Mexico on him and that he never would get done revising plans.

On the 1st of April we went out to Canyon de Chelley National Monument to see Bud and Betty and their pet ruins and spend the night at Cozy McSparron's comfortable place. The snow was melting back on the mountain and the Canyon was running water so all we could do was take the rim drive on the south rim and walk down the White House trail. I am sorry we were unable to get up into the canyons and study some of those problems at first hand, but we had a typical visit for a great part of this season of the year. I still insist that the administrative problems at Canyon de Chelly are as tough as at any of our Southwestern Monuments and if we make any mistakes there they will have harsher results than at any other monument.

Here again we re-located a headquarters area and changed the location of the residence which is to be built soon.

On the 2nd. we went down to the Petrified Forest where we spent the rest of that day and all of the next looking over the splendid work that has been done there. Again I was off duty, being in another man's district, and could watch somebody else work.

We had a long-to-be-remembered lunch with the Smiths on the 2nd and a steak fry out in the bad lands that night.

The next day we were heading up through the Hopi Country, so the Petrified

Forest folks made up a party and went along with us through the first and to the second village where, after discussing another mighty fine lunch, we parted from them and went on through Oraibi and into Tuba City, that night.

Again I was impressed with the chance of making a national monument of Oraibi. If there is any one place in the whole Southwest where you can really "catch your archeology alive", it is at Acoma or Oraibi, and I don't know but that Oraibi is the better one of the two because it is more than half in ruins. No one is aware of the administrative difficulties of handling such proposition as a national monument better than myself; and yet, when we look at what is going to happen there in the next fifteen or twenty years if things go on as they are, I am willing to take all the risks of making a failure on the slim chances of making a success of it. Oraibi is a very wonderful place.

On the 5th we left Tuba City and drove to Kayenta, where, after lunch with Hosteen John and Mrs. Wetherill, we drove on out into the Monument Valley to the Mittens and back to Kayenta. Although it was getting late we decided to push on that night and took the cut-off road by way of Shonto toward Rainbow Lodge. By the time we got to the turn-off from this road up to Betatakin Canyon it was getting late and we decided to go on down and spend the night with Mr. and Mrs. Rorick at Shonto. We did this and the next morning Harry went over with us to Betatakin Ruin. We enjoyed this ruin in its magnificent setting very much and it was here the argument was raised which ran on through the rest of the trip as to the advisability of keeping visitors out of some of our Southwestern Monuments ruins. It is an argument you are going to hear more of as time goes on.

Milton Wetherill was out in the Canyon looking for some Indian cattle which had been drifting up on the monument and we came near missing him. We left a note in his camp and he, coming in not long afterward, followed us down the Canyon and caught up with us when we were about half way up the trail. He went on up to the top with us and we thus had a little chance to talk with him.

Going back past Shonto we went on over to Rainbow Lodge and put up that night with Bill and Mrs. Wilson.

On the 7th we went down to the Rainbow Bridge National Monument. After all is said and done, the Rainbow Bridge is only an incident of the Rainbow Bridge trip. That country up there is all of national park status and will have to come under our Service sooner or later. You really ought to make a trip in there some time and see for yourself.

It sprinkled some the night we were down at the bridge and rained some on us on the way out, which was a great consolation to me because I had predicted it was likely to rain and the rest of the follows seemed to think I was a pessimist of some sort. We slept well in a great cave which is near the bridge, spending the evening before a big fire whose embers kept a pleasant glow in the cave most of the night.

On the way back to the Lodge we decided to ride straight through and eat when we got out and then go on to Cameron for the night. We did this and then

went into the Grand Canyon National Park on the 9th. Dale and I worked around the headquarters area while the rest of the party went down to Phantom Ranch on the 10th and came back out on the 11th. After dinner on the 11th we left the Park and went out to Cameron for the night. I was glad to have the chance to look around the Canyon again and especially glad to see that fine new construction that Fred Harvey is putting up. That is something we can all be proud of.

Leaving Cameron on the 12th we visited Jom and Sallie at Wupatki National Monument, where we had lunch and looked around over that fine ruin. Dr. Colton joined us here and, after re-locating the headquarters area, we all went down to Sunset Crater National Monument. The Brewers left us here and took all the good luck with them because in fifteen minutes our car developed fuel pump trouble and the two cars ahead disappeared in a cloud of dust. Our fuel pump was out and we finally solved our problem by using a two quart jar as a nursing bottle and feeding gasoline directly to the carburator out of it. When the other car realized we were having trouble and came back after us they met us coming down the road at forty miles with Dale out on the fender, holding the bottle, the cynosure of all eyes. This little episode caused Dale and myself to miss the Walnut Canyon National Monument, the others having gone there while we were having out troubles.

We spent a most pleasant evening the nightof the 12th with Dr. and Mrs. Colton, talking over and looking over the work of the Museum of Northern Arizona and went back the next morning for the same purpose. We are especially lucky in the southwest to have three such wonderful privately supported institutions as the Museum of Northern Arizona, The Gila Pueblo and the Laboratory of Anthropology.

Leaving Flagstaff on Saturday we went down through the Oak Creek Canyon to Montezuma Castle National Monument where we found Frank Fish sick in bed and Jack trying to be in three places at once to take care of all the visitors in sight. On the way down we had visited the Tuzigoot Ruin and its museum in Clarkdale which we enjoyed very much. Some time that may come under our charge as a national monument and it will hook up directly and without duplication with the Montezuma Castle National Monument.

I was glad to find that revetment job at the Castle was standing up well and that the entrance road, which I had not seen since the last work was done on it, was in such good condition.

After wedging in an all-too-short visit with the Jackson's we pushed on and stopped that night at the Natural Bridge which is a little ways to the right of the road between Pine and Payson.

On Sunday, the 14th, we visited the Roosevelt Dam, the Tonto National Monument, the Gila Pueblo, at Globe, the Coolidge Dam and spent the night at that fine hotel in Safford.

Charlie was on deck and had been keeping his face washed for two or three days, not knowing exactly when we were coming. We had an enjoyable visit with him and the rest of the party made the trip up to the lower ruin. Here again

we made one or two relocations in the general plan and decided that, if we could do so, we would extend the boundary of the Monument out to the highway so as to include the entrance road.

On Monday we went from Safford over to Chiricahua National Monument and then in by way of Tombstone to Nogales for the night.

While we are passing out compliments to CCC camps we must not by any means over look the work H. O. Hammond and the boys with him are doing at Chiricahua. They are fast putting that Monument into shape for the public to get the maximum pleasure from its visit, and at the same time allow us to give the area the greatest possible protection. We have extension problems at Chiricahua which we must take up soon, and, of course, like all the other Southwestern Monuments, we have personnel problems in the foreground and will have for some time to some.

In going through Tombstone we stopped long enough to show the Assistant Director the Million Dollar Stope, Boothill Cemetery and two or three other interesting points.

After arriving at Nogales at 8:30 we cleaned up and crossed the border into Mexico for a most interesting dinner after which we returned to the American side in the wee sma' hours and so to bed with some noisy fellows in the room overhead.

On Tuesday the 16th we visited the Tumacacori National Monument, the Saguaro National Monument, and arrived about nine at night at Casa Grande.

The workmen were closing up the last of the exploratory trenches at Tumacacori and the place was assuming its usual neat, clean appearance. This was the first time Mr. Vint had seen it for a couple of years and he was more than pleased with the changes we had made in that time.

At Saguaro we found Charlie Powell very much on the job and we all agreed upon two or three rather definite policies for that monument.

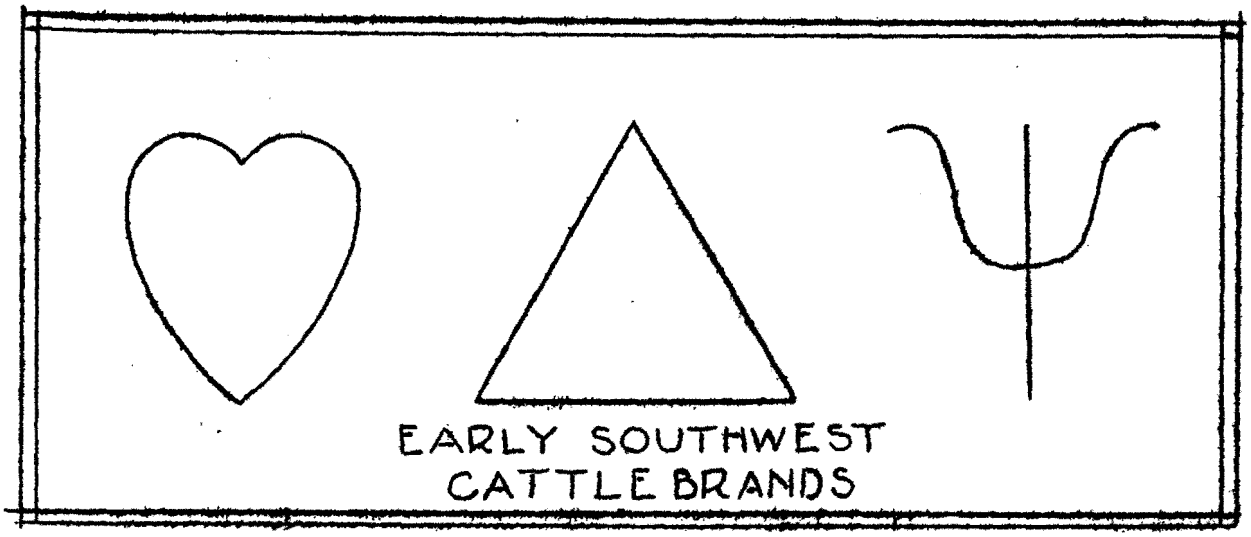
On the 17th, our part of the trip being over, we went into a bull session at 8:00 a.m. which lasted with small intermissions until 8:00 p.m, in which we took up each monument in turn and covered its various needs of personnel, construction, extensions, regular appropriations, etc., so by night we had worked out a pretty good picture of the Southwestern Monuments and their needs. I hope you hear a lot more of that picture in the not far distant future.

On the whole I would call it a successful trip and say that we saw a lot of the country and handled numerous intricate and important problems with a minimum of trouble and with no serious after effects following the many wordy battles. We built up a fine good fellowship in the weeks we were together, even adopting a theme song and pass words. We had troubles sometimes in the way of accomodations; our ideal in the way of lodging being two rooms with singles connecting through a bath and one isolation ward for the snoring member, but the ideal was seldom obtained. The food was good but many times

it was too far apart and there wqsn't always enough of it, but minor defects only increased the hilarity and it will be a trip long remembered.

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Mr. R. R. McGregor, Department Commander of the United Spanish War Veterans, Tucson, was a recent Casa Grande visitor. After his return home he sent the following interesting description concerning some designs on the wall of the west room of the Casa Grande:




" In regard to authenticity of the enclosed Cattle Brands: The heart was started by Walter Vail of what was known as the Empire Land and Cattle Co. located 8 miles north and west of Elgin, Arizona and about the same distance north of Sonoita , Arizona, about 50 years ago; the triangle was in San Simon Valley southeast of Bowie about 10 miles. It was run by Steve Ruch and later by his widow. It was in existence when I was there in 1890; The so-called "turkey-track" was started by Joe Rollins in 1886 in Ash Canyon in the Huachuca Mountains about 16 miles south of Fort Huachuca. I forget when the transfer took place but W. C. Green of the C.C.C. bought the brand and it is now run by the C.C.Co. outfit on horses, by his widow Mrs. Wiswald. "

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In a recent memorandum to Park Naturalists signed by Dr. Bryant, this will be of interest to our Southwestern personnel. This is especially true since rangers without exception have the duties of ranger-naturalists. The memorandum follows:

There appeared recently under the authorship of Dr. William E. Ritter a definition of a Naturalist (Condor January-February, 1935, p.45). It comes nearer being a creed than a definition.

As you bear this same title and as the original plan envisioned true naturalists in charge of each park, you are requested to note the requisites and meet them as nearly as possible:

"A Naturalist is a man who accepts the universe as a reality--everything in it, and he accepts it gladly. He trusts in equal measure his powers of observation and his powers of thinking. The proper point of view of a true naturalist leads him not to take nature or any of its parts as an enemy to be fought, but to try to understand it and to accomodate himselfto it, and it to him, as his best understanding and his best long-time interests indicate."--William E. Ritter.

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We just want to use up a little space here to being a boquet our into the open where you can all see it. This one is from Mernice Murphy, Publicity Director for FERA in Arizona, who says:

"Your monthly report which you have been so kind as to send us has brought a great deal of pleasure to all of us here who have had an opportunity to read it as it has been passed around from one person to another.

We appreciate this courtesy and hope that you will continue to send copies to us whenever they are published."

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Jimmie Brewer of Wupatki writes Dale King on natural history matters:

" I am collecting the local flora and have four each of two specimens that are now in bloom. I am pressing four of each variety because I want to send you a complete set, one to Berkeley, one to M.N.A., and want to keep one here. I will tag and number all correspondingly and donate the collection I send to Berkeley in exchange for their courtesy in identifying same.

This letter will beat you home from your tour of the Southwest--we surely enjoyed seeing and talking to you and the Boss. Regards from Sallie and myself to you and Sylvia. "

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In a letter to Wildlifer, Adrey Borell, Jimmie completes some records on Animan observations at Wupatki:

"The data on the racoon was submitted to Southwest Monuments Monthly Report for March as follows:
A racoon was taken March 2nd By Dan Fernandez west of Wukoki (NA 203)

Ruin. Elevation 4800. Length 29 inches, tail 11 1/8 inches, and hind-foot 4 7/8 inches. Soil association is Moencopi Sandstone and wind-blown Cinders. Grassland phase of Upper Sonoran Zone.

They omitted a paragraph telling the distance from water the specimen was taken (three and one-half miles from Little Colorado River and one-fourth mile from a very small tank. Fernandez (trapper) caught the raccoon by a dead sheep on which it and another raccoon had been feeding. I saved the skin and Dr. Colton bought it from Danny Fernandez. I don't know of any way to buy such specimens for N.P.S. I prepared to complete skeleton, also for the Museum of Northern Arizona.

The Spilogale was taken at Ruin J in the very middle of March; it had been dead for some time--hard to guess just how long because of the cold weather. It was a little spotted fellow. I did not measure it because it was dried and shrunken. Howard Leslie, NPS engineer, photographed it, but has not sent me a print. I am preparing the skeleton.

I picked up another skunk on Highway 66 two miles east of Flagstaff on April 2nd; it answers the description of Hog-Nosed--nice wide white stripe from the very tip of nose to tip of tail. Measurements: L 26 3/4, T 12 1/2, Hf 2 7/8. Adult female. I have photographed it and am preparing a skeleton.

Inclosed you will find two yucca spines that I picked up halfway to the top of Kana-a Mesa just south of Wupatki Pueblo. It looks as though after being chewed off the living plant they are cut into smaller pieces. I gathered them in about 50 yards from a Neotoma abode.

The second exhibit is (you guessed it) a sprig of atriplex with elephantiasis, or maybe it would be better if you tell me what it is.

No game warden has, as yet, visited us regarding antwlope or otherwise.

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UNIFORM CHANGE PROPOSALS:

You should turn to page 142 of the March report before reading the suggestions on uniform changes which follow. In last month's report, the concensus of opinion of the Headquarters office was outlined and men in the field were asked to submit their ideas. Mr. O. Evenstad, Park Ranger, has the following comments to make:

"Coat: Adding a shoulder strap would improve the blouse. Piping on the uniform would make us look like bell boys; I notice that most bell boy uniforms have piped seams.

There should also be a coat or blouse for rough wear, on the order of a "blazer or cruising blouse. Much of the patrol or scout work necessitates a blouse that is sturdy and otherwise suitable for "fatigue blouse".

Breeches: Good enough as is. No objection to beige color.

Hat: Wider band would be O.K.

Shirt: A shirt for wear without blouse should have somewhat the appearance of the blouse. Shoulder straps would improve it, and the shirt should also have two bellows pockets, with flaps.

Color in shirt when worn with blouse could be optional provided it was of one color. In other words, the shirt could be of any color, ir it was otherwise of dressy appearance.

Boots: Present field boot good enough for dress. A good type of laced boots should be optional for patrol work.

Necktie: Either green or black, but if green it should be of a uniform type and shade.

Insignia: Why not have a distinctive symbol (perhaps the regular ranger "pine cone") with the letters "U.S." suitable placed. The Forest Service has a pine tree with the letters U.S. and F.S. The lettering or wording on the lapels in the sketch on page 143, makes the uniform look like that of a bell boy. I notice the hotels in Santa Fe have uniforms for the bellboys with the hotel's name on the lapels, for instance, "El Fidel Hotel".

Service star good enough.

Distinguishing Features: I see no need of having anything on the uniform that would make a distinction on a temporary ranger or any temporary field employee.

I think the idea of a brassard with the park's name is not in good taste. Why should it be necessary to have the uniform show that a ranger was employed at say, the Grand Canyon, when a tourist sees him in that park? The natural inference would be that a ranger seen in the Grand Canyon was employed there. In the case of a park employee visiting another park, why not have a ribbon or pin with the word "Visitor"? In that way, anyone would see that he was not a part of that park's personnel.

The above is my reaction to the article on uniform changes. There is a decided need for a blouse that could be used on the patrol work. The present blouse does not fill that need. I have noticed that a leather vest is a good substitute, but the ranger is not in uniform, when he wears such leather vest."

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From a Park Service uhit east of the Mississippi, we get the following ideas expressed concernig changes in the uniform:

"Hat: The hat as now worn by the Service is, in our opinion, the most appropriate type of headgear that can be worn; the proposed larger hatband with the outstanding "U.S.N.P.S." will be distinctively denote the branch of Service, however, in making the new hatband care should be exercised to make it as light as possible to avoid increasing the weight of the hat, and some provision should be made for a chin-strap to be worn under the chin or back of the hea ; when necessary.

Cap: We do not favor the cap for our use. It might be satisfactory for use in parks nearer the sea coast. We would suggest that a cap be copied from the British Officers Field Cap, which is plain to a point of simplicity.

Coat: Coat No. 1--now in use, in our opinion, adequately serves its purpose and adds dignity and poise to its wearer, with the possible exception of changing the length to the physical make-up of the individual wearing same,

and it is believed that this coat should be retained.

Coat No. 2 is disliked.

Insignia: We favor the brass or bronze "U.S.N.P.S." insignia, about 1/8 of an inch larger and worn on the coat lapel in lieu of the collar and attached with the pin and screw fastener as used by the Army.

Breeches: There is no question in our minds but that the two-toned uniform is more effective and stands out more prominently. We therefore faveo a Nol 16, 18, or 19 ounce Elastique Beige or an even lighter shade, just so it harmonizes with the green of the coat. However, it is suggested that the breeches be tailored with the"aeoplane cut" and that they be re-inforced at the knee with a doe skin lining.

Field Boots: Field boots with lacings at the ankle and the side of the knee as decided upon are most satisfactory, however it is believed that all boots should be purchased from the same manufacturer, to insure uniformity of material, cut and color. Boots should be saddle-soaped and polished with cream polish, thereby keeping same in flexible and clean condition. The mahogany dye suggested was ordered but it has a tendency to turn the boots black.

Shirts: We favor a white shirt for dress wear to be worn with the coat and tan "Aerocrat" shirt with shoulder lapels and patch pockets with detachable NPS butons and insignia to be worn on duty without coat.

NECK Tie: We favor the green tie, providing a fast color can be obtained--heretofore we have been unable to secure a forestry green tie that would not fade after several days in the sun. If a fast color forestry green can not be obtained, we favoe a black tie as it presents a neat appearance.

Distinguishing Features: We also favor wearing the name of the Park on a brassard on the left sleeve just below the shoulder--this brassard to be worn by the permanent personnel of the Park Service.

********** We suggest the following uniform for wear by NPS employees in the Parks located in the semi-tropical climate:

Stetson hat
Aerocraft tan shirt
Forestry green or black tie
Khaki slacks or breeches with field boots
Tan low or high walking shoes

(This uniform to be worn during the hot weather period)

We have had many favorable comments upon our present uniform by the public in general, civic officials, and by Army officials, as to its dignified and servicable appearance and we are in favor of it ourselves, with the possible. exception of the two-toned effect with stability of colors, the breeches cut after the "aeroplane" pstyle, and uniformity of boots as to quality, cut and color. With those exceptions, we believe that we have the best looking uniform possible without infringing upon the rights of other service uniforms now in use."

######

From another quarter comes the following reaction to uniform changes:

"I have solicited comments fom numbers of people on the two tone uniform. The most favorable comment I have heard on the two tone uniform is that it is no improvement on the authorized uniform; practically all dislike it. The contrast in the two colors is too outstending. The color selected for trousers or breeches, as the case may be, is not serviceable in the sense

that forestry green is serviceable, because it shows stains too plainly. It will need about as much attention as white duck. Perspiration will show too plainly, in this humid climate. It will merely aggravate the difficulty of keeping authorized uniform neat, which I believe is after all the issue.

I am against the two tone uniform for to say the least it is my opinion after a trial, that it is no improvement. I am opposed to changes merely for the sake of change."

#########

Here are three good paragraphs about Service shirts coming from one of our Western Parks--perhaps this letter will help you fellows in the field reach an opinion to forward on to us:

"We like the wool gabardine material, but it is our opinion that this material is too expensive for the average park employee. For this reason we believe that the shirt should be made of cotton material similar to the Aerocrat Flightex fabric illustrated in the circular sent out by Fechheimer Brothers of Cincinnati. However, we believe that both wool gabardine and cotton fabric materials could be authorized so that employees preferring the more expensive material could have the privilege of using it.

We think that the white shirt should be continued for dress wear. We also agree that there is need for a shirt or jacket for fatigue wear and for wear without the coat. It is our opinion that such a shirt should have two fairly large plaited breast pockets and shoulder straps. However, the employees here do not like khiki or tan for the color of such a shirt because these colors are used for shirts by the Army, Forest Service, State Highway Patrol, State Forest Service and many other organizations in this section of the country. We feel that the National Park Service shirt should be different in order to distinguish our Service. Furthermore, tan, if worn with the new beige breeches, would be a complete departure from the traditional Park Service green. We recommend a grey color for this service shirt.

A majority of the employees here--75% to be exact--prefer the present dark green necktie. They feel that a good quality dark green harmonizes best with the standard elastique green coat. A few employees favor the black tie because they believe it will be easier to obtain uniformity and they believe black will stand harder service."

#########

Here is another reaction on the matter of piping on uniforms:

"It is noted that the Army has used piping on uniforms for dress and se semi-dress purposes, and the Marine Corps uses piping for distinguishing its uniform. I have seen many officers and enlisted men of the Marine Corps in uniform and have never seen the piping used. Perhaps like the Army, the Marine Corps uses piping for dress or semi-dress purposes. It is my thought the Service should have a standard uniform good for all purposes.

I think it will be impossible to select an original and distinctive uniform. Personally I would rather be mistaken for a bus driver or messenger boy, than for a doorman or bellhop. This is merely a matter of personal preference."

Here is still more good comment about uniforms. This is from the East.

"Blouse: We favor the blouse now authorized and are much opposed to piping of any sort. We are opposed to the brassard for the same reason we oppose piping, namely; we believe the dignity of the present uniform should be preserved. We favor providing holes in blouse collars to provide uniformity in wearing insignia, providing a method can be worked out to keep insignia horizontal.

Breeches: I have worn the cloth selected for trial for some time and have solicited comment from many people. One person remarked the trial trousers were no improvement over the authorized cloth. All others do not like it. We do not believe the color selected harmonizes with the green blouse; on the contrary it is so light in color the contrast is so great that it clashes. It shows light stains so plainly it will be difficult to keep neat and thus defeat the object sought. It will show perspiration too plainly, and is not so serviceable as the present color.

Hat: We have no objection to wider hat brim and hat band as shown, but doubt the results will be worth the effort. The brim on my hat appears to be about the same width as shown in drawing.

Shirt: We prefer the white coton and gray flannel shirts as now authorized, both to be worn as desired. We are opposed to designating the white shirt for dress, only. The colors are standard, cannot fade, and the shirts are inexpensive and can be bought almost anywhere. There are various shades even if shirts were uniform when purchased. We do not like the idea of shoulder straps, nor do we like the idea of a distinctive shirt to be worn without coats. Most other outfits wear tan shirts and it thus appears that white or gray shirts are more or less distinctive. We believe that the blouseless man in white or gray shirt presents a neat and not over dressed appearance.

Necktie: We favor the black necktie, because the color will always be uniform and it will give longer service. It will also be different from the tie worn by the Forest Service.

Boots: We favor your recommendation for boots. After using Fiebing's dye for some time, we believe the color is too dark.

Cap: I have not changed my viewpoint that parks and monuments which will wear the cap should decide on the design.

Insignia: Very few of us like "USNPS", but nothing better has been suggested. I do not like the idea of larger gold or silver stars, but the matter seems to be relatively unimportant.

General: I am opposed to distinction in uniform for permanent, temporary, or other classes of employees, and believe one uniform should be worn by all.

Owing to the large number of temporary employees, and permanent employees with low salaries, uniforms should be reasonable in cost. This is my principal objection to a distinctive shirt to be worn without blouse.

Those who designed our present uniform were either very thorough or made a good guess. In my opinion the present uniform is servieeable, dignified, and as nearly distinctive as any other uniform that could be selected. It is also relatively inexpensive. With the exception of a black tie, we favor the present uniform as is, and deplore the apparent idea change merely for the sake of change. "

Here is timely comment on the matter of uniform buttons:

"I have received a sample bronze button from the Waterbury Button Co. of Waterbury, Connecticut, who have beeen furnishing our National Park Service uniform buttons, which is an " acid treated" button that will hold its color and wear much better according to the manufacturer than the lacqueered button now in use. This acid bronze button is better looking than the lacquered one, as you will note by the sample enclosed.

The Waterbury Company has offered to make up a sample gross of the acid bronze buttons at a cost of $7.50 per gross for the coat size and $4.75 per gross for the vest or pocket size. The present price of the lacquered button is $5.00 per gross and $3.75 per gross respectively. It is believed that the acid bronze button is worth the difference in cost, if it will wear as well as the manufacturer claims."

**********

ADREY S. BORELL, NATURALIST TECHNICIAN has visited a number of the monuments in connection with his duties. The following are his observations:

"WHITE SANDS NATIONAL MONUMENT: Practically all of my work at White Sands was relative to boundary extension and was covered by a special report submitted on April 1. Following is a complete list of birds observed at "Pool of Siloam" (1-1/2 miles east of "sand" dunes but within the proposed boundary extension), Otero County, New Mexico.

1. Great Blue Heron, tracks seen at edge of lake on March 26. "Mr. Garton said that they stop here occasionally.
2. Cinnamon Teal, 16 on March 19, 15 on March 20. Observed every day from March 19 to 26.
3. Green-winged Teal, 25 on March 19, 20 on March 20.Seen every day from March 19 to 26.
4. Gadwall, 2 on March 19, 2 on March 20, 3 on March 26.
5. Greater Seaup , 3 on March 19, 6 on March 20, 5 on March 25 I was close enough to see the white inner primary feathers which distinguish the greater from the lesser scaup.
6. Shoveller, 2 on March 19, 5 on March 20, 4 on March 24. Seen every day.from March 19 to 26.
7. Ruddy Duck, 2 on March 19, 5 on March 20, 4 on March 24
8. Mallard, 7 on March 19 (5 are semi-tame), 3 on March 26.
9. Pintail, 2 obsered on March 21, 1 on March 25
10. Baldpate, flock of at least 50 on March 21, small flock seen on March 25.
11. Canvassback, 4 on March 25.
12. Redhead Duck, 3 on March 26
13. Merganser (sp.?), 1 carcass in water (head saved). Mr. L.L. Garton said he shot three (two male, 1 female) two weeks ago because they were catching his bass.
14. Prairie Falcon, 1 on March 20. Examined the tails of 5 collected by L.L.Garton between 1930-35
15. Duck Hawk, examinid the tail of 1 collected in 1931 by Garton.

16. Western Red-tailed Hawk, crippled bird found drinking at edge of pool on March 22
17. Rough-leg Hawk, examined tails of 3 collected by L.L.Garton in 1931 (will be identified)
18. Marsh Hawk, examined 77tails collected by L.L.Garton between 1930 and 1935. One bird seen on March 24.
19 Cooper Hawk, examined the tail of one collected by Garton 1931
20. Golden Eagle, 1 on March 21.
21. Pallid Horned Owl, 1 carcass observed on March 19, Examined tails 33 collected by L.L.Garton between 1930 and 1935.
22. Short-eared Owl, examined the tails of 6 collected by Garton between 1930 and 1935.
23. Coot, 12 on March 19, 6 on March 20, 45 on March 24.
24. Wilson Snipe, 2 on March 19, 1 on March 20, 1 on March 22.
25. Killdeer, 1 on March 19, 1 on March 20, 13 on March 21,
26. Long-billed Curlew, 1 on March21, 1 on March 26.
27. Greater Yellow-legs, 1 on March 21, 2 on March 22, 4 on March 24, 7 on March 25.
28. Snowy Plover, 10 on March 21, 12 on March 25 (1 collected)
29. Least Sandpiper (?), 6 on March 21, 10 on March 26.
30. Black-necked Stilt, 3 on March 24
31. Ring-billed Gull, 2 on March 21, 2 on March 26
32. Say Phoebe, 1 on March 19, 1 on March 20 and 24.
33. Black Pho ebe, 1 on March 23
34. Arkansas Kingbird, dead bird seen on March 24.
35. Tree Swallow, 3 over marsh on March 24.
36. Northern Violet Green Swallow, 2 on March 19, 1 on March 20
37. Belted Kingfisher, Mr. Garton has a mounted specimen(female) which he killed in 1934
38. Red-shafted Flicker, dead bird seen on March 19
39. Western Marsh Hen, 5 or 6 among tules on March 20,21,22, 26.
40. Mountain Bluebird, dead bird seen on March 19
41. American Pipit, 2 on March 21.
42. Redwing(sp?), flock of about 40 seen every day. Males are singing from scattered tules apparently preparatory to nesting. Observed every day from March 19 to 26, 1 collected.
43. Western Meadow Lark, 1 on March 19, 1 on March 24
44. Horned Lark (sp?), small flock on flats about the pool on March 19 and 20. Observed every day 19 to 26
45. Brewer Sparrow, 1 on March 21, 1 on March 24, collected.
46. Western Savannah Sparrow few in various places among the salt grass on March 21 and 22. One collected.
47. Gambel Sparrow, 1 observed at close range on March 24
48. Lincoln Sparrow, 2 on March 20, 1 collected
49. Junco, (pink sided) (sp.?) 3 on March 19, 1 collected. one or more observed daily.
50. Red-backed Junco, 1 on March 19
51. English Sparrow, 1 on barn March 22, 3 about barn on 24th
52. White Pelican, 10 on March 25

Birds observed about the "sands" (within the present monument)

1. Desert Sparrow Hawk
2. Roadrunner
3. Say Phoebe
4. Gambel Sparrow
5. Horned Lark
6. Junco (sp.?)
7. American Raven
8. White-rumped shrike
9. Western Meadow Lark

---

Chiricahua National Monument:

This stop was made primarily to acquaint my self with the monument and the CCC work which is going on there.

Camp Superintendent H. W. Hammond went with me to look over CCC work between the camp and Massai Point. All of the work seemed entirely satisfactory from the wildfife standpoint. I was especially pleased to note that many standing dead trees and down logs were left in place during roadside cleanup.

Following is a list of birds observed on the Monument between 8 and 11 a.m., March 27, 1935:

1. Golden Eagle, 1 near Massai Point.
2. Red-tailed Hawk, 1
3. Sparrow Hawk, 1
4. White-throated Swift, 6, cliffs above Bonita Canyon
5. Northern Violet-green Swallow, 1, cliffs above Bonita Canyon
6. Red-faced Warbler, observed one adult male for sometime with the glasses. It sang repeatedly and darted into the air after insects like a flycatcher.
7. Black-throated Warbler, 4 singing
8. Blumbeiogs Vireo, 6
9. Santa Rita Bush-tit, 3
10. Arizona Jay, 5
11. Long-creasted Jay, 4
12. Western Robin, 1 at mouth of Bonita Canyon
13. Ruby Crowned Kinglet, 12 singing
14. Gray Titmouse, 3
15. Bridled Titmouse, 2
16. Mexican Chickadee, 5
17. Canyon Wren, 2 singing
18. Baird Bewick Wren, 1
19. Red-shated Flicker, 2 calling
20. Red-naped Sapsucker, 1
21. Junco, (sp.?) 8 singing
22. Western Chipping Sparrow, 5 singing
23. Creeper, (sp.?)
24. Cedar Waxwing, flock of 5 in evening near mouth of Bonita.

NOTE: All of these were observed in Bonita Canyon, unless otherwise stated.

Casa Grande National Monument:

Made only a short stop here as Superintendent Pinkley, Asst.Supt. Rose and Junior Park Naturalist King were absent. Discussed museum work, bird banding and bird identificztion with Ranger L.A.Caywood.

The following birds were recorded:

1. Gambel Sparrow, several
2. English Sparrow, abundant about the buildings
3. Arizona Cardinal, one male in mesquite near buildings
4. Brewer Sparrow, 3 in bushes
5. Gambel Quail, several seen usually in pairs. The males were calling from the mesquites.
6. Roadrunner, tracks of one
7. Horned Owl, a pair is nesting on top of the ruin. I heard them calling last night and found the remains of two cottontails below the nest.
8. House Finch, several
9. Junco, several
10. Black Rosy Finch, flock of about 40 seen in mesquites near the museum. They flew like Rosy Finches and I watched them at close range with glasses. I feel that they could have belonged to no other species.
11. Rough-winged Swallow, 2 or 3 pairs are apparently preparing to nest in the ruins
12. Say Phoebe, a pair is nesting in the ruins, 1 bird was on the nest at 9 a.m.

**********

Now and then a little humor crops out from the stacks of serious business such as vouchers, work programs and meticulously prepared letters of application for ranger and clerk jobs. Not so long ago a young fellow applying for a position with us gave a long list of his good points among which was his statement that "I have no habits whatsoever". Anybody wanting a ganger or clerk with absolutely no habits, good or bad, would do well to get in touch with us.

**********

The Cover Page

Some carping critic has complained to this office that the rattler in the foreground of our great seal of the Southwestern Monuments does not have a forked tongue and saying that he is going to take it up with the Division of Research and Education. Be it known that the Great Seal deals symbolically with the things of the Southwest even to the gentlemanly rattler, representing ourselves, who, with the wisdom of the serpent would most certainly not speak with a double tongue.

**********

FLASH--

The prohibition of secrecy having been removed, we are at liberty to tell the many Service people and others who will be interested in hearing the news, that Gay Rogers was married on the fifteenth of last December to Dick Lovald, of the Soil Erosion Service. Gay had to finish out an unexpired term of school teaching at Farmington, New Mexico, so they decided to say nothing about the wedding until a couple of weeks ago when the school term was over and it looked like Dick was going to settle down in one place for a while. At the present writing they are in Albuqureque, New Mexico, but within a few days will be working out of Gallup with that town for their headquarters, box 135.

Dick is an engineer and we have heard a lot of mighty good things about him and commend him to our Park Service folks wherever they may meet him. Gay needs no introduction or words of commendation to the many readers of this alleged report who have known her for the several years she has been with our Service. She has worked in the field and the office and has lived at Montezuma Castle, Tumacacori, Casa Grande, Bandelier and Aztec Ruins National Monuments, so she has a pretty complete Park Service education. Now she and Dick are taking a new start in one of the newest of Services and I am sure we will all join in wishing them a long life and a happy one.

**********

It is a great consolation to me, Chief, to find that we have another dumb buddy in our outfit. You know some time ago I told you about the episode of corking a can of mimeograph ink and putting it on the stove to warm with certain resulting random decorations of black on the wall and ceiling. Well, while I was out on the Tolson trip another buddy reached over on my desk in great haste and grabbed a heavy glass ink bottle and started off with it. He happened to get it by the stopper and after it had cleared the desk, the bottle let go and striking the cement floor spattered ink up on the ceiling just above where I work. We are now waiting for the third ink incident in our office and then we are going to lay off some night and repaint the walls and ceiling.

P.S. The dumb buddy this time is Bob Rose.

**********

Which reminds me that Art. Woodward sent word to Bob in a letter he was writing to me saying that little Chinese girl was wondering where the big handsome man was who had so much trouble keeping his cigaret alight. This must refer to something that happened when Bob was over there in Berkeley with the field division of Education--tho what it has to do with education, I can't imagine. Also, I would like to know very much how Art got his information. Vas you dere, Art? It all refers to ethnological studies, I suppose.

**********

And so another monthly report goes on its way and we turn back to the pile of unanswered stuff on our desk.

The Boss.

# SOUTHWESTERN MONUMENTS
# MONTHLY REPORT
# MAY 1935

DEPARTMENT OF THE INTERIOR
NATIONAL PARK
SERVICE

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

Hilding F. Palmer

One of the key men of our Southwestern Monuments has been called away to other work. Hilding F. Palmer, Custodian, Casa Grande National Monument, died May 31, 1935, at 1:30 P.M.

It seems but a few months ago that he signed on with us for the remainder of his life. It was in April, 1928. Although handicapped in health--for many years before that he had been fighting tuberculosis--during those seven years he proved to be one of the most willing, cheerful, happy men in our Service.

Once in his years of service we had sharp words when we had been working fourteen hours a day for a week and our nerves were raw. It was settled within an hour. Seven years of the constant wear and tear of the infinite petty things which make up the detail of our daily life, and he flared up once! He was patient.

Several years ago, when we were talking over future plans, he told me as casually as if he were talking of the weather that he could not live eight years longer. Yet none of us who worked with him can recall when he was blue or discouraged, or despondent. He did his work from day to day and looked the future squarely in the eye. And his work was well done, always caught up, no loose ends. He was faithful to his Service.

His heart weakened last fall and he expended his annual and sick leave on his back, fighting for his life. His leave exhausted, he had to go on administrative furlough. As the outlook grew darker his cheerfulness and good humor shone by contrast. It was our constant marvel, who saw him day by day, that he could continue to smile and joke when the days grew into weeks since he had been propped up in bed. Only an occasional word dropped to one or two of us showed that he was fighting with a complete knowledge of the nearness of the end. He was brave.

And so he goes from us, not leaving our Service but wearing his uniform as he wished, and we who are left must close up the ranks and hope that when our turn comes we may leave a record of patience and bravery and kindness and justice as clear and fine as this record he leaves.

# SOUTHWESTERN MONUMENTS

## REPORT FOR MAY

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# SOUTHWESTERN MONUMENTS PERSONNEL

HEADQUARTERS Southwestern Monuments, Coolidge, Arizona: Frank Pinkley, Superintendent. Robert H. Rose, Acting Assistant Superintendent. Walter G. Attwell, Associate Engineer. Dale S. King, Junior Park Naturalist. Hugh M. Miller, Chief Clerk. Robert Cole, E.C.W. Clerk.

GENERAL FIELD MEN: Harry Langley, Assistant Landscape Architect. Charles A. Richey, Junior Landscape Architect. J.B.Hamilton, Associate Engineer. Gene H. Gordon, Assistant Engineer. Andrew Clark, Topographer, J.H. Tovrea Chief Engineering Aide. Ray Hitson, A.B. Pinkley, Howard Williams, Walter Smith, C.E. London, C.D. Stewart, Rodmen.

FIELD STATIONS

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, Custodian.
4. Canyon de Chelly---Chin Lee, Arizona. Robert Budlong, Custodian.
5. Capulin Mountain---Capulin, New Mexico. Homer J. Farr, Custodian.
6. Casa Grande---Coolidge, Arizona. Hilding F. Palmer, Custodian. Louis R. Caywood, Park Ranger.
7. Chaco Canyon---Crownpoint, New Mexico. Thomas C.Miller, Custodian.
8. Chiricahua---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---Moccasin, Arizona. Leonard Heaton, Acting Custodian.
17. Rainbow Bridge---No Custodian.
18. Saguaro---Rt. 2, Box 654, Tucson, Arizona. Charles Powell,Custodian.
19. Sunset Crater---Flagstaff, Arizona. J.W. Brewer, In Charge.
20. Tonto Cliff Ruins---Roosevelt, Arizona. Charles R. Steen, Custodian.
21. Tumacacori---Box 2225, Tucson, Arizona. George L. Boundey, Custodian. Martin Evanstad, Park Ranger.
22. Walnut Canyon---Flagstaff, Arizona. Paul Beaubien, In Charge.
23. White Sands---Alamogordo, New Mexico. Tom Charles, Custodian.
24. Wupatki---Flagstaff, Arizona. J.W. Brewer, In Charge.
25. Yucca House---Cortez, Colorado. No Custodian.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
SOUTHWESTERN MONUMENTS

Coolidge, Arizona, June 1, 1935.

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

Dear Mr. Director:

Activities for the month in Southwestern Monuments are detailed in the various reports that follow. The plan of leading off with a summary has been tried now for several months and seems to be proving a desirable feature of the whole report. Continuing the plan for this month the report will be divided into (1) Southwestern Monuments General; (2) Reports from the Men in the Field; and (3) The Supplement.

## SOUTHWESTERN MONUMENTS GENERAL

### WEATHER AND TRAVEL:

Characteristic spring weather has prevailed over the Southwestern Monuments district as a whole. Bandelier has experienced periods of several several days of real winter weather at a time with mild temperatures and showers as the rule. In the Wupatki and Flagstaff region weather has been ideal the entire month. About four good spring showers have fallen which have served to cover the plateau and mountain slopes with a mantle of green.

Rains and snow flurries in the mountains and on the plateau to the north have exercised a temperature control over southern Arizona keeping days and nights reasonably cool for this time of year. There have been but few days in May warm enough to make us realize summer is around the corner. For those who enjoy the beauty of the desert in bloom the months of April and May have been the finest in many years. Nearly all of the varieties of cacti have bloomed while wild flowers have staged a veritable parade of color. Tourists as well as residents of this part of the state have shown unusual appreciation of the natural beauty of the desert this year. Literally hundreds have driven the Apache Trail via Roosevelt Dam and the highways of the valleys in order to see and enjoy wild flowers at their best. As the season advances this parade of color invades the mountain slopes and the plateau levels giving all regions a best time as to spring beauty.

Travel over the entire district shows substantial gains over May, 1934. The observations of Custodian Earl Jackson of Bandelier are generally true for all of the monuments. He observes that visitors seem to be a jolly lot,

in very good humor about conditions in general and with less political worries than usual. All seem to be having a very good time.

Many new cars are in evidence which is something of an index of better times and increased confidence. The higher prices of gold and silver have stimulated mining activity giving renewed life to such mining localities as famous old Tombstone. Significant is the fact that more and more private companies and individuals are taking great interest in the location and the development of mining properties.

FIELD TRIPS:

Junior Naturalist Dale S. King has continued through the month on special assignment on museum work at Field Division of Education laboratories in Berkeley. Engineer Attwell has been afield several times keeping close contact with work programs of various kinds. His activities are listed under the next section, under ECW and in his report which will be found by consulting the index. No other field trips have been made by headquarters personnel during the month of May.

Correspondence and instructions are being received relative to proposed new national monuments. As soon as work is in shape after the first of the month certain of these areas will be visited, inspected and reported upon.

ENGINEERING ACTIVITIES:

Engineering activities during the month include:

1. For Chiricahua and Bandelier, see ECW reports of Hammond and Chase, project superintendents, by consulting Index.
2. Post-construction work on road maintenance at White Sands has progressed during the month.
3. Toppgraphic map of Tonto National Monument was completed and data have been prepared relative to extension of boundaries.
4. Topographic mapping at Walnut Canyon essential to future planning has been started.
5. Entrance road reconnaissance for an entrance road into the proposed Wupatki CCC Camp has been made.
6. Trail work under Milton Wetherill has progressed at Betatakin at Navajo National Monument.
7. The P.W.A. sewer construction project at Gran Quivira is 95% completed. On the well drilling project we are glad to report that water has been struck at 962 feet.
8. At Chaco a crew has been busy staking out the new fence location.

ECW ACTIVITIES:

The items listed in this ECW progress report have been taken from the reports of project superintendents Chase of Bandelier and Hammond of

Chiricahua. Consult the Index for complete reports on ECW work at these two monuments.

Bandelier:

1. Basement excavation for the office building is completed including the pouring of wall and floor concrete; masonry walls are 60% complete; window and door frames are in place; and lentils and vigas are on ground prepared for use.
2. About 250 feet of footing and 25 feet of rail are completed on the entrance road guard rail.
3. The campground extension project has progressed nicely with construction of campsites; placing of boulders; laying of water ser-vice line and construction of convenient hydrants.
4. Hotel parking area with surfacing and planting of boulders about limits was completed during the month.
5. Planting of small trees and shrubs was continued during the month practically marking the finish of this project.
6. Ten campground tables were completed except for tops and the timbers are prepared and delivered for the remaining ones.

Chiricahua:

1. About 1-mile of pipe has been laid and 50% of remaining pipe trench to the 10,000 gallon reservoir above headquarters area is completed.
2. Water development at the spring site is progressing though considerable heavy work is being involved.
3. About 1,000 feet of Echo Canyonhorse trail is completed. The water basin above Echo Park is also finished.
4. Work is progressing steadily on Sugar Loaf Lookout House; roof is ready for shingles.
5. Sugar Loaf trail except for cleanup and dressing down, is completed.
6. Entrance road grading to Public Campground; erection of sign; piping for water; installation comfort stations, etc., are largely completed. Twenty tables have been constructed.
7. Headquarters comfort station excavation and masonry nearing completion while sewer development is under way.
8. Obliteration of old roads and borrow pits adjacent to Bonita Highway has proceeded.
9. Bonita Canyon road maintenance continues. Three concrete culverts have been replaced.

VISITING PARK SERVICE OFFICIALS:

Landscape Architect Harry Langley was a headquarters visiter on the 17th; Custodian Robert R. Budlong of Canyon de Chelly arrived for a welcome visit on the 9th and departed on the 10th; Custodian Johnwill Faris accompanied by Mrs. Faris dropped in for an all too short a stay on the 7th; Alfred Peterson passed through the evening of the 31st enroute to his summer post at El Morro.

RHR/
6/1/35.



Cordially,
FRANK PINKLEY, Sup't.

REPORTS FROM THE MEN IN THE FIELD

WHITE SANDS NATIONAL MONUMENT — Tom Charles, Custodian

This has been the banner month for visitors, having had 2275 registrations. Our observation is that only 50% of them register.

Among the distinguished visitors of the month were Mr. and Mrs. Gilbert Grosvenor and daughter, Miss Gloria, of Washington, D. C. Editor Grosvenor visited the White Sands in the interest of the National Geographic Society, took a number of pictures and indicated that he might give the monument favorable mention in his magazine a little later. While standing on one of the highest hills Mr. Grosvenor said, "It is remarkable that three of the greatest natural wonders in the world, Carlsbad Caverns, the Grand Canyon and now the White Sands are here almost together".

The outstanding event of the month was the visit of 3000 Otero County school children with about 500 parents and friends on April 28th. The children of this county chose, "The National Parks" for their study subject for the past year. They bombarded the custodian with requests for literature and information until we secured a supply of National Park literature for every school in Otero County. These pamphlets were used as sort of a circulating library amd in that way the limited supply was stretched out a dozen fold or more. The teachers and children of the country schools are as proud of a National Park lithographed poster as they are of the state flag and the two usually occupy the honored positions in the school room.

Among our visitors this month was one man from Wales, one from Tokio, Japan; five from Washington, D. C.; a group of 40 from the Texas School of Mines; about as many from the New Mexico State A & M College; 44 of the graduating class of the El Paso High School; the class in Geology from the New Mexico Military Institute and a school of 35 Apache Indians from the Mescalero Indian Reservation were among the study groups for the month of May.

I have had word from Dr. Fred Emerson, botanist, who gave a paper on "The Unusual Plant Life at White Sands" before a group of scientists in Pittsburgh, Pennsylvania during the past holidays. Dr. Emerson seeks out a suitable canyon in the White Sands, pitches his tent, digs his well and lives right there for a week or more at a time. He has found specimens of yucca which, in a struggle to keep above the shifting sand, have stretched their necks 35 or 40 feet. Other variations in plant life here are quite unusual.

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BANDELIER NATIONAL MONUMENT — Earl Jackson, Custodian

There follows the May monthly report for Bandelier National Monument:

Visitors: Visitors numbered 735, arriving in 185 motor vehicles. Two trucks brought fifty school children, and three busses brought fifty four school children. Visitors registered from 32 states and the District of Columbia. France, Canada, the Phillipine Islands, Germany and Africa

were represented. The six highest states in travel were: New Mexico, 473; Oklahoma, 41, Colorado, 38; Texas 34: California, 32 and Indiana, 20. Our travel figure compares with 380 for May 1934.

Weather and Roads: Precipitation for the month since April 25 was 1.79 inches. Most of the month has been partly cloudy, with frequent showers, and some week-long spells of real old winter weather. The heavist snow storm of the year fell, but the snow melted almost as fast as it hit the ground.

There is plenty of snow on the higher mountains, and the streams are all running good. Most of the fruit is going to pull through, despite the cold weather accompanying the snow.

For several days the road was almost impassable from here to Santa Fe, on account of very slick and wet mud. It dried quickly, however, and roads are now in good condition.

Special Visitors: April 26 - 35 Rotarians were out from the Convention City (Santa Fe) for the afternoon and seem to have enjoyed the trip thoroughly. May 2 - 75 members of the Southwestern Division, American Association for the Advancement of Science, had picnic lunches on the camp ground and spent the afternoon visiting the ruins. Among the members attending the party were:

Jesse L. Nusbaum, Director, Laboratory of Anthropology.
Byron Cummings, Director, Arizona State Museum.
Edgar L. Hewett, Head of the School of American Research.
Kenneth M. Chapman, Curator, Laboratory of Anthropology.
H. P. Mera, Laboratory of Anthropology.
Donald Brand, Professor, University of New Mexico.
Harold S. Colton, Director, Museum of Northern Arizona.
Frank Andrews, Supervisor, Santa Fe National Forest.
Elliot Barker, State Game Warden.
J. H. Province, Professor of Anthropology, University of Ariz.
Syd Stallings, Dendrochronologist, Laboratory of Anthropology.
Paul Franke, Park Naturalist, Mesa Verde National Park.

May 6 - A. J. Gordon, of the Soil Erosion Service, and T. F. Peebles, [illegible] Indian Land research, were visitors. May 8 - Walter Attwell, Associate Engineer, arrived for a two day business trip of inspection.
May 10 - Charles E. Doll and family, of Santa Fe, were interested visitors. Mr. Doll is one of the better known pioneering souls of the southwest, and gave me some very interesting history.
May 14 - Mr. L. F. Cook, of the Forestry Divison, was in for a short inspection.
May 16 - Chuck Richey was in for a three day inspection trip of E.C. W. work.
May 19 - Edward A. Nickel, Assistant Chief Architect, Western Division, was in for a short visit to familiarize himself with problems here.
May 24- 75 school children spent the day picknicking and visiting the ruins, 50 of these were Mexican children from the nearby villages of El Rancho and Pokoaque, and the others were boys from the St. Michael's School in Santa Fe.

Nature Notes: I notice in cottonwood and choke cherry trees a few nests of the tent caterpillar have carried over with healthy worms from last year's activity; these pests are very vigorous and anxious to get in their nefarious work again this season. Fortunately, we will meet them with lead arsenate or something of equal merit, and can perhaps hold them to a minimum of damage. The trees are by now so well leafed out that I doubt if any deaths would result, even if complete defoliation occurred.

The State Fish and Game department has generously given us a good number of native trout for Frijoles Creek. 15,000 natives from 4 to 6 inches long were planted, and 1,00 from6 to 10 inches were planted. The fish were all of the type that should be in these streams, the native or spotted trout, and were in an unusually healthy and vigorous condition, despite the fact they were hauled from the Parkview Hatchery on the Chama, over fifty miles away.

General: The month of May has proven highly satisfactory form the standpoint of interested visitors. We've had a good bunch coming in, everybody seems to be in a good humor about conditions in general, nobody's talking political worries, and travelers are having a good time.

The custodian went and got himself some education attending the meetings of the A.A.A.S. in Santa Fe the first of this month. For the three days of the session he attended the social sciences section, and, in company with Louis Caywood, from Casa Grande Ruins, represented Southwestern Monuments there.

On the fourth day of the meeting the day was given over to excursions; 75 of the members came out to Frijoles Canyon for the day, and after a picnic lunch on the camp ground we set out to see the ruins. (Incidentally, the new camp area of which we are so proud was well filled up by the parties.)

In front of the great community house ruin of Tyuonyi several brief talks were given. Dr. Edgar L. Hewett (who will be remembered as the man who was in charge of the excavations here 25 years ago) gave a talk on the archaeology of the region. Dr. H. P. Mera gave a talk on the ceramics of the region. Syd Stallings gave a tree ring discussion. Elliot Barker, State Game Warden, gave a talk on wild life of the region. Frank Andrews, Supervisor Santa Fe National Forest, gave a talk on forestry. A paper written by Stewart A. Northrup upon the geology of the region was read. Then I gave a brief talk upon the story of the National Park Service and Bandelier National Monument.

Following the talks and comments, a jointly conducted tour through the ruins was led by Dr. Hewett and myself. We spent the whole afternoon at it, and I believe everyone had a good time and learned something. Meetings of this nature, by scientific minded people, cannot fail to be productive of much interest in archaeology, and of much effort to see scientific procedures carried out in future archaeologycal work.

The Indian Service has secured control of the 35,000 acre tract immediately adjoining Bandelier National Monument to the north, the Ramon Vigil Grant. It is expected soon that the San Ildefonso Indian Reservation will have use of the land. I was gratified to have the visit of two men who are making a special study for the Indian Service of the Ramon Vigil Grant; these men, Mr. A.J. Gordon, of the Soil Erosion Service, and Mr. T.F. Peebles, Indian Land Research, assured me of every intention

on the part of the Indian Service to administer that land in a manner compatible with the conservation aims of the Park Service and the Forest Service. It is comforting to know that the Indian Service is also definitely conservation conscious.

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GRAN QUIVIRA NATIONAL MONUMENT — W. H. Smith, Custodian

Travel has been somewhat slow for the last few days due to so much rain in this vicinity--it has kept the roads in a pretty bad shape. The first half of the month was a pretty good run and that has helped hold our number up, till I can still report a better run than last month and a slight increase over the same month last year. I have registered 396 visitors entering the monument in 87 vehicles. This number registered from 8 states including our own.

The work on the sewer line has progressed nicely,all the tile is in and the man holes are finished and we are expecting to get the trench covers sometime this week. The completion of the ceptic tank is drawing near as they have practically all of the concrete poured.

The well drilling is a little bit discouraging as the driller has gone below the general water level in the community, counting the extra elevation of the hill. The formation has changed from the yellow sandstone to a red sandstone and we genrally get water here in the yellow sandstone formation. The experienced well drillers of this country say that if this red sandstone goes into the red clay without water, it is likely to be much deeper yet to water.

On date of May 8, Associate Engineer Mr. Walter G. Attwell came by and spent the day. While here he looked the sewer line work over and he and the well-driller discussed the well problem here. Mr. Attwell seems to think that if the present formation holds out in the well that it will not be necessary to case it.

The rains that we have been getting have sure brought on vegetation in a hurry this spring. The monument is almost as green at present as it got last year at any time. The wild flowers are blooming and I notice that the tree cactus are budding for bloom and look as if they will be in full bloom soon-this is much earlier than usual for them here. This moisture coming has put the farmers in this district busy planting their crops. There is an extra good moisture in the ground here and the present outlook for crops is fine.

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EL MORRO NATIONAL MONUMENT — Evan Z.Vogt,Custodian

From El Morro we have the following report by Evan Jr.:

In the absence of the custodian, I have been asked to write the monthly report. I am unaccustomed to writing reports, but I shall attempt to tell you of the major happenings around El Morro for the past month.

Roads: Traveling the approach roads to El Morro is still an arduous task. It takes one fully two hours to go from Gallup to Ramah and upon arrival at Ramah one feels as if he has been through a paper mill. It certainly pounds

and bumps one to pulp. From Ramah to El Morro travel goes on the old road which is shorter, sandier, and much smoother. I am going to change signs so as to direct tourists over old road until new one is graded.

It has been rumored that F.E.R.A. and Indian Service engineers are going to build a nickel-plated highway from Gallup to Zuni and Ramah. We hope that the rumor will soon become fact, for that would provide an excellent approach from the North, at least, to El Morro. An F.E.R.A. engineer is already surveying the course of the highway.

Superintendent Trotter of the Zuni Agency has been transferred to the New Navajo Capitol as assistant superintendent. Let us hope that the new superintendent will do as much for the roads as Mr. Trotter did.

Weather: Our weather continues to be freakish. In January it rained and was as balmy as southern Italy. Now it is still raining but is as cold as northern Alaska. When we dash forth in the mornings, the wind goes through us as if we were screen doors. As yet no visitors have cared to look at the inscriptions on the north face of the Rock. I don't blame them for when a cold wind howls around the north side of El Morro, it is one of the coldest spots in Valencia County. Although the continued moisture has played havoc with the roads, it has filled all reservoirs, including the one at the monument, and has made without doubt this winter and spring the wettest the country has ever seen.

Flora and Fauna: The clover and clumps of gramma grass on the reclaimed area at the Rock are very green and are growing fast. At the upper end of the area where the clover has been protected from frost by the dry clumps of Russian thistle, it is fully a foot high. The clover we planted in the bare spots earlier in the spring is up already. The lower end of the area looks rather barren and a colony of pocket gophers have set up housekeeping there. These gophers are probably the cause of it looking so barren. They may have to be poisoned later on.

All the oaks on the south side of the monument have been leafed out for fully two weeks, while the oaks on the north side and in the adjacent country have shown no signs of life as yet.

Arriving at the monument on the 12th and finding that no visitors had arrived, I drove on around to the Nine-Pines' Cove to find that a six-inch limb about twenty-five feet long had broken off the tallest pine tree and fallen fifty feet to the ground. A few minutes work with an axe enabled me to carry the large part of the limb to the woodpile where it will be of future use as firewood. The brushy part of the limb was used to fill a yawning hole in an erosion control dam near the camping gound.

Two flocks of pinon jays and numerous mourning doves are foraging on the monument grounds. The cottontail rabbits are as tame as jersey cows this spring, letting one approach within a few feet of them.

General: The rock steps on the south trail are still washing badly with each additional rain storm. Each week I find the first flight of steps filled with masses of loose rock. The upper flights of steps are washing to such an extent that in places the stairway has become absolutely smooth.

Visitors have been rather scarce. But with the weather warming up and the monument becoming more accessible, the number is increasing. Each Sunday brings more parties.

WUPATKI NATIONAL MONUMENT J.W. Brewer, In Charge

Weather: If I were asked to design better weather than we have been having I si mply could not do it. Four showers (.87 inch, total precipatation). The highest temperature recorded was 96 on the twenty-fifth, the lowest 37 on the third. Cumulus clouds collecting almost daily at noon have kept the thermometer from soaring. The high wind of last month has subsided and a gentle breeze has taken it's place.

Travel: Wupatki Pueblo, 71 visitors; Nalakihu, 66 visitors. Guests who registered on both books totaled 12, leaving total of 125 visitors to the Monument for the month of May. (May, 1934, 9 visitors)

New highway 89 has a recently completed section extending 12 miles north of the Coconino National Forest boundary. Adjoining this and extending 10 miles north is another section now under construction. This leaves a gap of only about 12 miles of unfinished highway between the Grand Canyon National Park and Wupatki entrance road.

Newsworthy Visitors: The first name on the register is that of Evon Z.Vogt which recalls our pleasant trip to Winslow with Mr. Vogt and our wait-over to see him safely aloft in a new T.W.A. transport plane.

Cliff London brought Ray Hitson back to Wupatki and stayed just long enough to see Wukoki and Wupatki Pueblos.

On the evening of May 8th Sallie got together a swell turkey dinner for a grand party. The turkey was put from sight by Mr. and Mrs. Gene Gordon, Mr. and Mrs. George Hopper, Messrs. Walt Attwell, E.H. Williams, Howard Leslie, and Ray Hitson.

Mr. L.F. Brady (Mesa Ranch School), Curator of Geology, Museum of Northern Arizona registered on the 18th.

R. Van Valkenburg and J. Straus, with Jerry, their Navajo interpreter, all of Soil Erosion Service, were over-night guests--a high center and a punctured oil pan kept them a second night. Mr. Tripp, S.E.S. garage mechanic, repaired the damage.

Mr. and Mrs. C.A. Pierce of Carlsbad were visitors, and with Mrs.C.W. Brewer and Miss B. Cotter of Chicago account for one of the finest outings Sallie and I have ever had. (A brief summary of the trip follows under caption, Betatakin)

Paul Wilkerson's name appears on the Citadel register, without a date; and Mr. H. Langley, Landscape Architect fromGrand Canyon , was here with two army men.

Wildlife: The flora collection is reaching a surprising volume.

The reptile collection is now reposed in 3 jars and is a mighty colorful assortment. One collared lizard has a fine "second-growth" tail.

A letter from Chief Ansel F. Hall's office states that "Dr. T. Eaton's complete and competent check-list of his Reptilia collected in 1933 has just been printed." This collection was made in connection with Rainbow Bridge-Monument Valley Expedition, of which I was a member who now welcomes the opportunity to buy this check-list.

Sallie reports seeing a single antelope on two occasions, both on the Wupatki-Sunset Crater road. Van Valkenburg reported seeing a herd of five antelope in Antelope Wash.

A check-list of birds, visitant and resident, has been supplied to me by Mr, L.L. Hargrave, Field Director and Curator of Ornithology of N.M.A. All records are from specimens actually taken in the field and total 83 species and sub-specimens.

Applicaation blank for my bird banding permit has been filled out and submitted to the Biological Survey.

E.C.W.: Equipment continues to provoke howls from the freight agent and consume great quantities of space in our warehouse. Four 1-1/2 ton dump trucks and one 3-ton dump truck, all a handsome N.P.S. green, are utilizing 3/5ths of the floor space. Unpacking and counting is requiring considerable time.

Betatakin Travel-Log: Leaving Wupatki the morning of the 21st our party of six (mentioned under newsworthy visitors) started on a grand sightseeing tour. Luncheon at Tuba City, arrival at Kayenta at 4:00 P.M. After greeting and being greeted by the Wetherills and Mr. Colville we rushed off to get a view of Monument Valley and return to Wetherills for dinner. After dinner Mrs. Wetherill entertained us with her wonderful Ethno-Botony collection. We looked around at all the old familiar sights about Kayenta and got the road directions from Hosteen John, and departed for Betatakin.

Arriving at Betatakin, we were met by Milton who rushed up a pot of coffee and we all had a snack. Then to the ruin--but more impressive than the ruin itself is the spectacular recess in which it has been built. I can't describe it justifiably so am not going to try. I have just one suggestion to make: next time Milton takes someone around the narrow ledge in his "ant-like" way that he put fly-paper on their feet! My heart was in my mouth because there wasn't a thing to hang on to.

Leaving Betatakin around 4 P.M. we arrived at the Grand Canyon shortly after dark. Dinner and early to bed. Sunrise on the Canyon, the Museum at Yavapai Point, and back to Wupatki for luncheon.

Pectoglyphs : When you were here on the Tolson trip I showed you some reproductions of Wupatki pectoglyphs and you expressed a desire to have them in the supplement. The last said about them was that you would send me some stencil papers and I would cut the design. Anytime you want the stencils cut just send them along.

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SUNSET CRATER NATIONAL MONUMENT J.W. Brewer, InCharge

248 visitors are registered at Sunset Crater. 26 states, Hawaii, China, Switzerland, Italy, and Holland are represented.

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CHACO CANYON NATIONAL MONUMENT T.C.Miller, Custodian

H.E. Williams in charge in Mr. Millers absence sends the following report from Chaco Canyon:

As you will see by reading further in this report Mr. T. C. Miller,

the Custodian is away for a few days on account of serious illness in Mrs. Miller's family.

He asked me to take charge in his absense and to prepare a report. This I am doing to the best of my ability under the circumstances.

Doubtless mistakes will be made for which Mr. Miller can in no way be held responsible.

The report follows:

During the month beginning April 25th. the activities in Chaco Canyon were as follows.

General: Approach roads, while passable, have been badly rutted by cars and trucks during wet weather. They have been slippery a part of the time but very rough during the entire month.

Weather: This appears to be a rather late spring. No unusually severe storms but many cold and cloudy days for this season of the year and quite a good deal of wind. We are glad to see the bright and sunny weather of the last few days. The maximum for the month was 77 degrees on the 10 and 23. The minimum was 27 degrees on the 2nd. Precipitation .54 inches of rain and melted snow was recorded for the month.

Travel: During the month ending May24th. 340 visitors arrived in 120 cars, busses, and school trucks coming from the following states: Ariz. Arkansas, California, Colorado, Georgia, Louisiana, Michigan, Oklahoma, New Mexico, New York, Texas and Washington D.C.

Ruins Stabilization: As stated in our April Report the work of ruins stabilization was temporarily discontinued when Mr. Howard Leslie and party were transferred to some urgent work in Wupatki National Monument.

The completion of the survey of floor plans, side wall elevations and contour of Chetro Ketl and Peublo Bonito is highly important at this time in as much as there are many places in the walls now leaning, some places crumbling and falling down. These places require immediate attention in order that the present condition of these ruins may be maintained.

We sincerely hope that this survey may becompleted at at early date and that, at least such walls as are now leaning and in great danger of falling may have much needed engineering stabilization.

Fencing: Under date of May 10th we had notice that on orabout May 20th. Engineer Andrew Clark and party would be here to begin a survey of the Monument lines. To set line stakes every 100 feet and to establish and mark permanent corners preparitory to letting contract for constructing the fence for which Secretary Ickes had recently allotted $30,000.

The party has not yet arrived on May 24th. when this report must be typed. We sincerely hope, however, there will be no delay in this construction.

The present practice of over-grazing on lands set apart for this Monument has caused great damage to vegetation, thus bringing about a condition where erosion is speedy and terrible in its results.

The construction of 40 miles of more of fence is quite a contract

and we hope it can be completed in time to give at least some measure of relief during the present grazing season.

Soil Erosion Service: According to previous arrangements, on April 26th. the Soil Erosion Service of the U.S. Department of Agriculture began planting trees in the Chaco Wash which leads through the Monument.

These trees, consisting of Tamarisk, Willow, Cotton-wood and Wild Plum are all native of the Chaco Country and were planted for the purpose of, so far as possible, preventing further erosion in the Chaco Wash. Let us hope that the planting of these trees may be successful, not only in preventing further erosion but in gradually building up the bed of the wash and stabilizing the banks. If successful there are many places throughout the Monument where this work should be continued.

This work was begun on April 26th and completed on May 7th. It gave much needed employment to 20 Navajo Indians and 2 whites. In all 93,770 trees were planted. We sincerely appreciate the work of the Soil Erosion Service.

Special Visitors: In the first paragraph of the April Report under the heading "Special Visitors" a mistake was evidently made in the typing.

The paragraph should read:

The Monument was inspedted on March 27th. by Mr. Hillory A. Tolson, Assistant Director; Mr. Frank Pinkley, Superintendent Southwestern Monuments; Mr. F. A. Kittridge, Chief Engineer; Mr. T.C. Vint, Chief Landscape Architect; Mr. Ritchie, Associate Landscape Architect; and Mr. Dale King, Naturalist of Southwestern Monuments.

On Sunday, April 28th. Mr. G. L. Butler, owner and publisher of the Farmington Times Hustler brought his family and visited the Monument. Mr. Butler is always willing to give us all the advertising he can through the medium of his progressive and well edited paper.

Mr. Dick Allison and family were visitors to the Monument on May 12

Some days ago Mr. Arthur J. Mayes and his wife and son John, who own and live on a ranch near Carlsbad, New Mexico came to Chaco Canyon for a visit with the Millers. Mr. and Mrs. Mayes are the parents of Mrs. Miller, wife of the Custodian.

On April 25th. Mr. D.G. Craig, Assistant Agronomist Soil Erosion Service and his assistant, Mr. S. A. Groat, completed arrangements for the work of preventing soil erosion. The work is referred to under another heading in this report.

Mr. Nichols, Chief Building Construction Architect from the San Francisco Office was here on May 17th.

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YUCCA HOUSE NATIONAL MONUMENT — T.C. Miller on Inspection trip.

On Friday, May 17th. Mr. T.C. Miller, Custodian of Chaco Canyon National Monument made an inspection trip to Yucca House National Monument. This report was prepared by H.E. Williams in Mr. Miller's absence.

The roads were in fair condition.

Mr. Miller spent several hours at Yucca House, found ruins in a

Fair condition with no indications of recent vandal work.

There was evidence of considerable travel.

Mr. Ray Ismay reports about 25 visitors for the month of May.

Spring has come. There were numerous prairie dogs and birds about the place. Especially the magpie gave abundant evidence of his presence and good health. One rattle snake was seen in the ruins but if you keep your proper distance you need not be afraid of him.

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CANYON DE CHELLY NATIONAL MONUMENT — Robert R. Budlong, Custodian

Visitors to this Monument totalled twenty-three for the month of May. All of them drove to the south rim, overlooking White House, and fifteen of them descended the trail.

Water has been flowing in the canyons for months, and it has been impossible for cars to enter them. The high water continues, we have had showers almost every day for a long time, the roads leading to this Monument are very rough, and we blame this combination for the low visitor attendance this month.

The afternoon of May 7th, the Honorary Custodian Without Pay and this custodian reached a sudden decision: for some time we had been discussing the advisability of a trip to Headquarters, before the school holidays started and visitor traffic increased, and we decided that the time for such visit could not be better, visitors were very few, and I would leave the following day. Accordingly, at noon the following day after receiving the morning's mail, I left this Monument and drove to Prescott, reaching Headquarters the following afternoon. The Honorary Custodian Without Pay remained to see that the Monument was properly taken care of during my absence. I talked steadily from the time of my arrival until my departure, with time out only for meals and sleep, and left Headquarters the morning of the 11th, reaching this Monument the next afternoon. Upon my return, much to my dismay, I found that the Monument had not suffered because of my absence, that visitors had a fine time being shown around by the H.C.W.P., and that everything was going smoothly. This came as quite a shock. I had fondly imagined that this Monument could not survive without my constant presence.

That visit I regard as one of the finest investments I ever have made. Half an hour's discussion of a problem will accomplish what months of correspondence never can accomplish to one's entire satisfaction. I strongly favor such a trip to headquarters about twice a year, if the personnel there can stand the strain. Perhaps one is prone to consider the cost of such a trip excessive; but I think that in the final analysis it will be found that the actual necessary cost is low, and that most of the expence incurred is due to one's inability to pass up the excellent opportunities to do wholesale shopping when in the larger cities. At any rate, Ifound it so. And I strongly favor these occasional personal contacts with headquarters. They accomplish many things of value that can be accomplished in no other way.

The Soil Erosion Service has been at work for some time, planing young trees--mostly cottonwoods--in the canyons at this Monument. I understand that in spite of considerable snow, rain, hail and high water,

many of them have survived, and quite a number are already in leaf. The flowing water, however, has damaged the fencing to a considerable extent.

If the rains will cease, the canyons become dry once more, and the roads become smoother, we can expect a decided increase in visitor attendance in the near future.

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TUMACACORI NATIONAL MONUMENT — George L. Boundey, Custodian

Visitors for May total 1281. Owing to the cool weather our visitors are still mostly tourists travelling the southern route. Travel into Mexico is also on the increase. Many of our tourists are Mexico-bound and often stop both on their way into Mexico and on their return. On the return trip they are much more interested than on their way in as they are not able to obtain much information in Mexico on the Missions.

I find that people are taking much more interest in historical points of local interest. So many of them visit Tubac and Arivaca, Forts Buchanan and Crittenden and especially the old Missions of Calabasas and Guevavi . Some friends of ours purchased a ranch joining the old Guevavi Mission and partly thru their interest in Tumacacori they have now purchased the property on which Guevavi Mission stands. They are forbidding any further excavation there by treasure hunters and intend to preserve the portions still standing and to clean up the area as a park for visitors.

There is not an hour of the day that the natives are not hunting in the vicinity of the Mission and altho we have but ten acres in the Monument the birds and rabbits especially the Sonora pigeons and the Turtle doves know that they are safe on the Mission grounds and they flock here by the dozens. Nesting birds are unusually plentiful this year.

Mr. Vogt, Custodian of El Morro, paid us a nice visit on Sunday the 19th. We enjoyed his visit very much and hope he will come again.

The past two weeks has been the annual visiting time of the public schools in this vicinity. Each year the different rooms stage a tour and picnic at the Mission and it has become quite a custom.

We have had an unusually large number of foreign countries registered this month. I noticed in one day Cairo, Egypt, Czechoslovakia and London, England.

The last vacation our family has had (not in hospitals) was in 1931. I believe every man should take his vacation each year, otherwise he can not give his best to the job. We take our vacation next month and I believe it is for the good of the Service.

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WALNUT CANYON — Paul Beaubien, Ranger in Charge

There were 600 registrations this month. Last fall the total count ended in round figures three times in succession. I changed them twice so you wouldn't think I could only count by tens. Shall let 600 go this time but hope it doesn't happen again.

Johnwill Faris, Custodian of Aztec National Monument registered

early in the month and I regret very much not meeting him.

Several engineers that were about Flagstaff the first of the month had departed. Howard Leslie went to Grand Canyon National Park. Geo. F. Hopper to Glacier National Park, and Gene Gordon and crew to Mesa Verde.

I shall certainly rejoice if and when work starts on the trail to the Cliff dwellings. Instead of enticing visitors to take the trail, I now have to warn them of the crumbling steps. More than half the visitors will not try the trail because of the danger and hardship. With steps in their present condition, about seven thousand visitors a year will reach the Canyon Rim without actually visiting the dwellings. And seven thousand would be a lot at any Monument.

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PIPE SPRING NATIONAL MONUMENT — Leonard Heaton, Acting Custodian

I will have to get busy with this report and get it on the shortest mail route to get it to you on time. This month has gone by so fast that I nearly forgot it was report time.

Our weather has been rather cold for May with snow in the mountains each time there was a storm and we have had several. With all the moisture and the warm weather that we are getting, the wild flowers and grasses are certainly putting forth their blossoms. All plant life has become to me something that is meant for us to enjoy and to see the people pick hands full of the flowers just to throw them away before they get far, makes me feel that they don't think of the other person that might pass that way and who would like to see those same flowers and enjoy their beauty.

I am making a collection of all flowers, grasses, shrubs and trees that grow on the monument, and I find that there is but a small percent that I know and can give the common name to. So I will have some work for Dale to do when he gets up here--if it is not too long.

Our travel has been about the same as last month, both visitors and local travel. There have been people from the following States: Calif., Utah, Arizona, Nevada, Colorado, Illinois, Texas, Nebraska. Total of 146, with local travel of 268, making a grand total travel for May of 414. Now that the road to the North Rim of the Grand Canyon is opened I think there will be more visitors.

There is one thing that is needed badly up at this place. That is a sign to be placed at Fredonia and I think the Park Service should have one there to direct the travel this way to read something like this (with the regular Park heading and the following :"Pipe Spring National Monument 15 Miles. An old stone Fort, erected in 1870 by early Mormon Pioneers") Now that I have asked for the sign I would rather have it come out of the next year's allotment as there is some work that I would like to get finished up in June and I think it will take most of the money that is still to this monument's credit to get it done.

(Pause--for about 3 hours--just long enough to miss the mail.)

Reasons: Unbeknowns to me there was called a meeting of some of the Stock-men and citizens of the Arizona Strip, by the grazing control

men, Capt. Joseph W. Loef of Grande Canyon and Mr. J.E. Weston of Salt Lake City. The purpose was to get the attitude of the people regarding the establishment of a C.C.C. Camp or two in this country, for the making of reservoirs and doing soil erosion work here.

The question of camp sites came up and Pipe was suggested as a camp location, so these two men came out here to look the place over and three possible camp sites were selected; the exact place of the camp to be selected later. The places were: one at Moccasin; another on the Southeast corner of the Monument, and a third two and a fourth miles south of the monument where the stockmen water is now piped to.

You will probably have word from these men before you get this letter as I referred them to you about the use of the Monument for one of their camps.

I have remodeled the snake cage and am waiting for the legless creatures to come out and make use of it. I shall also make a cage for the lizards as there are some fine looking fellows that would interest some of my visitors.

This seems to cover all for May and I will have to make a 30 mile drive this evening to get the report on the Fredonia-Flagstaff mail that goes out Sunday, otherwise you wont get it until Friday at the earliest.

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SAGUARO NATIONAL MONUMENT C.E. Powell, Park Ranger

In last month's report, mention was made of a Cactus Museum, and you spoke of elaborating upon the scheme, andof sketches. Since then, I have been working out a word picture of the idea, and I now submit it for your consideration.

Because of cattle grazing and cactus collecting, many of our cacti are conspicuous for their scarcity, or absence. This explains the need of a restored area, near the Ranger station, where the more rare varieties of cacti may be replanted and studied.

In planning such an area, I would begin by fencing about ten acres around the location for the main gate to the monument. This fence should be substantial. Within this fence, and parallel to it, I would plant a hedge of Ocotillos, by moving complete plants, thus avoiding the half dead appearance usually seen in ocotillo hedges, which are usually made from cuttings, some of which fail to grow.

After these plants are set, I would arrange to water the area enough to approximate the rainfall at its maximum, thus making every year a good season until the ground cover is completely restored. The area would then be ready for my cactus colony.

The first cactus I would plant would be a reinforcement of my Ocotillo hedge, and would consist of a row of Versicolors, parallel to the Ocotillos, and planted on the inside of the area thus enclosed. The barbed wire would then be removed.

When the area had been enclosed in this manner, and restored to the possible condition by nature and our assistance, we could then plant our exhibits, utilizing all cacti which nature had planted in the area.

I would arrange trails or paths along the natural contours of the

area in the form of a tree, and along these trails I would plant specimens of our native cacti until at least one of each variety were included.

After this were accomplished, the matter of a rock garden for exotic plants could be considered, thus completing our exhibition.

The reason for the tree shaped trails is that a diagram of the cactus family shapes itself in that manner.

The family itself, called Cactaceae, is represented by the trunk of the tree.

The first branch, Opuntieae, forks into two arms representing the subgenera Cylindropuntia, and Platyopuntia.

At the end of the arm Cylindropuntia, we find eight twigs called Ramosissimae, Leptocaules, Thurberianae, Echinocarpae, Bigelovianae, Imbricatae, Fulgidae, and Clayatae.

These twigs again branch into the smaller groups, until we find each and all of our cacti have proper places in the diagram.

The other arm of the Opuntieae branch, called Platyopuntia, in turn is divided into five twigs called Basilares, Tortispinae, Phaecanthae, Dillenianae and Polycanthae. These twigs also branch to form places for the individuals.

Now we go back to the main trunk and look at the branch called Cereeae. This branch has four arms, Cereanae, Echinocereanae, Echinocactana, and Corypanthanae. These arms also divide themselves into twigs.

By superimposing the tree-shaped diagram of the Cactus family upon the plat of my enclosed and restored ten acres, I have arrived at the plan for my Cactus garden museum, which Dr. Thornber says cannot be improved upon. (Dr. Thornber will use this diagram in his next book on the cactus family.)

The trails which I have been trying to describe will fit into the terrain, and by utilizing the ground cover as is, the whole may be blended into the landscape, which has been described as " the finest of its kind".

I hope that this plan is flexible enough to be utilized in connection with any plans which our landscape architects may have in mind, and since I have discussed the matter with Dr. Thronber, I am sure it will be approved by the University.

I hope Dick Sias will be asked to see what he can do with this idea, Dick was out Sunday, with two students of wild life who forgot to register. Showed them what I could, and they promised to come back and spend more time with me.

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Have you a visitor from Delaware to spare? Except for Delaware, Saguaro has been visited by tourists from every State, and from five provinces of Canada, and nine other foreign countries. Two thousand seven hundred have registered, and at least fifteen hundred passed thru who did not register, since March first.

In the event that one main gate is used as the sole entrance an accurate check would be obtained, but I believe that the foregoing figures will be about what we will have in a like period next year.

Speaking of wild life, I have met two deer, a coyote, a covey of young quail, and a Gila monster, all within a few yards of the station. We also have seven birds nests in places where they can be seen without disturbing the mother birds. And I suppose our Saguaro bee-tree should

be mentioned as wild life, too, although the bees are quite domesticated.

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MONTEZUMA CASTLE NATIONAL MONUMENT Martin L. Jackson, Custodian

The month of May has arrived and gone and report time is here. Ordinarily we are not so keen about a May report because it is usually a little slow with us between seasons. It is a little late for eastern people and a bit early for southern visitors. But even so we have had a very enjoyable month and have had 1400 visitors compared with 984 last May. And we feel that we have delivered the brand of service that you have always insisted the visitor was entitled to. But please do not get all puffed up about the service during the past month because our books prove that during the next three months we will have quite a lot more visitors and the service will not be as good. Two men can give very good service to 14 or 15 hundred visitors during a month's time but cannotgive the same service to 2000 or more under the same conditions. Which backs me up in my contention for several years past that we need another ranger during the summer months at this monument.

Ranger Fish's wife and two little daughters are visiting friends and relatives in New Mexico this month.

A young matron from Florida told us during the past month that since she was married that she had seen only two things that she really wanted. One was the Maximilian Diamond at the fair in Chicago, worth three-quarters of a million dollars. The other thing her heard desired was Montezuma Castle for a home. We think this is an excellent tribute to the Castle and, to say the least, a unique comparison.

During the past month we have heard some talk of a better co-operation between the superintendent's office and the men in the field. Which brings to my mind something that occurred here years ago which no doubt you have quite forgotten, but is still very clear to me. That on walking down the present road to the Castle and that on rounding the curve in the road we were in a position to see that a very attractive woman had climbed half way up the trail leading to the ladders at the base of the cliff. And that she had stopped for a moment to get her breath and that a second car drove up and that two elderly men got out of the car and walked up to where we were standing. And that one of them asked the usual question as to how old we thought it was. And that you said 700 years while I guessed 17 years. Which goes to show that a man will look right over a pretty woman's head and see a cliff dwelling must have his heart in his work and that we can well afford to get behind you in any of your attempts for a better service. Even in the above you were no doubt nearer right than I was, as I afterwards learned accidentally the lady in question was forty instead of seventeen.

I still wonder why you fellows in the office insist on saying mean things about my quarter of a century old typewriter. In the last report some one wondered how I could write Latin on it. Will say that I have not written any Latin words on it nor have I even attempted to. But

where you are confused is that if one writes government reports on a privately owned machine for a long time it will get to where it looks like Latin.

We have had quite a number of visitors during the month that were sent here by Charley Steen of the Tonto National Monument. They all speak well of the Tonto and the service they received there. It is beginning to look like we are going to have to sit up and take notice of this Steen and the Tonto Outfit.

Bird Notes For Past Month:

May 2. Lark Bunting, Calamospiza Melanocorys. Two males observed in extreme southern portion of monument. This is the first record of this bird in the valley as far as I know.

May 2 Arizona Hooded Oriole, Icterus cucullatus nelsoni. Both males and females in great numbers in the Sycamore trees in all parts of the monument. They will be nesting this month probably.

May 3 Cactus Woodpecker, Dryobates scalaris cactophilus. A few seen in the mesquite bushes near museum building. Common later during the summer.

May 4 Gila Woodpecker, Centurus urophgialis. Three observed during month in Sycamores near Castle.

May 5 Vermillion Flycatcher, Pyrocephalus rubinus mexicanus. Male of specie observed in bush near Ranger's residence.

May 13 Say Phoebe, Sayornis Sayus. One observed in lower part of Castle cliff. Pair nesting also, in eave of Ranger's residence.

May 13 White Wing dove, Melopelia asiatica trudeaui. Several males come down to the museum morning and evening to eat with the quail and morning doves.

May 16 Cliff Swallows, Petrochelidon lunifrons lunifrons. Several observed by Ranger Fish in cliff above Castle.

May 17 Phainopepla, Phainopepla nitens. Male and female of specie observed in branch of dead ash tree $\frac{1}{4}$ mile east of Castle.

May 17 Black Phoebe, Sayornis. One male observed almost always near parking area on Beaver Creek.

May 17 Bald Eagle, Haliaeepus leucocephalus leucocephalus. Male observed high above Castle cliff.

May 17 The Gambel quail are beginning to pair off now. It wont be long before the little ones will be coming down to the museum to feed along with the parent birds.

May proved itself one of the best months in the history of the Monument. Visitors show a total for the month of 960 which is outstanding for May. This number is especially unusual in that stormy and unsettled weather has been experienced almost throughout the entire month. The incerase is in part due to local people. ThisI feel may be attributed directly to our recent developments. Any number of school tours have been handled.

Two large busses from the Santa Fe Indian School brought us most interesting visitors, and it was a pleasure to show modern Indians our Pueblo of several gernerations ago. We hope the various Indian Schools will continue to make a practice of allowing their students to make us a visit each year. Fort Lewis, a Junior College, sent a couple of busses with a well-behaved group of students. Several Senior sneak-days were passed at out Monument and with the cry of the coming generation being unruly, disrespectful, etc. we are sincerely pleased to report almost 100% in deportment and proper respect shown. One could not hope for better behaved groups.

Our Monument has had several Park Service visitors this month and we are always glad to have our boys visit with us. We have at Aztec one of the finest units within the Service and we realize that many of our colleagues have made this possible. It is indeed with pleasure and pride that we show the boys the results of our combined efforts.

Paul Wilkerson was in and took several motion pictures of the Ruins; Edward Nickel passed through; Jim Hamilton, Chuck Richey, and several from Mesa Verde and Chaco were our guests. We are always glad to have these people in to see us and hope that they will stop off at every opportunity.

Regular Monumental problems are about as usual. Weeds this time of the year present quite a problem and you will notice my purchase of another hoe to combat the enemy. A little trouble was experienced with our pump, necessitating pulling the rods and making some minor adjustments. A short circuit in our lighting system caused us some worry for a short time, but all in all this is just part of the game. I mention these, knowing that you are perfectly aware of the hundreds of little things that come up each month and to which we pay no attention, but to some that might feel that our only duty is to await the arrival of a visitor, the visitor is just the most important one of the duties that we must keep up within the scope of Custodian or Ranger. I only hope that some of the others are as fortunate in having such effecient help as I do.

The preliminary sketch for the residence was received and I am of the same opinion expressed by you when we looked over the print. It the door can be changed to the alcove from the coat room and placed in the living room, I think the plan very good, and am very much pleased with the entire plan. It is a great help in the future planning for the

Monument.

I want to thank the Educational Division for two contributions especially this month. These being the miniature models of various features of our Ruin, and also the map of the Prehistoric peoples of the Southwest. Both of these aids are appreciated and are a great help in our work.

One of the most pleasant happenings of the month occurred when Mrs. Faris and myself were able to make a trip to headquarters. We were just one week on the road and enjoyed so much visiting the various Monuments, noting the improvments and visiting with other Custodians and Rangers on their own ground. Probably the greatest change was noted at Casa Grande where I had the pleasure of working upon first entering the Service. The construction and improvements are certainly a credit to the Custodian and Headquarters group, as well as an inspiration to us field men. The entire trip was most pleasant because of the service each monument rendered and we are passing on that service manyfold in hopes of making our visitors enjoy their trips as we enjoyed ours.

We leave May and pass on to June with some regret since May has been so full, and our associations so pleasant, yet time marches on, and we are anticipating that June will be a great month in the history of our Monument. I made the statement some time ago that this summer should enable us to give a service superior to any given in the past, and now I am awaiting the opportunity to prove my prediction. With all good wishes to all the boys.

P.S. Got a big boost for Charlie Steen at Tonto. Hope our service is as good.

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TONTO NATIONAL MONUMENT — Charlie Steen, In Charge

This has been a peculiar month. The weather has been very unsettled, with clear days alternating with cool, stormy ones. The temperatures have ranged from very cool to very hot. On May 3rd snow fell for about ten minutes, and yesterday, the 24th, the mercury climbed above 100 degrees for the first time this year.

The winter tourist season ended with April and for several weeks things were very dull, but with the closing of the schools, visitors are more numerous--especially the kids. During the past month 398 individuals visited Tonto and of these, 254 walked up to the lower ruin and 6 to the upper.

Each monument seems to have some form of animal life which is of special attraction to the visitor. I am continually hearing reports of the owls at Casa Grande; at Montezuma Castle there are the quail which are feed in front of the museum. Paul Beaubien has deer in his front yard and the Brewers are blessed with antelope. Being stationed at a monument with such gentle creatures must be very pleasant. My pets are

hybrid honey bees who have a number of combs in the cliff above the lower ruin. Since warm weather began the bees have become blood-thirsty. I have been stung so often that I hardly bat an eye when some playful brute feels the urge to fill me full of formic acid. Fortunately no women have been stung yet, and only a few men. The bees seem to recognize me. The combs, for the most part, are too high to be smoked and I am still figuring on ways and means to get rid of the ugly beggars. If any of you men at headquarters think that a wild honey been doesn't pack a wallop, come on up and I'll convince you to the contrary.

The state road crew at Roosevelt hauled fifteen yards of gravel for my entrance road the first of the month. This was placed where it would do the most good, about a third of it on the sharp curve just above the bridge, the foreman told me. There is enough clay in that gravel to prevent it from washing away during a rain. That was very fine, I thanked him kindly. Two days later we had a good shower, and after it was over I went down the road and found nearly all of that nice gravel washed away! I will give Mr. Dana the benefit of the doubt, however to say that if rain hadn't fallen so soon after the gravel was placed on the road, that traffic would have packed it and prevented wash. As it is, however, I still have my ruts.

A family of Canyon wrens was hatched just above the lower ruin this month, and for three days the mother had her four youngsters hopping all over the walls. They were too young to be fearful of humans and altho the mother bird would sit on a wall and anxiously call to her brood, one could get within a very few feet of the little fellows before they would hop away. In a few days I will send you a list of the birds which are breeding here. One big saguaro is acting as foster mother to two families a red shafted Flicker and a Gila woodpecker have both built nests in it. Yesterday I heard a commotion in Apache Lodge, the adobe shack in which the Indian lived, and on investigating found a rock squirrel getting ready to raise a litter in an old cabinet.

There is an error in the list of cacti I sent in two weeks ago. I stated that all of the cacti here bloomed in May. I overlooked the barrel, F. lecontei and F. wislezeni, which have shown no buds yet. The flower season of the saguaro will extend well into June.

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CAPULIN MOUNTAIN NATIONAL MONUMENT — Homer J. Farr, Custodian

Reporting for May 1935 will say, Capulin Mountain has enjoyed a fair travel this month....approximately fifteen hundred (1500) visitors and no small number have expressed delight at the condition of the Roads and Trails and scenery. The Sangre de Cristo Range of mountains 120 miles away and Pikes Peak, Colorado 200 miles distant have been beautifully covered with a large blanket of snow all spring and still are, both within view on clear days from the top of Mount Capulin.

May 1935 will go down in history as having the most moisture of any

May for over fifty years for this part of the country. Rain and snow most of the month until now we have bountiful moisture for all trees and crops. The Custodian has been quite busy lately getting the Road and Trails in good condition for the summer and the moisture has aided materially in this work.

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NAVAJO NATIONAL MONUMENT — John Wetherill, Custodian

Since your last visit we have been having all kinds of weather except summer weather. Today has been the only bright day we have had. We have had more wind this spring than we have had in the past twenty-nine years. For the past week it has been raining. Two or three days the wind was so bad that the man who is in charge of the erosion control project said that the prairie dogs in uncovering their holes dug several feet in the air before they knew they were out of their holes. He may have been joking.

I am sending in Milton's report from the ruins. From it you can gather about what he has been doing. I am also sending a letter from two of the boys who were with a party of 51 from Pasadena, California. Milton walked in from the ruins yesterday to get food. He is taking back a saddle horse and pack mule to have for his trip to Keet Zeel. We expect the largest number of visitors this summer that we have ever had.

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BETATAKIN RUIN — Milton Wetherill, Ranger in Charge

My report for April to date is as follows:
Trail Work: 573 ft. of rebuilt trail; 165 ft. of new; total 1038 ft. with a drop of 160 ft. from top to sandhill. I used 75# of powder, 100 ft. of fuse and 2/3 box of caps. The trail is from 30" to 48" wide.

Visitors: 70 at Betatakin, 64 at Keet Zeel.

General: I have collected about 200 insects with about 40 different kinds, also have around 50 flowering plants, and 9 mice of the White foot specie. Would like to have King up as soon as possible while it is more or less slack season.

I am working on fence--figure wire on south, rock on north. Southside cedar post with iron post between. Hope this is O.K.

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NATURAL BRIDGES NATIONAL MONUMENT — Zeke Johnson, Custodian

I am sorry that my report will reach you later than you wished, but you know I have been where I could not get my mail. I am glad to be back on the job for the summer's work, everything is lovely at the Bridges; any amount of fresh water in the canyons; grass and flowers never looked prettier; roads are in as good a condition as could be

expected, and the State road commission have assured me, as soon as Uncle Sam turns some money loose they will be repair them in good shape.

Many people are visiting the Bridges--several fine groups have already been out and three carloads are out today. Wish you were here to join us. As soon as you let me know how much trail money there is available I'll get busy immediately and repair the trails. The $4.50 credit I still have, I am enclosing a bill for--for the tools that I needed.

I am surely happy to be back home, so to speak, for you know what the Bridges mean to me. I am preparing to stretch some tents for myself and to accomodate visitors. Kind regards to the whole southwestern bunch, and to you.

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CASA GRANDE NATIONAL MONUMENT Louis R. Caywood, Acting Custodian

Travel: Travel for May, in spite of a decided drop off from April because of the beginning of warm weather and the normal reduction in winter tourist travel, gave a total of 2443 visitors. The only previous May which exceeded this was in 1930 when there were 2520 visitors. These came in 1127 cars from 41 states, Washington, D.C., Canada, Holland, Hongkong and Japan. The states not represented this month were Arkansas, Maine, Nevada, New Jersey, Rhode Island, South Dakota, and Wyoming. Arizona visitors numbered 1117, California 315 and Illinois 66. The 2443 visitors were personally conducted through the ruins on 249 trips, and through the museum on 236 trips. Besides these personally contacted visitors there were 444 who used the picnic grounds or other facilities offered by the Monument.

Visitors: Park Service visitors included the following:

Mr. and Mrs. Johnwill Faris from Aztec Ruins National Monument.
Mr. Robert Budlong from Chaco Canyon National Monument.
Mr. Harry Langley, Landscape Architect from Zion National Park,
Mr. and Mrs. C. J. Smith from Petrified Forest and John Wetherill from Navajo.
Madam L. L. van Hausmade With, of the Netherlands Legation at Washington, D. C. and L. van der Broek d'Obreuan from The Hague.

Weather: The weather was not as hot as might be expected for this month. The maximum was 95 on the 23rd. and 24th. while the minimum was 41 on the first. The mean maximum was 86 and the mean minimum was 47. Precipitation for the month amounted to only .11 of an inch.

Educational Activities: The acting custodian gave two talks during the month. He gave an illustrated slide talk before the American Legion Luncheon Club in Tucson on May 20 on "The National Monuments of Southern Arizona". He also spoke at the Dedication of the new Smoki Museum at Prescott, Arizona on the aims and ideals of the National Park Service and on the excavation of "Tuzigoot Ruins at Clarkdale, Arizona".

A new cremation burial model showing an ash pit burial found near

Sacaton, Arizona by Carl A. Moosberg was delivered by the Berkeley office.

General: Mr. and Mrs. Frederick T. Martius returned to their home at Palo Alto, California. Mr. Martius was here on wall preservation work.

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ECW ACTIVITIES

BANDELIER NATIONAL MONUMENT H.B. Chase, Project Superintendent

Basement excavation for the office building was started during closing days of last month and to date the basement has been completed including the pouring of walls and floor. The stone masonary walls of the building proper are now 60% constructed; all window and door frames are in place; all vigas and lintels have been cut, peeled, trimmed, and delivered to building site ready for placement.

The stone guard rail along the entrance road was started this month with now 250 feet of footing in place and approximately 25 feet of rail completed.

The camp ground extension project has carried on through this month with considerable study and care with construction of camp sites, placing of boulders and general layout details. The water service line has been extended into this new area with installation of four hydrants for the convenience of campers.

The hotel parking area, a portion of the truck trail project, was completed this month. This parking area was constructed in an irregular shape and surfaced with local tufa gravel, boulders were planted as a boundary and outline of this area leaving a very satisfactory and pleasing appearance.

Tree and shrub planting has been confined to small plants this month. The majority of the planting being done around the hotel parking area and along the road in the floor of the canyon. This planting probably finishes any planting for this season.

Ten of the camp ground tables have been completed to table top and all logs for the remaining tables have been cut and delivered to the proposed table sites in the camp ground extension area.

Recent approval of the utility area site and wall projects will greatly assist progress on that portion of our program. Upon receipt of approved wall plan this construction should progress rapidly as considerable rock has been delivered and sized ready for placement in the wall.

Side camp location has been approved by the Army recently and upon arrival of materials the fence project will start immediately.

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CHIRICAHUA NATIONAL MONUMENT ECW WORK

During the month of May a total of 15 work projects were under way at Chiricahua, and in various stages of progress. With one light fall of snow the early part of the month and some rain in the mid portion, the weather has been very favorable for work activities. An increasing number of visitors have entered the Monument, mostly during the week-ends.

Construction of the water system to supply the new Camp Grounds in Bonita Canyon and the Headquarters Area at the mouth of Ryolite Canyon has received major attention and progress has been rapid. About one mile of pipe has already been laid and 50% of the remaining pipe trench completed to the 10,000 gallon storage reservoir above Headquarters Area.

Development of water supply at the spring site is proving to be heavy work on account of boulders encountered, however about five feet of depth has been gained on the excavation for a submerged dam at the collecting basin, and a long drainage ditch dug to lower the water table. Excavation has started at the storage reservoir site and much of the construction material hauled in by pack animals. It is our plan to have water available through the new pipe line all the way to the reservoir site by the time we are ready to pour the concrete.

A large trail crew is now working on the Echo Canyon horse trail and they have already advanced around 1000 feet. The compressor crew are encountering much solid rock. The water storage basin above Echo Park has been completed after some difficult work in getting the materials down through the steep canyon walls. The Sugar Loaf Trail is essentially completed except for some dressing down and cleanup work.

At the Public Camp Grounds, the entrance way has been cut in and graded and a rock-masonry sign marker erected. Grading and filling of the roadways has continued, a portion of the water lines and hydrants installed, sewer line laid, manholes put in and sewer trench filled in. Work has also started on the laying out and construction of the camp sites, and considerable landscaping, cleanup and rock re-arrangement done. The plumbing fixtures for the Comfort Station are ready and their installation, together with the remainder of the carpentry work on this structure will be well along the early part of June. Twenty tables have been constructed.

Work on the Sugar Loaf Lookout House has proceeded steadily. The framing, floor and windows are in place and the roof is ready for the shingles.

At the Headquarters Area, the Comfort Station excavation and masonry footings have been completed and the forms built and set for carrying up the rock masonry walls. Digging of the sewer trench is under way, excavation for septic tank is completed and forms for the concrete work are being built. The filter trench is dug. Surveys are

proceeding for the Ranger Station and Service Road to connect the various proposed structures on this area.

Obliteration of old roads and borrow pits adjacent to the Bonita Canyon Highway has proceeded during the month and the gravel pit has furnished much material for this purpose.

Two wooden pit toilets have been built, painted and installed at Sugar Loaf Lookout.

Highway maintenance has continued on the Bonita Highway and three corrugated culverts replaced.

We were visited between May 16th and 22nd by Mr. Carpenter and Mr. Langley from NPS San Francisco Headquarters, who looked over present and future work projects and gave us much helpful advice and assistance bearing on the development of Chiricahua.

Mr. E. L. Keeling, Assistant Landscape Architect, arrived May 15th, having been assigned to work at this Monument.

Mr. George D. Russell of the Forest Service gave the camp a moving picture show on the 14th which was heartily enjoyed by all who attended.

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ENGINEERING REPORT — Asso. Engineer, Walter Attwell

The month was started enroute from Chiricahua ECW camp where I had been arranging construction work for the C.C.C.Camp. The following day I visited the U.S. Transient Division arranging a schedule for a fly relief camp among the Southwestern Monuments.

On May 6th I visited Gran Quivira National Monument where we were digging a well on contract and constructing a sewer and water system by day labor under Foreman Brown. Minor construction items were re-arranged. Water was struck at 962 feet the last of the month.

At Bandelier, programs were re-arranged and construction is progressing in fine manner. I made arrangements with the U.S. Dadastral Engineer to survey the west and south boundaries of the monument so they could be fenced by ECW.

I was at Wupatki on the 10th and 11th arranging for the new ECW camp and for the storage of equipment.

Asst. Engineer Hopper returned to Glacier National Park May 13. The topographic work at Walnut Canyon was just well started and it is hoped will be completed next fall after the Glacier National Park season is over. Mr. Hopper's crew went to San Francisco.

Asst. Engineer Clark completed all of the field work on the Bandelier Topographic Survey. He and his crew are now surveying the

forty miles of fencing at Chaco Canyon National Monument. The material is being purchased and the fencing will soon be under way.

Asst. Engineer Gordon has completed the road location at Wupatki National Monument and has been transferred to Mesa Verde with his crew to make truck trail locations for the ECW camp.

Several future Public Work plans and additional boundary plans have been submitted.

The construction and the engineering work are well under hand.

**********

It seems to me, Chief, the reports this month are even a little better than usual. There is a feeling abroad down here in the Southwest that things are going to happen this summer and the boys seem ready to keep their end up when the rush comes.

With the end of the fiscal year only thirty days away, we will quite naturally be thinking more than usual for the next month along financial lines, closing up the year's business and seeing that no loose strings are left.

We will be lucky if things don't jam in the office for we are due to get the 1936 set-up and put it on the new books; get out the final estimates on fiscal year 1937; and start a brand new ECW camp 300 miles from our headquarters; all of which is to take place in the next couple of weeks in addition to the regular snow storm of paper work which settles on us with every mail.

One of the best pieces of news this month was the word that we had struck water at Gran Quivira. It is deep and will take a deep well rig to get it out, but it began to look like we wouldn't get any at all and so we are very thankful for it as it is. The proper care of visitors in the way of water and sewerage systems can now be worked out.

We still have a problem at White Sands in the handling of local and national visitors to the satisfaction of all concerned, but we are finding common groung for the various opinions.

We have another problem in the location of the headquarters area, or rather in the arrangement of the various units of the area at the Chaco Canyon National Monument and we hope to come to a general agreement on it in June.

Taking it bye and large, we seem to have about a third more work than we can do so I would say we are running under about normal conditions.

Cordially,

Superintendent

# THE SOUTHWESTERN MONUMENTS SUPPLEMENT TO THE MONTHLY REPORT

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

SHOP TALK, GOSSIP, AND OTHER INTERESTING THINGS ABOUT THIS AND THAT: THE WHOLE CONTAINING SOME INFORMATION AND NOT MUCH MISINFORMATION ABOUT WHAT GOES ON IN THE SOUTHWESTERN MONUMENTS.

# THE A·A·A·S· MEETING

Coolidge, Arizona
May 8, 1935

Dear Boss:

I surely want to thank you for letting me take part of my annual leave to attend the fifteenth annual meeting of the Southwestern Division of the American Association for the Advancement of Science held at Santa Fe, April 29 to May 2. According to some of the old timers such as Jesse L. Nusbaum and K. M. Chapman it was the most successful meeting that has ever been held. Well over 200 attended, many coming from quite a distance to renew old acquanitances and hear the reading of the extremely interesting scientific papers. Mr. Russel Hasting who did the CWA work at Casa Grande National Monument came all the way from Chicago where he is attending the University of Chicago.

I think the best way to make this trip as interesting to you as possible is to make a sort of a log out of it.

There was quite a bit of excitement at the Caywood mansion in old Compound A at Casa Grande Ruins about 6:00 P. M. Thursday April 25th. Mrs. Caywood (Winnie to the Park Service) and I were in a big argument about how many suits of clothes and dresses we should take according to the room we had for our baggage in the car. I was not much interested because I only have one suit and my uniform, but she wanted to take all her summer clothes and a couple of formal gowns. I said no because she probably wouldnt need them and besides she looked just as good in a sport dress. Winnie wanted to take a light coat (one of those you can see through) while I wanted her to take a winter coat because I thought that Santa Fe would be cold this time of the year. It all ended by her taking her summer clothes. And you will hear more of this later.

Dr. John H. Province and Mr. Harry T. Getty, both from the University of Arizona, came in late Thursday night to spend the night with us so that we might better get an early start the next morning.

Friday morning dawned bright and clear and by 7:00 A.M. we four were off in my Plymouth. We reached Gallup that evening by 7:00 A.M. In passing through Flagstaff we stopped a minute outside the Museum of Northern Arizona and were fortunate in seeing Mrs. Colton, Jimmie and Sally Brewer and Mr. E. Z. Vogt. Mr. Vogt was on his way to Winslow where he caught a plane for Pasadena. We were sorry we could not take him from Flagstaff to Winslow, but we were loaded down with baggage. After reaching Gallup we were indeed fortunate to have the opportunity of staying with Mr. and Mrs. David Jones whose son Dave is studying in

in the Department of Archeology at the University of Arizona. A very dear friend of the Jones', Father Berrard, was asked over and we had a very enjoyable evening with dinner at El Navajo. Father Berrard is one of the foremost authorities on the Navajos and the Navajo language. He is working on the Navajo language at the present time revising the old Navajo Dictionary. He is also working out a written Navajo Language.

Leaving Gallup Saturday morning we went to Mesa Verde National Park visiting Yucca House National Monument on the way. At Mesa Verde Mr. Getty spent considerable time at Spruce Tree House checking a number of beams and other points relative to the building periods of that cliff-dwelling. His paper at the AAAS meeting dealt with all of the tree ring dates obtainable at Spruce Tree House to see if it were possible to correlate dates with periods of building. Such proved the case, as there seemed to be the building of certain groups of houses around kivas at certain times. As Dr. Province had not seen Mesa Verde we took in the regular trips seeing the larger and more accessible cliff dwellings. Mr. Paul R. Franke, Park Naturalist, and Mr. Don Watson, Ranger Historian, kindley showed us through the Museum. Especially were we interested in the model of Step House Cave showing the Basket Maker houses. I had a very enjoyable visit with Superintendent Leavitt and saw all of the old friends that Winnie and I had made while I was rangering there last summer.

We left Mesa Verde accompanied by Mr. Franke and Mr. Watson and arrived at Durango, Colorado where we spent the night. Leaving Durango early Sunday morning we went south to Aztec Ruins National Monument where the custodian, Mr. Johnwill Faris, was so kind as to show us through the ruins, the reconstructed kiva and the museum room which has just been completed. we are all anxious to return when he gets his museum laid out with the interesting exhibits from Berkeley. His museum room is one of the most unique I have ever seen.

Going south through New Mexico we passed by Chaco Canyon with deep regrets and misgivings at not having the time to stop in to see the Monument and the congenial custodian, Cal Miller. We did stop at the Indian pueblo of Sia for a short time but hurried on toward Santa Fe because of the threatening masses of clouds that hung over us and especially the Sandia and Sangre de Cristo mountains telling us that snow might fall at most any time.

Immediately upon our arrival in Santa Fe we began to see familiar faces amd meet old friends. As we parked at La Fonda we noticed Dr and Mrs Colton and Miss Katherine Bartlett. Dr. Byron Cummings and a number of his graduate students came in that evening also. The lobby of La Fonda was crowded with scientists from many institutions.

The next few days in Santa Fe were days so filled with the meeting of people, listening to papers and even giving one myself on Tuzigoot that I have to look back on the program to see what happened. The regular meeting of the Social Sciences section led off with Mr. Earl Jackson, Custodian at Bandelier National Monument, giving his paper on "Recent

Archeological Discoveries at Montezuma Castle National Monument". Mr. Jackson gave a very good talk.

Several highlights might be mentioned. One was a visit to the Laboratory of Anthropology which proved very enjoyable. I was much impressed by the layout of the displays and clear manner by which each tells its story. Later I went into the basement and saw storerooms and workrooms that in square feet of floor space must equal the museum itself. This is a point that the architects who plan the museums for the Park Service might well heed in planning for future buildings. I know this holds true at Casa Grande and other museum buildings in the Southwestern system and I suggest THAT STOREROOMS AND WORKROOMS IN PROPOSED MUSEUM BUILDINGS BE LARGE ENOUGH FOR THE EXPANSION THAT COMES IN THE NATURAL COURSE OF EVENTS.

Another interesting highlight was the conducted tour of Pueblo Pindi by Messrs. W. S. Stallings, Jr. and Stanley A Stubbs of the Laboratory of Anthropology staff. They seem to have done a fine job from what I could see between gusts of wind and clouds of sand that were blowing over the ruin. All the New Mexicoans said it was very unusual weather. I think they borrowed that phrase from California.

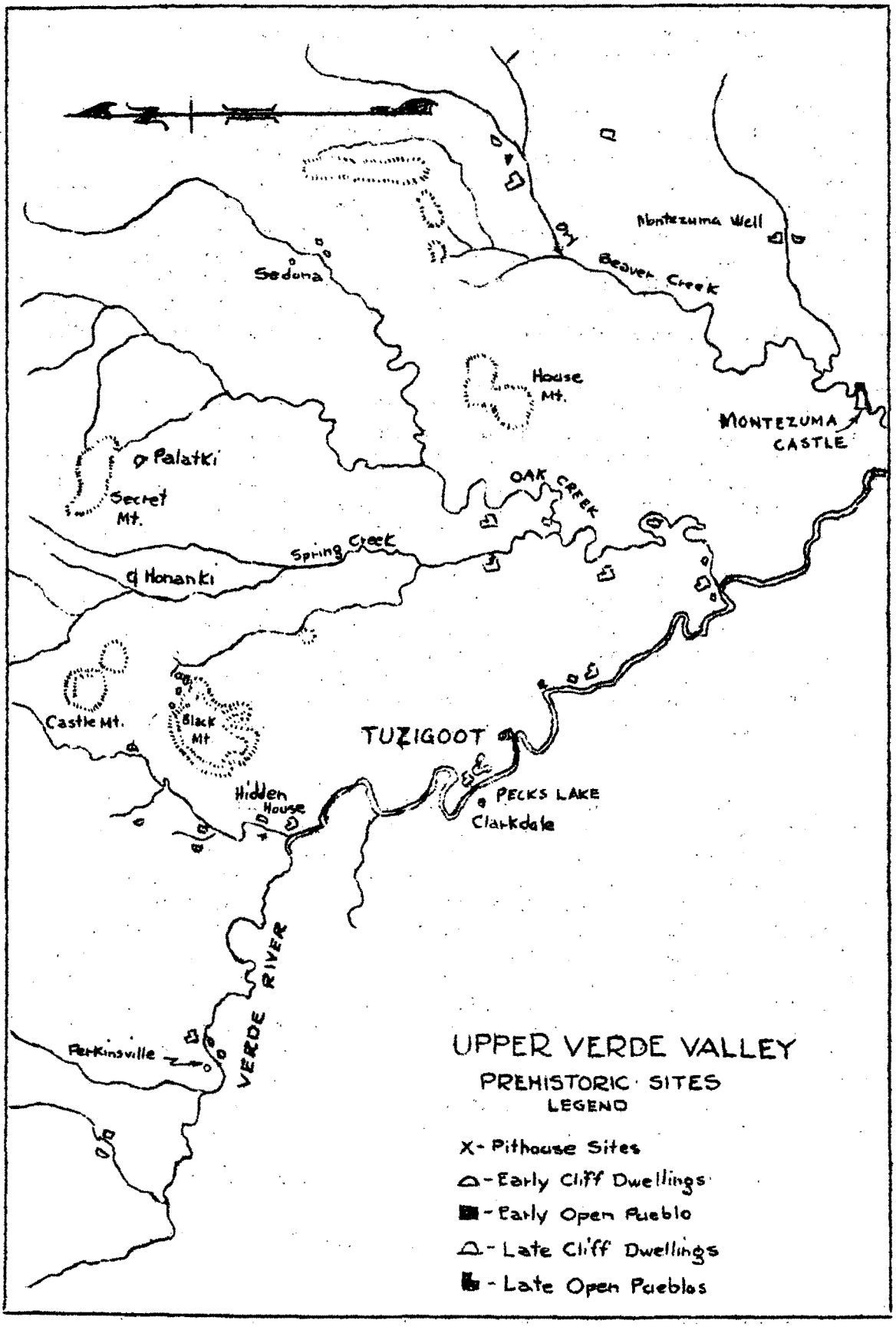
The final day, Thursday, May 2, was set aside for excursions. There was an all day trip which included the Pajarito Plateau, the Pueblo of San Ildefonso and Bandelier National Monument, with informal talks by representatives of the School of American Research, the Laboratory of Anthropology, the United States Forest Service, the University of New Mexico and the United States National Park Service. A very fine presentation of the country with its flora and fauna was given.

Now Back to the weather and the trip home. All the time we were in Santa Fe it was cloudy and cold and Winnie in her summer clothes went from one warm place to another. She and Miss Hayden, a student at the University of Arizona, made a trip to Taos and had rain and snow all the way. But the final blow came on the trip back to Casa Grande Ruins. After leaving Albuquerque it began to snow and before long the snow was almost a foot deep on the level ground. We stopped at all of the trading posts along the way to warm up. We had planned to go to Acoma, El Morro and Zuni, but were afraid of the mud. We came to a mud road leading south and guessed that it was the way to Acoma. After scraping about four inches of snow off the face of the sign we were able to spell out Acoma. So that was as close as we were able to get to the famed Sky City. However, we hope to be able to make the trip again and see some of the things we missed.

We took Dr. Province and Mr. Getty to Tucson and then returned to Casa Grande Ruins, glad to be home again.

Louis R. Caywood

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Montezuma Well
Sedona
Beaver Creek
House Mt.
MONTEZUMA CASTLE
Palatki
Secret Mt.
OAK CREEK
Spring Creek
Honanki
Castle Mt.
Black Mt
TUZIGOOT
Hidden House
PECKS LAKE
Clarkdale
VERDE RIVER
Perkinsville
UPPER VERDE VALLEY
PREHISTORIC SITES
LEGEND
X- Pithouse Sites
- Early Cliff Dwellings
- Early Open Pueblo
- Late Cliff Dwellings
- Late Open Pueblos

Following is the paper read by Louis R. Caywood at the AAAS Meeting:

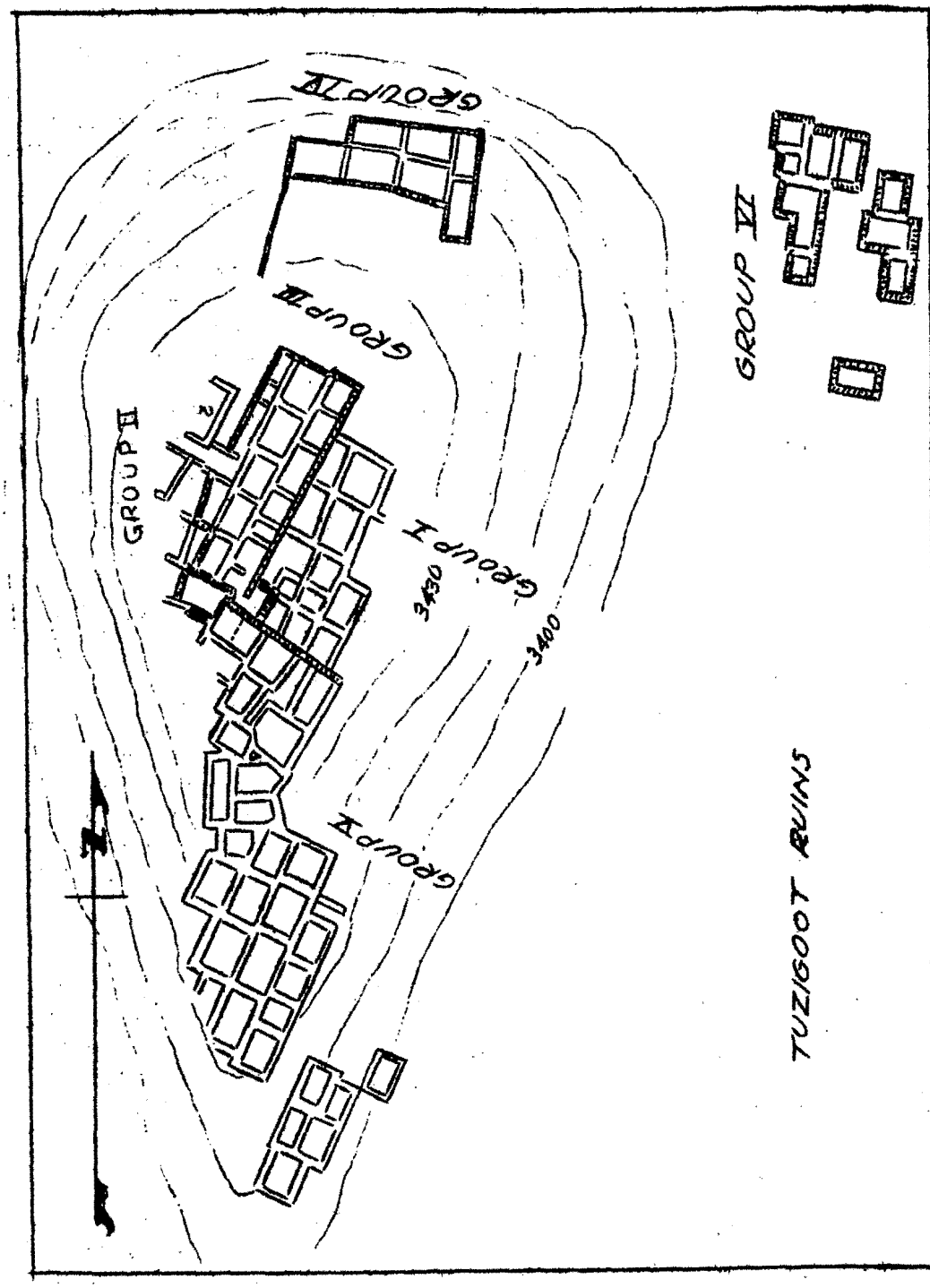
## TUZIGOOT - THE EXCAVATION AND REPAIR OF A RUIN ON THE VERDE RIVER NEAR CLARKDALE, ARIZONA.

The excavation of Tuzigoot Ruin was the outgrowth of an effort to build up a small local museum and to utilize the resources of a single county in the collection and preservation of archeological material. In June, 1932, under the guidance of Dr. Byron Cummings of the University of Arizona, the Archeological Committee of the Yavapai County Chamber of Commerce at Prescott, Arizona, began a program of field work which was designed to provide material for the exposition of the prehistory of the county in the Smoki Museum at Prescott. The first field project, carried out during the summer of 1932, consisted of the excavation of King's Ruin, a Prescott Black-on-gray site on Chino Creek. This work was made possible by the donation of funds on the part of Dr. Cummings and the Arizona Archeological and Historical Society. It was personally directed by Dr. Cummings. In the following year, the field program was continued on funds provided by the Delphian Society of Prescott and by local individuals. The excavation in this year was under the absentee direction of Dr. Cummings and consisted of the partial uncovering of Fitzmaurice Ruin, another Prescott Black-on-gray site on Lynx Creek, a few miles east of Prescott, by Mr. E. H. Spicer and myself.

With the close of the summer field season at Fitzmaurice Ruin, the Archeological Committee delegated Mr. Spicer and myself to select a promising site for excavation in the Verde Valley. Several ruins were visited in the vicinity of Camp Verde and at the suggestion of Mr. Earl Jackson who was at that time at Montezuma Castle a valley pueblo across the river from Clarkdale, Arizona was inspected. The latter ruin, which was later giver the name of Tuzigoot (Tonto Apache for Crooked Lake), was fixed as the most promising site for excavation. It was felt that its excavation would provide archeological information in regard to the Upper Verde drainage which has heretofore been entirely lacking, no systematic excavation ever having been carried out in the region.

Tuzigoot lies on the property of the United Verde Copper Company. Officials of the company granted permission for the representatives of the Archeological Committee to excavate the ruin, and at the suggestion of Mr. Charles Kuzell, General Superintendent, a crew of eight men, paid out of FERA funds, was placed under the direction of Mr. Spicer and myself. Approval of the project was given by Dr. Cummings, and work was begun on October 31st, 1933.

The excavation was continued with FERA labor until November 24th, 1933. At that time CWA came into being and a crew of 48 men was given as a working force for the complete excavation of the ruin, its partial restoration, the preservation of the floors and walls, and the repair and preparation for display of all artifacts recovered. This work was carried on until June 1st, 1934 under the direction of Mr. Spicer and myself. The burden of the work became so great with the


GROUP IV
GROUP III
GROUP II
GROUP I
GROUP V
3430
3440
TUZIGOOT RUINS

combined supervision of excavation at the ruin and supervision of cleaning, repairing and cataloging the artifacts that Dr. Cummings gladly gave permission to two of his assistants at the Arizona State Museum, Mr. Harry T. Getty and Mr. Gordon C. Baldwin, to help us for several months beginning in December, 1933. By June 1st the excavation and restoration of the ruin and cleaning and repair of artifacts had been accomplished. In addition, display cases for the artifacts had been made and a large part of the work for the preservation of the walls of the ruin had been accomplished.

PLAN OF EXCAVATION:

For ease in supervision of work and classification of artifacts the ruin was arbitrarily divided into six parts (see page 250):

Group I was taken to include the burial ground in the refuse slope which extended along the whole length of the east side of the hill just below the pueblo, in addition to the series of rooms situated just below the crest of the hill on the east slope.

Group II includes the burial area in the refuse on the west slope and five rooms built below the crest of the ridge on the west slope.

Group III includes all of the rooms situated on the highest part, or cresr, of the hill.

Group IV is made up of the isolated group of rooms to the north of the main part of the pueblo.

Group V includes all the 34 rooms covering the south slope of the ridge.

Group VI includes the isolated group of 10 rooms at the base of the east slope immediately below Group IV.

RESULTS OF EXCAVATION AND CONCLUSIONS:

Tuzigoot was a rambling pueblo not built or planned as a unit. Several centuries of life are represented in the debris, the burials and the rooms filled with trash and fallen walls.

In addition to the uncovering of 411 graves containing 429 skeletal remains including both those outside the confines of the pueblo and those within the rooms, the excavation of 86 rooms was carried out, and three blocks of refuse were marked out and carefully trowelled down for stratigraphic information.

Three distinct periods of occupation were traced in excavation. No remains of pithouses were found on top of the hill, but several pithouse villages were located in the valley within several miles of Tuzigoot. The beginning of occupation on the hill goes back to the time when Deadman's Black-on-red and Prescott Black-on-gray were the important types of

pottery being manufactured - or before 1000 AD. The early houses were built on the very summit of the ridge. How many there were or what the outline of the village was is lost forever. In fact, the seemingly very earliest room was built on an accumulation of debris. Four such rooms were found on the summit and four on the west slope. All but one were small with dimensions of about 7 x 9 feet. Small circular fireplaces lined with clay were characteristic of this early period. A large room on the west slope might have been used as a ceremonial room or gathering place.

Between 1000 and 1200 AD the rooms on the west slope were abandoned and gradually filled with debris. Some building took place on the east slope at this time.

Beginning about 1200 AD an increase in population brought about a new building program. This was the second period. New rooms were added on top of the ridge and built over the small older rooms. The west slope was completely abandoned and building was carried on down the south slope of the hill.

A third period began toward the end of the 13th century. Apparently whole new clans settled at the village and building was carried on in units on the north end of the hill and also on the east and south. These rooms were larger with the fireplaces rectangular and stone lined. At this time there were 77 ground floor rooms with possibly 15 second story rooms making about 92 rooms of which perhaps five were not used as living rooms. If there were 87 living rooms then we might estimate a final population of about 450 people.

Turning to ceramics we found that we could reconstruct the general outline of Tuzigoot's history on the evidence of pottery alone, and further, the historical reconstruction so achieved fitted in very well with the architectural reconstruction already attempted. Three stratigraphic blocks were carefully worked down. One of these was on the west slope in the center of the large room marked 2. The other two blocks were on the east slope in Group I. The block on the west slope in room 2 gave us the best results and these tied in very well with the sherds found on the floors of the various superimposed rooms. Basing our finds on the time sequence in use by the Museum of Northern Arizona, we found a time range from 1000 AD to after 1300 AD. Only two absolute dates were worked out from tree rings by Mr. Harry Getty. They came from timbers in the same room in Group III on top of the hill.

Beginning with the earliest decorated pottery when Tuzigoot was first occupied we found Deadman's Black-on-red, Deadman's Black-on-white and Deadman's Black-on-gray together with Prescott Black-on-gray.[1]

1. Prescott Black-on-gray (Verde Black-on-white by Gladwin, The Western Range of the Red-on-buff Culture, p. 140, Globe, Arizona. Later changed to Verde Black-on-grey by Gladwin, An Archaeological Survey of Verde Valley, p. 176, 1930. Globe, Arizona) rather than Verde is considered the better name because according to reports by Gladwin (above) Prescott is the center of the region rather than the Verde River region.

However, of the total quantity of this early decorated pottery there were very few sherds except those of Prescott Black-on-gray showing one of three things, (1) that there was a short period of occupation, (2) a non-representative collection of pottery made, (3) or a small population during this early period. Probably the latter presumption is true. The architectural evidence points toward a very few inhabitants. After this first settlement of Tuzigoot there gradually began to appear new pottery types replacing entirely the earlier decorated pottery. These new types were Walnut Black-on-white, Tusayan Black-on-red and Tusayan Polychrome. These types were more plentiful than the earlier types.

During the second expansion period Flagstaff Black-on-white began to assume greater importance. Prescott Black-on-gray was made in abundance but still showed no improvement in quality. However, the local potters developed from it a slight improvement, Tuzigoot Black-on-gray, which continued to be made on into the final period of the pueblo.

It might seem that perhaps the potters at Tuzigoot traded for decorated pottery and made only Gray, Brown and Red Wares. This is further substantiated by the fact that only the average sized and small vessels from other regions were found with none of the larger foreign ollas. Curiously enough there seems to be a break at about 1300 AD when we find that the decorated types which assumed greater importance in Northern Arizona such as Kayenta Polychrome, Tusayan Black-on-white and Kayenta Black-on-white had little vogue at Tuzigoot. Instead we find a period when the potters began to make a great abundance of Tuzigoot Red Ware and at the same time pottery began to be imported from the north and east. Jeddito Black-on-Yellow, Bidahochi Polychrome, Bidahochi Black-on-white, Winslow Black-on-orange, Winslow Polychrome and other types from around the region of Winslow suddenly took the place of all decorated pottery that had been popular at the village with one exception and that was Prescott Black-on-gray. More sherds of Jeddito Black-on-yellow were found than any other decorated type.

Taken all in all the excavation proved to be highly successful in spite of the problem of such a number of unskilled workmen and the type of people who were applying for work at that time. However, it was not long before we found an amazing amount of skill and willingness in some of the workers and we gradually fitted them into the kind of work that they could do best. One worker, a rather large and seemingly lazy Mexican whose name was Solomon, could find more burials beneath the floors of rooms than any other man. He became one of our best trowel men. He borrowed Mr. Spicer's copy of Kidder's 'Southwestern Archeology' unknown to me and one day told me all about the ruins of the Mesa Verde and Chaco regions.

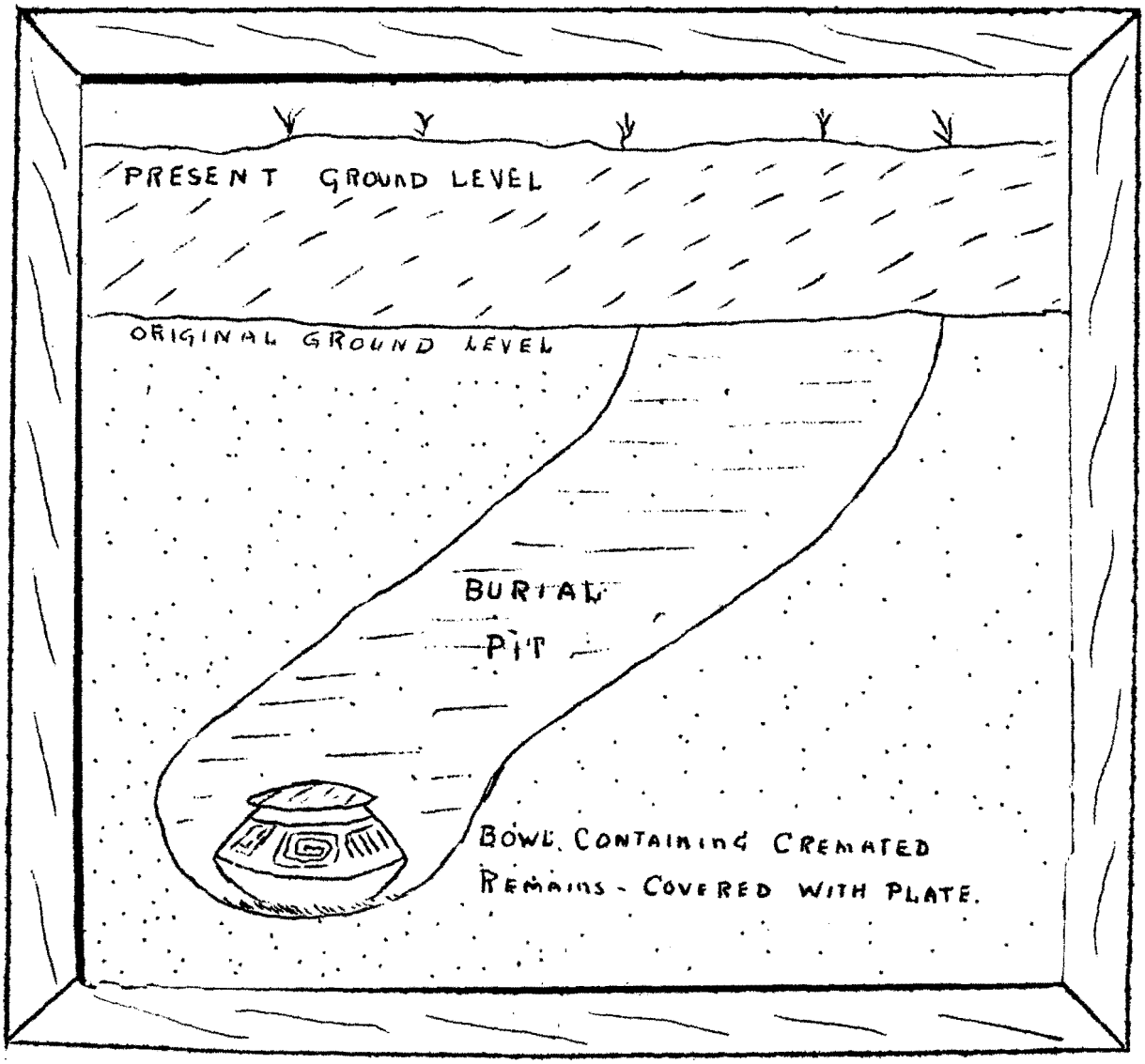
The greatest problem that I encountered was the finding of girls on CWA rolls who could mend pottery successfully. But several finally proved very adept at both the pasting of pieces together and the plaster of paris work.

One result of the CWA project is a completely excavated ruin with

six restored rooms and with all walls capped. All rooms are properly drained. Trails were built around the hill and walls were capped strong enough that visitors can see all parts of the ruin. A watchman paid out of FERA funds guides people through the ruin each day. In the town of Clarkdale a store building was turned into a museum. Twenty one cases were made in the high school manuel training chops. In these glass top cases are displayed the more perishable and valueable objects. This museum is still being maintained under FERA funds.

It is hoped that a museum building will be built with PWA funds at the ruin and that the entire project will be taken over as a National Monument by the National Park Service so that it will have the proper supervision and protection.

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A model of an ash pit burial, a number of which were found by Carl A. Moosberg near Sacaton, Arizona. Model prepared by the Berkeley office.

Following is a report by W. S. Stallings, jr. of the staff of the Laboratory of Anthropology at Santa Fe regarding a section of a beam from Gran Quivira church:

Dear Mr. Pinkley:

You will remember our conservation, when you were in Santa Fe a short time ago, regarding the large squared pine beam now lying in the nave of the large church at Gran Quivira. I have just gone over the specimen and an forwarding the date herewith.

In the section which I have, the center dates about 1393; the first ring that can be dates precisely, 1396; the approximate date of the sapwood-heartwood contact, 1493; and the last ring left on the specimen, 1583. As you know, many additional rings were cut off the beam in the process of squaring.

Signed - W. S. Stallings, Jr.

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And another report on tree ring investigation in Arizona. This one from Charlie Steen at Tonto:

Dear Boss:

I received a letter from Dr. Haury from the Gila Pueblo at Globe concerning the beam borings he took three weeks ago. I will quote the paragraphs of his letter relative to his findings.

"From the lower ruin we collected eleven samples, numbers 771 to 781 inclusive. Most of these were juniper, one was pine and one Douglas fir, and I regret to say that not a single piece has yielded a date. The Douglas fir had a beautiful record of 175 years but, for some reason, it will not match. The two samples taken from beams in Room 4, a corridor, were cut in the same year, but I cannot tell you what year it was. Most of the juniper records were too short or too erratic to be of any use.

"Of the four samples from the upper ruin, numbers 782 to 785 inclusive, two were juniper, one pine and one pinyon. The pinyon log, you will remember was lying loose in the north end of the ruin. This is the only log which has given a possible date of 1346. However, it is not a particularly strong date, and, if used, it should be stated as tentative. Archeologically, of course, the date is right."

I am disappointed, of course, that results weren't better, but I am also glad that we weren't blanked.

Signed - Charles R. Steen.

## CACTI AT TONTO NATIONAL MONUMENT

The following cacti were identified at Tonto National Monument by Charles Steen, Acting Custodian, with the aid of Stockwell and Breazeale, "Arizona Cacti", a University of Arizona biological science bulletin:

Genus OPUNTIAE
- Subgenus CYLINDROPUNTIA
  - Opuntia leptocaulis
  - Opuntia acanthocarpa
  - Opuntia bigelovii
- Subgenus PLATYOPUNTIA
  - Opuntia tortispina
  - Opuntia phaeacantha
  - Opuntia engelmannii

Genus CARNEGIEA
- Carnegia gigantea

Genus ECHINOCEREUS
- Echinocereus fendleri
- Echinocereus engelmannii

Genus FEROCACTUS
- Ferocactus lecontei
- Ferocactus wislizeni

Genus NEOMAMMILLARIA
- Neomammillaria microcarpa

With the exception of E. fendleri and E. engelmannii, which bloom in April, all of these flower in May at this monument. The boss asked me to get some measurements of the tallest sahuaro here. One near the house is 47 feet high, this is the tallest on the monument, two others are between 40 - 45 feet high, but were so located that it is difficult to get an accurate estimate of their height. There are several others on the hill above the lower ruin which are about 40 feet high, or better.

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Now that we have two cactus experts in the Park Service it wont be long before we should have a new species which will be named something like this, Sclerocactus steenensis or perhaps even Coryphantha powellensis. The only drawback at the present time is that these two experts seem to differ in the spelling of certain of the genera, namely Carnegiea gigantea. The reason behind this may be that there is a difference of opinion as to the real worth of each monument. Saguaro is the accepted spelling that the government uses.

## THE TUMACACORI TREASURE

From time to time in past years various Tumacacori treasure stories have cropped up and many of them have been lost. We want to file here for future reference, if not for present interest, one of these stories while the data is still fresh.

"Dear Sir:

I am writing you concerning the Tumacacori National Monument.

If a good, reliable proposition, which you could absolutely depend upon, was presented to you regarding the treasure you have searched for, as well as a number of others, would you grant a lady and myself permission to open up the two wells and the tunnel that contains this large treasure. My Indian lady friend has the chart and key to these locations and entrances.

This lady was in Mexico City prior to 1934 for four years. Two of these years she devoted to getting the information and records and she found the Historical Father who had all the records and archives from the Church and the Missions. He was the only surviving Franciscan Father who had written the history of all these missions and who died in 1933. He showed the lady all the data covering the Tumacacori Mission. She knows of three of the lost mines the Fathers marked in the early days when the pueblo was in Tumacacori. This story alone will bring plenty of money besides what the tunnels and these old mines contain.

This lady is an American Indian, born and raised from the Pueblo and Aztec Indian races of Ysleta, Texas, which they used to call the "Chamisal and of which her father was the agricultural pioneer as well as his brothers of El Paso, Texas.

This matter can be arranged if you will send some one of authority here to Blank with full power to act and make a legal agreement with her, giving her full protection and exclusive rights to handle this matter her way, free of any hinderances from the curious public as well as publicity during her operation. She will go to the Mission, after agreement, and after permit is granted her, and whoever you send she will convince them that her data and statements are reliable in every respect.

My friend would have to go, see, and uncover these valuables for all concerned, especially for her Indian brothers who are around Tumacacori and San Xavier Missions.

Shall be glad to answer any questions asked and will be given under this agreement if you are interested what share of the treasure do you require and what will be S---- 's share which MUST be iron clad and protected under Government permit as covered herein.

I understand you have stopped all your reaearch work and that you are going to start to build. If this is true, suggest you give this

letter careful consideration and fully investigate the statements made herein.

She can furnish the first points where the Franciscan Fathers entered from Sonora, Mexico, into Arizona. She has location of missions that connect both sides. This Historical Father in Mexico had all the authentic data and charts in the archives he was in charge of.

She returned to the United States in 1934 as stated; she came thru at Nuevo Laredo, stopped in San Antonio, Texas, then went to El Paso, where she was born, then to California, returning to Arizona and here to Blank to confer with all the Indians, checking perfectly all that was furnished her by the Father in Mexico City, and her story is right. "

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Mr. Pinkley's reply follows:

"After some delay your letter of date has reached me here at Coolidge, Arizona, which is my headquarters, and I thank you for writing to me.

The story of ------- as to the supposed treasure at Tumacacori Mission is very interesting and I would like to know more of the details of it. I have had the Tumacacori National Monument under my charge for the last fifteen or more years and have been interested in the many stories of buried treasure which I have heard connected with the Church. I might say, in passing, that, historically, the stories do not tie up very well. Some one ought to go over them and straighten up some of the facts with the known history before we could take much stock in them.

I suppose that about the only details she wants to keep secret are the actual locations of the two wells, the tunnels, and the sites of the lost mines. Otherwise I suppose she would be willing to give us some of the details of the treasure story. Can she tell us what year the Fathers abandoned the Mission and buried the treasure? Why did they bury it there and not take it with them when they left? If they were driven out by the Indians and buried a lot of treasure when they left, why did they keep it such a secret? Why didn't they come back with an expedition and recover the buried treasure? Has she any old plan of the Mission showing the various rooms and walls, the location of the various old buildings, and so forth? If she has such a plan I would be mighty glad if she would make us a rough drawing of it, leaving out of course the location of the wells and tunnel and anything else connected with the treasure, but giving us the general plan of the buildings and grounds which we can check with the plan of the buildings etc. as we now know it. You see, she may have a plan os some other mission and not of Tumacacori at all and she wouldn't want to be digging a lot of holes at the wrong mission.

Does her story refer to the treasure which was buried about 1650 when the Padres abandoned the Mission, or to the treasure which was buried about 1767 when the Padres abandoned the Mission, or to the treasure which was buried about 1824 when the Padres abandoned the Mission? Is her treasure

the $140,000 of gold bullion or the 49 burro loads of gold bars? Is one of her lost mines the mine which was closed by a copper door made from an ingot of copper from the Santa Rita Mountains, or is hers another lost mine with which we are not yet familiar? Has she a lost mine whose entrance was covered at the time of abandonment by blasting down a cliff over the mouth of the tunnel?

Coming down to the actual matter of allowing her to look for treasure within the boundaries of the Tumacacori National Monument, it may surprise you to know that the United States Government is not much interested in whether there is treasure on that reservation or not. If it is there, it would belong to the Government and not to the person who found it, so nobody else has any right or title to it by virtue of knowing where to go to find it any more than I would acquire title to a mine which happened to be on your land just because I knew where it was and you did not. This makes it rather hard, doesn't it? The person who thinks she knows where it is has no right or title to the treasure and the Government which owns it, if it is there, doesn't care to hunt for it. It may also surprise you to know that in the recent research trendhing we carried on there we were not looking for treasure at all but were looking for walls and foundations and we found a lot of them. We are much interested in the old buildings and their uses than in buried treasure because we couldn't use the buried treasure if we found it, it would simply go into the general receipts of the United States Treasury, whereas a reconstruction of the old buildings and a knowledge of their uses would be intensely interesting to us.

You will see from what I have said above that we have a slim chance of arriving at an agreement on any exploration for treasure. The Senora, you say, will not part with her secret until we give her definite guarantees as to what share she and her Indian friends and relatives shall have if the treasure be found. We cannot give her any such guarantee because the Government is not even interested in knowing her secret, nor would it let her dig at her own expense to prove that the treasure was there. The Government just doesn't care about the treasure one way or another. Personally her treasure story interests me and I would like to know the details of it so I could check it against the many other treasure stories that hang around Tumacacori and see which family of legends it belongs to. Could you give me enough of the details of the story to enable me to do this ?

Cordially, "

**********

Fan Mail

We are happy to report this letter from one of Hosteen John Wetherill's fans:

"I want to thank you for the most enjoyable time we had while at Kayenta and Betatakin. We did appreciate the time you gave us and the information you gave us.

The entire trip was an entire sucoess due in a large part to your hospitality."

UNIFORM CHANGES

A lot of interest is being stirred up in this matter of Uniform Changes. Along this line we are glad to enter the following reaction from Leonard Heaton up at Pipe Spring:

"After reading over Dale King's article on uniform changes several times, this is what I think of the uniform.

It is good to get a dye that will put uniform color on both shoes and puttees and which will be worn by all in the Service. I have often thought of the rest of the fellows when trying to get dyes and polish to put the color on that is called for under Park Regulations. I am glad that you have that dye and we will be able to get it at Coolidge insuring that our foot gear will be of the same color in the future.

The Coat: I like it best the way it is now. To add any color or piping to it would spoil the looks and make the wearer feel more conspicuous than necessary. I believe that most of the people can distinguish the Park Service uniform from that of any other within the Park or anywhere, because they are seeing them at most of the monuments and know what to look for.

As to the shirt change, I agree heartily for I do not like to wear the white or gray shirt with the work that I do around here. In fact when I do cleaning up and rock work I put on either a tan or a greenish color shirt. But with the change it will be easier to keep in uniform and yet do some work that will not make the shirt look like it had been worn a week.

I agree with you men at Coolidge in the change of the necktie from green to black.

I add my voice against the use of the cap here in the west; one reason is that if I do not have some shade on the back of my head and neck it keeps sun-blistering, and usually encourages a dull head-ache. So the cap is out with me.

As to the insignia, I like the present style now in use to be used on the shirt when worn without a coat. And for the coat, I like the insignia of Just this: National Park Service. As to this being of metal or embroidered in the coat of some suitable color, personally I prefer the embroider method.

I like your idea of a brassard of having us under one name rather than under our separate monuments. This, I think would tend to unite us in closer fellow-ship in the service.

I feel as a whole the change will be for the better, but my liking is only one in a thousand and what is decided upon that is what we will wear.

**********

From a Park Service unit east of the Mississippi we have the following reaction on new uniforms:

"The sample coat and breeches of the proposed new Park Service uniform, along with the sketches illustrating several possible combinations, were received in due time and have been studied by our organization.

We have the following comments to offer on the proposed changes in the uniform:

Hat: We feel that a larger had band is desirable, and are looking forward to seeing samples.

Cap: We withhold our comments and judgment on the cap until we have had opportunity to examine a sample.

Coat: We favor Coat No. 1 in preference to the coat with the red piping. However, if piping is decided upon, we would recommend either tan or gray. It has been suggested by our Chief Ranger that the lapels of the lapels of the coat should be perforated to accomadate a screw type of insignia, rather than the present pin type.

Breeches: We favor Breeches No. 1, dark brown elastique. The staff was of the opinion that too much contrast would be secured by using the lighter color material. The lighter color material would be very easily soiled and would readily show perspiration.

Shirts: Our staff favor the white shirt for dress wear. For wear without the coat, we recommend the gray Aerocrat shirt, without shoulder straps. It is suggested that these shirts be made with perforated collar lapels to accomodate a screw type insignis, and that the left pocket be perforated to accomodate the badge.

Because of our location in an area having a number of military reservations, we do not favor a tan shirt because of the difficulty we would experience in being confused with soldiers and marines.

Tie: Because of the difficulty in securing a uniformly colored green tie of good wearing quality, we favor the adoption of the black tie.

Distinguishing Features: Altho we are not in favor of any ornaments that will distinguish between the various members of the staff, either temporary or permament, it might be well to wear a brassard on the left sleeve to indicate the name of the park.

Boots: In regard to boots, it was suggested at a staff meeting that a sample pair of the approved type of boots be circulated to the various field units for inspection and recommendation.

**********

Following is one Superintendent's Summary on Uniform suggestions from five sources representing Park Service units both east and west of the Mississippi. This summary gives a pretty good idea of the trend of opinion on the subject:

"The sample red-piped coat and beige breeches of elastique and the colored sketches showing possible combiniations for the National Park Service Uniform have been examined by five units of the Park Service with the following results:

Hat: A wider brim--3 to 3-1/2 inches according to conformation of wearer--a wider hat band--approximately one-eigth wider--are favored.

Cap: Not enough interest in the cap is shown to reach a conclusion.

Coat: The plain coat of green elastique material and as now styled is the choice of the five units.

Breeches: Four units approve the two-tone effect of the uniform,

and are in favor of the beige or other color approximating the beige. Two units are opposed to the two-ton effect and desire to retain the present color for breeches.

Shirt: The white shirt for dress wear is the only article of the uniform that the units unanimously agreed upon. Three units favor the tan shirt for duty wear; one unit wants shoulder straps. Three units favor the present gray flannel, or other suitable grey material. One of the units wants shoulder straps and two pleated pockets on the grey shirt.

Tie: Four units favor the black, and two units favor the present dark green.

Boots: Continuance of the field boot is favored. All members appear to desire a field boot with shaped ankle.

Insignia: Four units desire slightly larger letters for the present style collar ornament, and apparently all want a screw fastener instead of the present pin fastener.

The question of a suitable collar ornament or insignia that would symbolize the National Park Service has evidently been considered but no one has offered a suggestion.

It is believed that the Director should circularize the entire Service and ask for recommendations and drawings with a view to selecting an appropriate device.

Distinguishing Brassards: Four units favor the unit or area insignia to distinguish the members of an area or unit. One unit did not comment on this, and one unit is opposed to the idea.

Only one unit favored an insignia to distinguish between temporary and permanent employees.

As a result of the studies we have recently made, we are more convinced than ever that the present uniform is generally very satisfactory. Personally I think we should standardize on the forestry green elastique for the material, and insist on better quality material, careful fit, and attention to specifications.

Superintendents and Custodians should insist on strict uniformity in their particular areas, especially with reference to the matter of shirts, neckties, and the prescribing of the various uniform articles for different types of service such as contact and information duty, patrol and rough field work, and winter service.

Further comment will be appreciated at any time."

**********

READ

Here are excerpts from a letter to the Service written by one of its valued friends in Detroit, Michigan. This letter touches a timely topic which needs careful thought and consideration. This is especially true of our monuments where our units are widely scattered and are not situated such as to make it easy every few weeks to change stations as is true in a national park. Here it is:

"Last summer I had the pleasure of making the circle of the Parks and Monuments in the West and Southwest, and wish to say that is a marvelous organization you have under you. On my travels I had the pleasure of talking with many of the men wearing the green uniform of the National Park Service, and I found them all with no exceptions excellent stout hearted fellows. I did gather from the various trends

of their conversations certain things that I think should be corrected which would improve the service and be desired by a great many men in the field.

It is the opinion of some of the Park force that after a certain length of time that they be allowed to transfer to other Parks and Monuments. We all know that some Parks are more difficult to serve in than others. By placing the newer and younger men in these Parks, the older ones could be transferred to the other Parks and Monuments. This would do away with a person getting stale and the same time give him a better opportunity to familiarize himself with other places of interest in the National Park Service. I found that in several instances the Rangers knew nothing about the Parks except in which they were serving and in most cases had never been in any others. "

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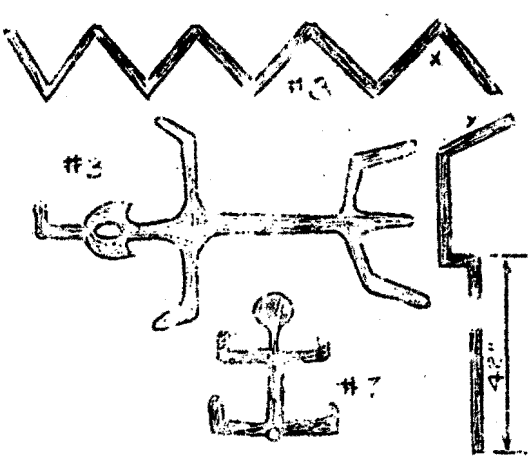
BIRDS seen and noted in and around Betatakin Ruins and Canyon(April)

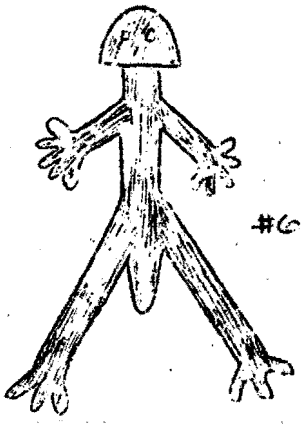
Western Red-tail hawk ----------Buteo borealis calurus
Red shafted flicker ----------Colaptis cafer collaris
Desert Sparrow hawk ----------Falco sparverius phalacno
White-breasted woodpecker ----------Dryobates villosus leucothorectis
Say Phoebe ----------Sayornis sayus
Western Wood Phoebe ----------Myiochanes richardsoni richardsoni
Long creasted Jay ----------Cyanocitta stelleri diademata
Woodhouse Jay ----------Aphelocoma californica woodhouseii
American Raven ----------Corvus corax sinuatus
Pinyon Jay ----------Cyanocephalus cyanocephalus
Mountain Chickadee ----------Penthestes gambolii gamboli
Gray Titmouse ----------Baeolophus inornatus griseus
Rocky Mountain Nuthatch ----------Sitta carolinensis nelsoni
Pygmy Nuthatch ----------Sitta pygmaea pygmaea
Canyon wren ----------Catherpes mexicanus conopessus
Rock wren ----------Salpinctes obsoletus obsoletus
Western Robin ----------Turdus migratorius propinquus
Mountain Bluebird ----------Silia currucoides
Western Gnatcatcher ----------Polioptila caerulea
Western Goldencrowned Kinglet ------ Corthylio calendula cinerascens
House Finch ----------Carpodacus mexicanus frontalis
Spurred Towhee ----------Pipilo maculatus montanus
Shufeldt Junco ----------Junco oreganus shufeldti
Montana Junco ----------Junco oreganus montanus
Pink-sided Junco ----------Junco mearnsi
Gray-headed Junco ----------Junco caniceps
Flammulated Screech Owl ----------Otus flammeolus flammeolus
Western Horned Owl ----------Bubo virginianus occidentalis

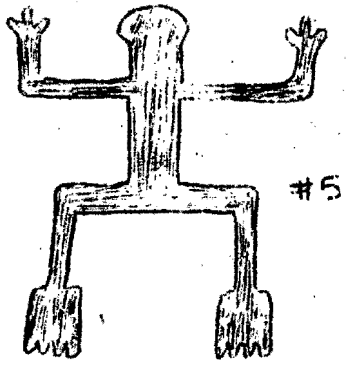
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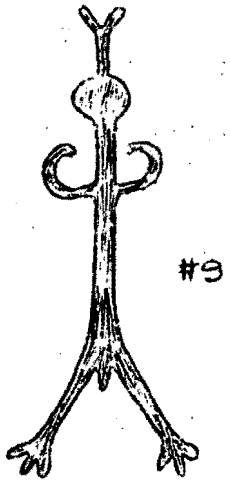
- PICTOGRAPHS -

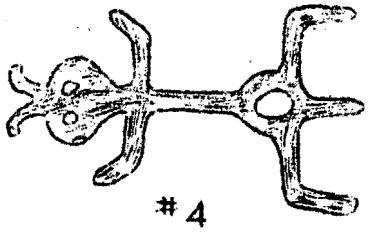
The following pictographs were copied by Milton Wetherill from the walls of the first cave east of Betatakin Ruin. The designs were painted on the wall. The cave has a south exposure and all drawings face south.

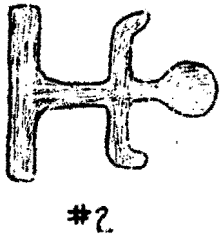


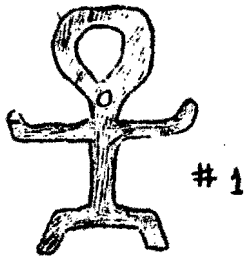




The pictographs are reduced to a fraction of their actual sizes.

## THE CHARTS

As a word of comment on the trip charts and poor service charts which follow, we might say they are not to be considered as light reading nor are all our readers expected to be interested in them. They are filed here for future reference and are to be used to prove the need of additional help. We look for the time to come when, by compiling such charts at any monument, we can show the precise time when a new position becomes necessary and whether it should be a temporary or permanent one and if temporary what particular months it should cover. We hope to be able to show this so conclusively that there will be no argument about it, but the job will automatically be granted at the proper time.

If the Custodians will admit the above scheme to be reasonable, they can hardly halp being interested in the tables, not as they relate to Casa Grande, but as they may relate to each Custodian's own problem of securing enough additional personnel to be able to give good service.

No point has been made of the fact thus far that all these charts are based on two men working regularly seven days a week the year round. Final arguments, after a year of such charts have been prepared, will of course include the fact that the men should be relieved one day per week and are entitled to their annual leave. This system seems to us to be so simple and certain in establishing the need of new personnel, that it ought to appeal to all members of the Service.

The March Trip Chart shows that one man could handle the traffic until 9 o'clock on all but two mornings when there would have been a five and fifteen minute overlap of parties. All parties were out by six in the evening except on the first and thirteenth. Bunching of parties happened principally between 10 and 11:30; 12 and 1;30 and 2:30 and 5.

The March Poor Service Chart shows those minutes when we had more parties on the grounds than we were able to handle and were thus forced to give poor service by lack of personnel. You will note that this bunches between 11:30 and 1:30, due of course to one man being off duty for lunch. A secondary bunching also shows up between 3:00 and 5. It is to be noted that if one man had gone off duty between 5 and 6, two or three more cases of poor service would have shown up. Sunday traffic this month did not cause poor service.

The April Trip Chart shows that one man could handle the traffic until 9 o'clock, five days two men were necessary after five. Bunching of parties is not quite so bad, due probably to the longer hours of daylight and fewer parties.

The April Poor Service Chart shows considerable improvement over March.

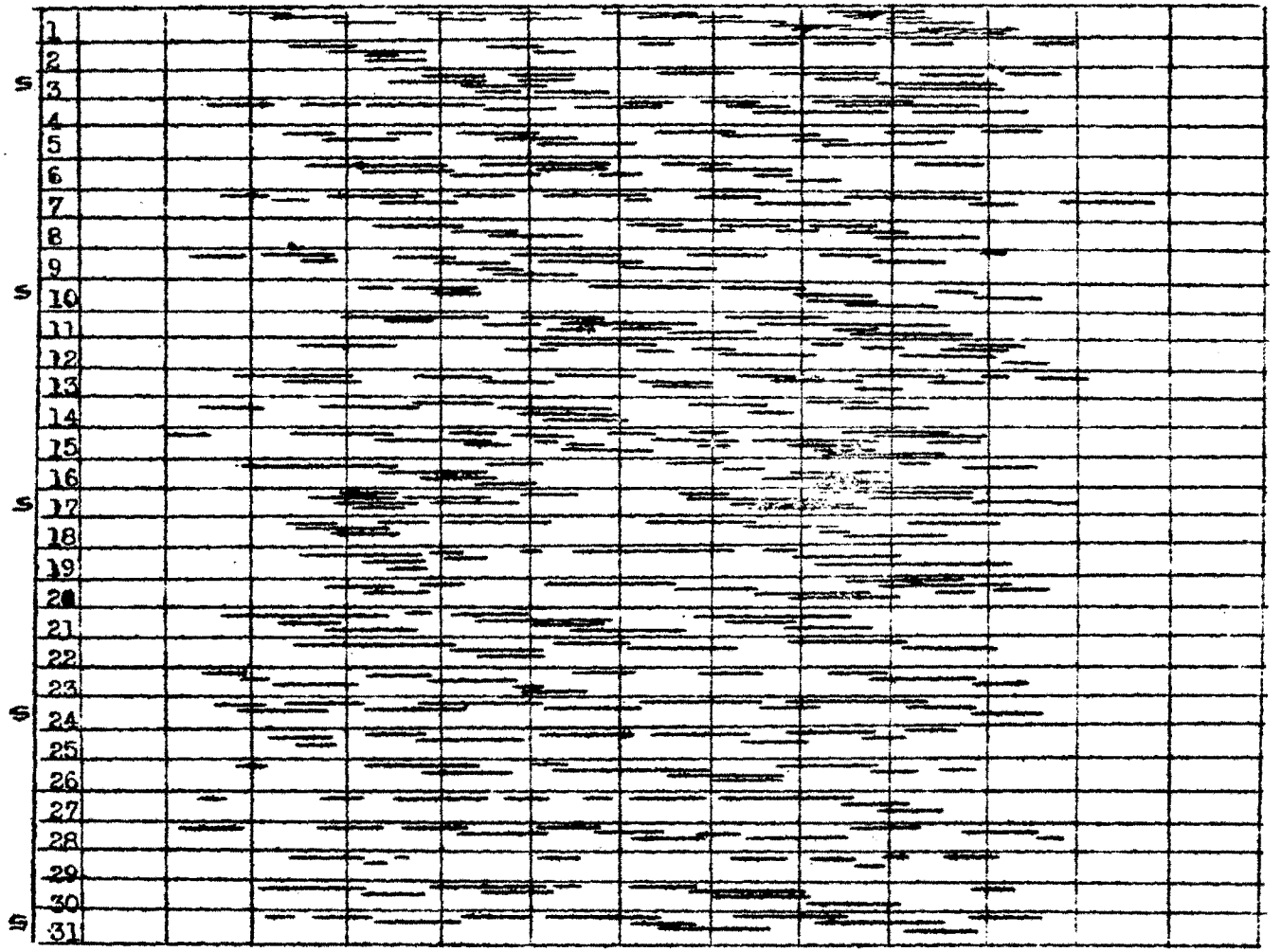
The May Trip Chart shows that one man could handle the traffic from 8 to 9 except for one day. 21 parties originated in that hour as against 16 in March and 20 in April. Bunching is spotted as to hours but is pronounced as to Sundays.

The May Poor Service Chart shows one bad Sunday, the 19th. The other Sundays not standing out for poor service.

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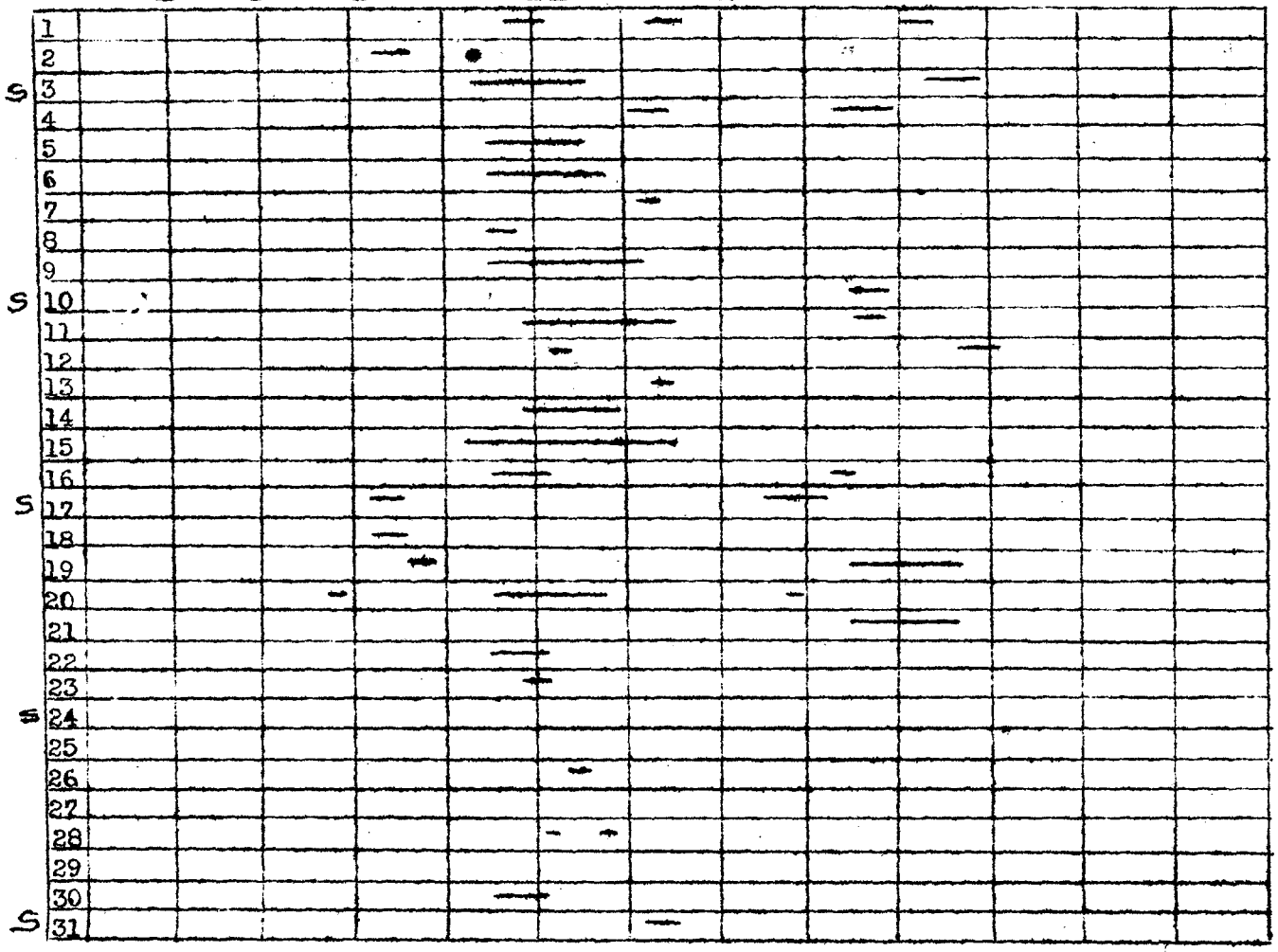
# CASA GRANDE MARCH TRIP CHART

7 8 9 10 11 12 1 2 3 4 5 6 7 8



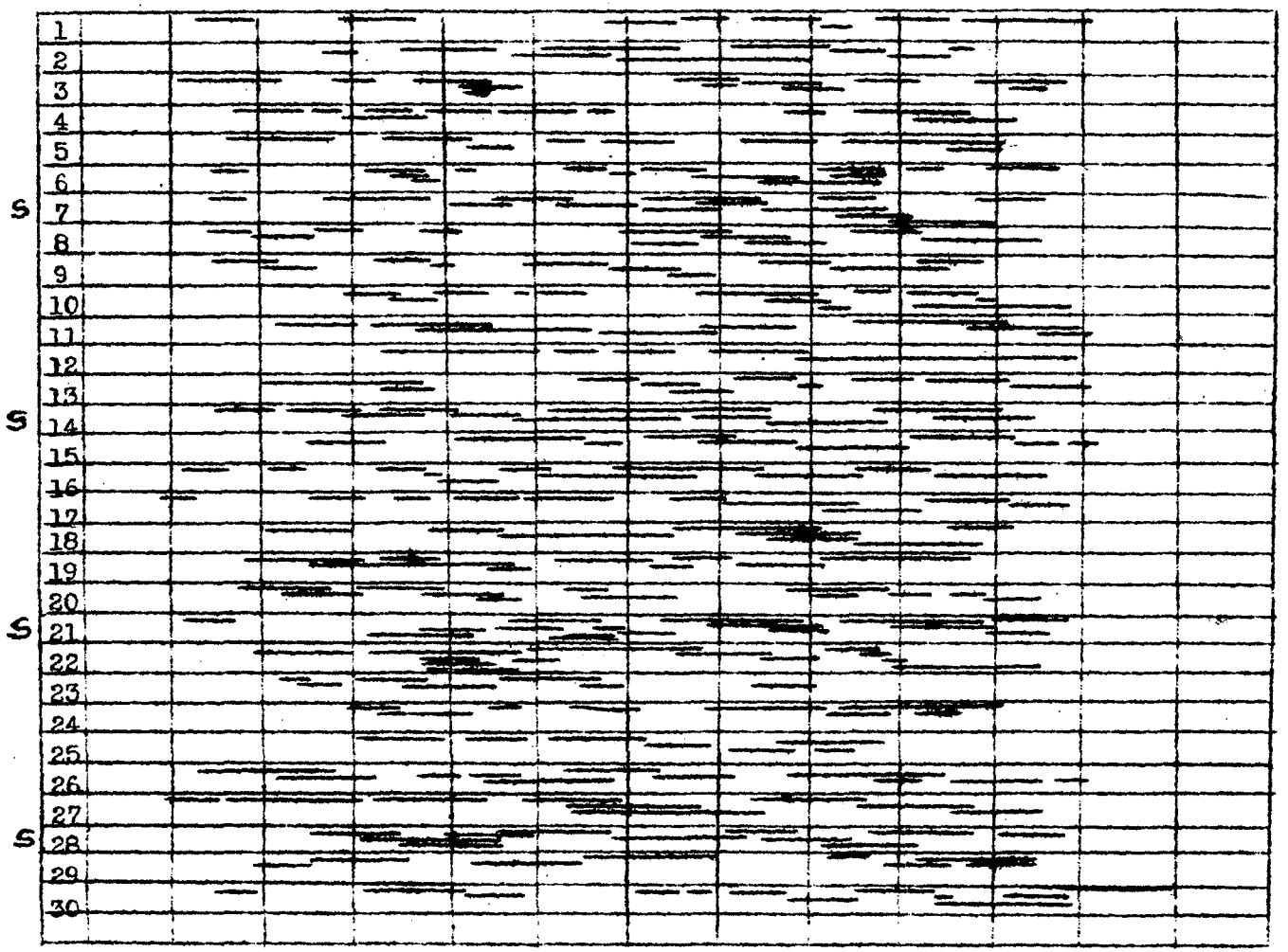
# CASA GRANDE POOR SERVICE CHART—MARCH

7 8 9 10 11 12 1 2 3 4 5 6 7 8



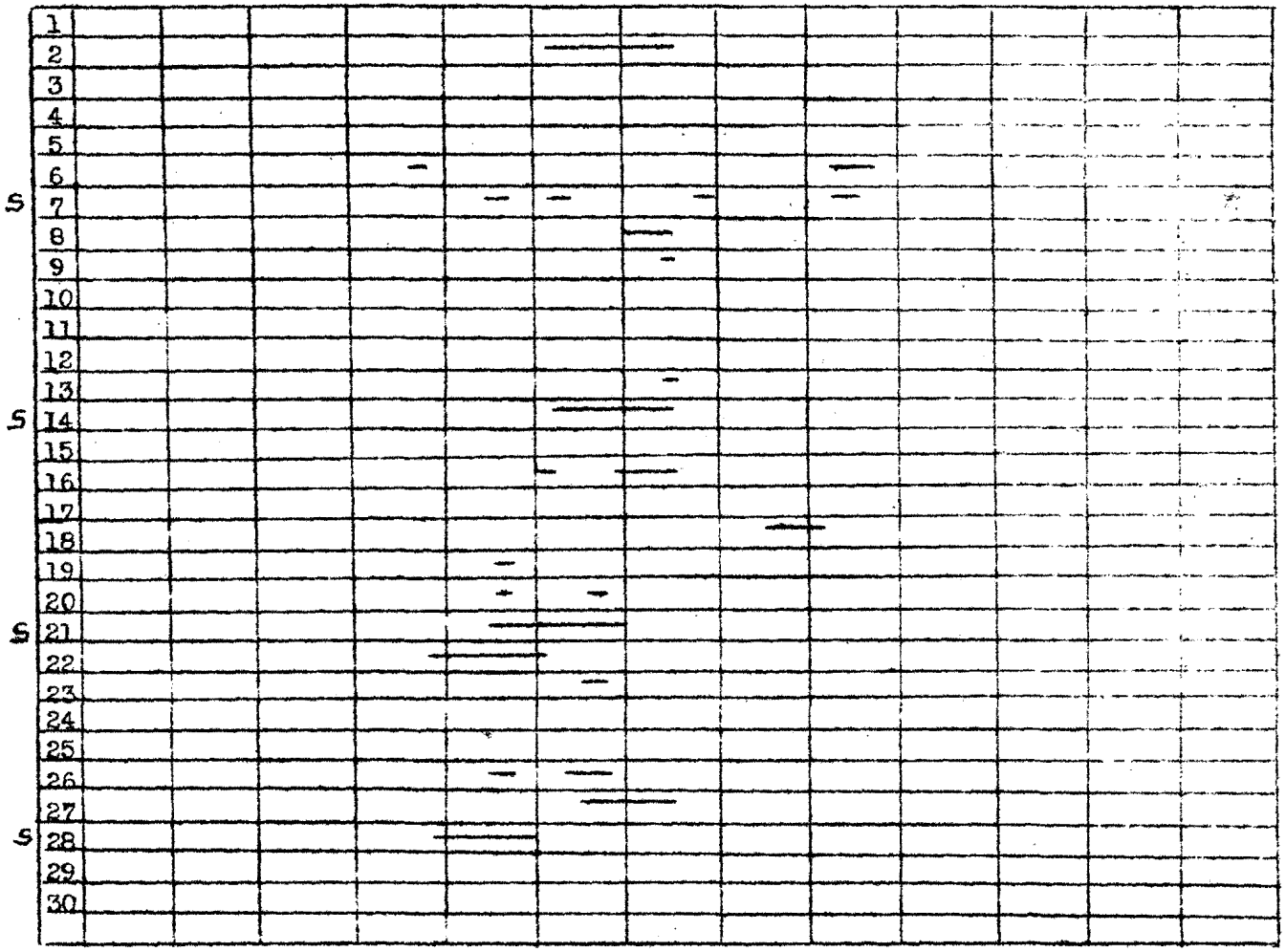
# CASA GRANDE APRIL TRIP CHART

7 8 9 10 11 12 1 2 3 4 5 6 7 8



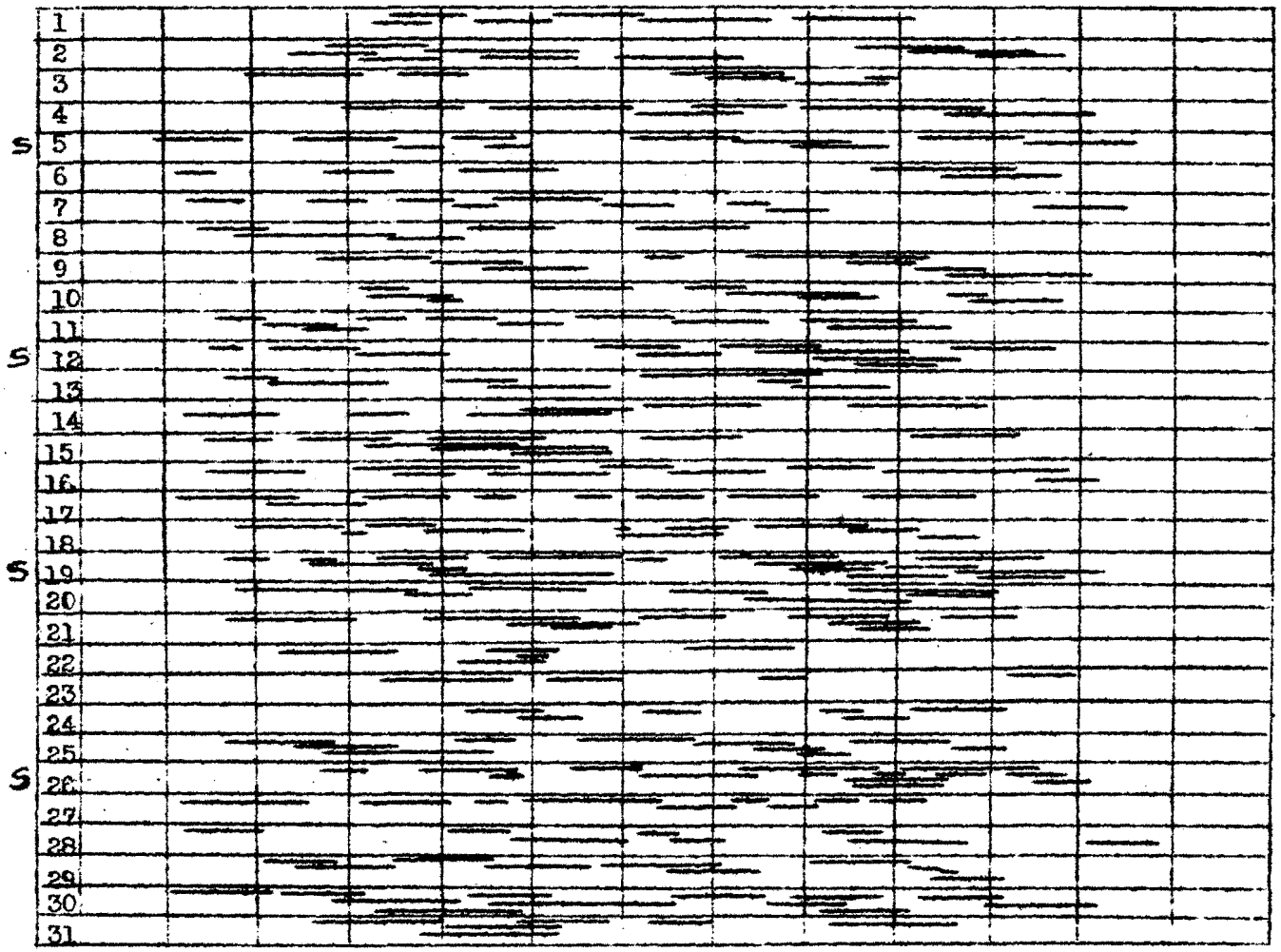
# CASA GRANDE POOR SERVICE CHART—APRIL

7 8 9 10 11 12 1 2 3 4 5 6 7 8



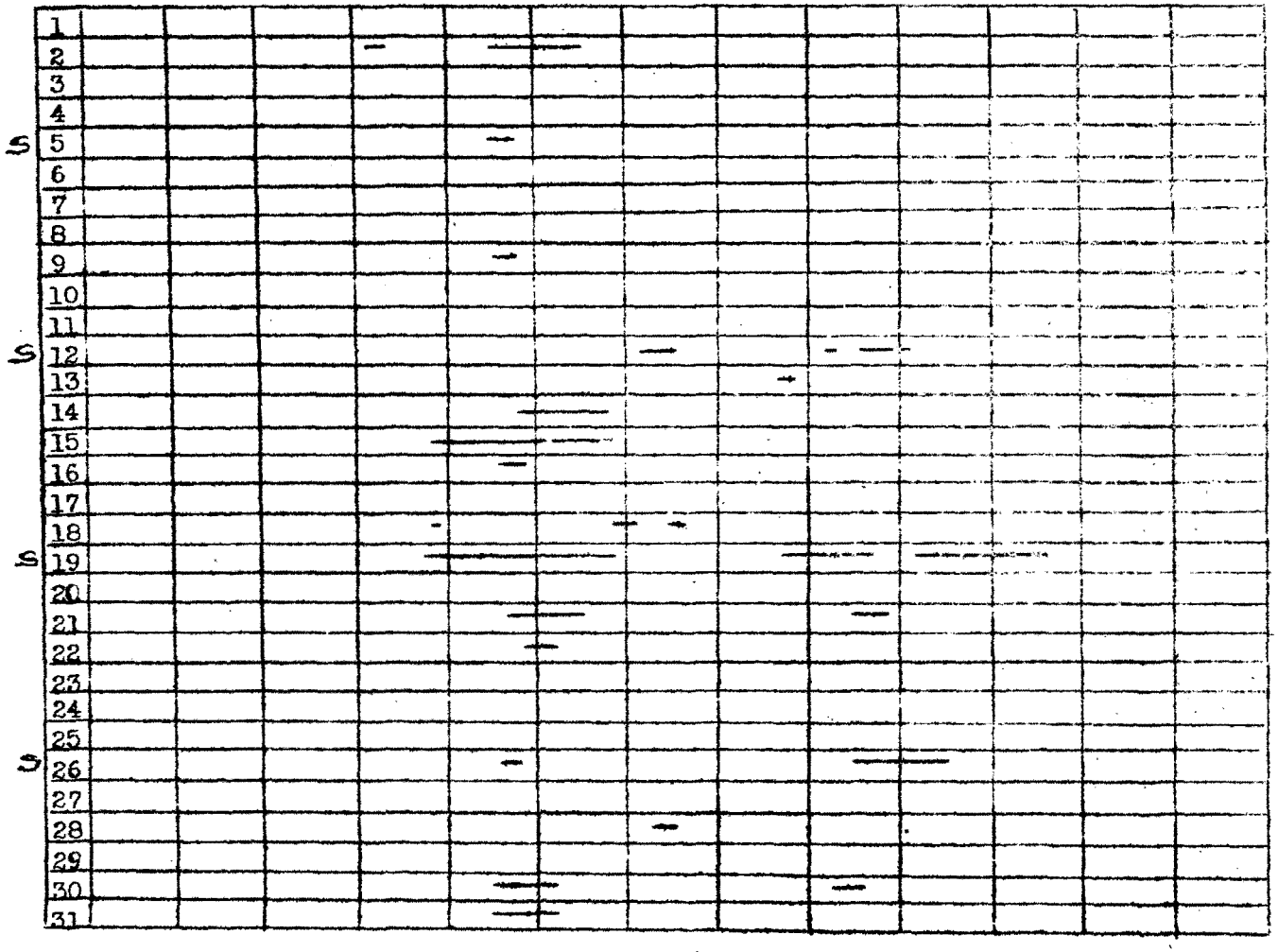
# CASA GRANDE MAY TRIP CHART

7 8 9 10 11 12 1 2 3 4 5 6 7 8



# CASA GRANDE POOR SERVICE CHART — MAY

7 8 9 10 11 12 1 2 3 4 5 6 7 8



ASSOCIATE ENGINEER J.B. HAMILTON'S REPORT

Associate Engineer Hamilton's report came in after the regular section was printed. For that reason his report is being run at this particular place in the Supplement.

General:

May 1st to 7th I was at Field Headquarters in San Francisco working on specifications and lists of materials for the fencing of Chaco Canyon National Monument and for the water and sewer system at Canyon de Chelly National Monument.

From May 11 on, I was at Mesa Verde National Park except for short trips to nearby National Monuments. At the Park I was busy with inspection of work going on and in making plans for proposed work.

Aztec Ruins National Monument:

On May 22 I accompanied Architects Bennett and Saunders to Aztec. While there we made out a program for a spike camp which Custodian Faris hopes to obtain from the CCC camp at Durango, 38 miles to the north. I took photographs and checked with Faris on some figures and statements required to finish my report on "Repair to Ruins".

Canyon de Chelly National Monument:

Several alternates were proposed for the sewer and water systems at Canyon de Chelly National Monument. Pumping might be done by a windmill or by a gasoline motor. A steel tank or a concrete tank might be used. The septic tank might be built of stone or concrete.

The plans, specifications for construction and bill of materials written the last days of April were revised so as to allow for these alternates.

At Gallup, on my way from San Francisco to Mesa Verde National Park, a day was spent waiting for Mr. Womack, Construction Foreman for the Indian Irrigation Service. He was out on the reservation where there were no telephones. It was thought he might drill the well at Canyon de Chelly.

I finally contacted him by phone at Alberquerque and he talked to me later from Gallup to Mesa Verde. He could not drill the well before July first but he wrote to the Branch of Engineering giving his suggestions for the use of well points.

On receipt of a copy of this letter I sent sketches of his plan to San Francisco to be drafted if adopted.

Chaco Canyon National Monument:

Some revision writing in final form of plans, specifications and bills of materials were made for the boundary fence about Chaco Canyon National Monument just before I left San Francisco.

## THE VOLLEY BALL GAME

One of the things of historic interest which happened in May and should certainly not be omitted from this Supplement, is the story of the volley ball game.

Many months ago the boys around these headquarters laid out a volley ball court on the residential parking area where we have a pretty good surface for that purpose. The net is put up and taken down each time so there is nothing to disturb the landscapers, and the gang practices two or three times a week between 5:30 and 7:00 o'clock. Great fun is had by the players and rooters.

Well, Walt and Tov were over in Tucson attending a business men's dinner and Tov's brother mentioned the fact that they had a dandy volley ball team down there. Our boys started out to spoof them a little and told them we had a corking good team up here and started to tell how good they were. If you knew them you would know they made it good enough. According to their legend, we had a crack army player --Bob Cole represents the Army on our staff --an All America Stanford boy -- Cliff London, who is from California all right -- and an Indiana star -- Bob Rose who is or was a runner for Indiana -- and the rest of them were just plain and fancy first grade players. About the time they got steam up and were going good the other fellows challenged them to a game! As a result when they came home and looked at the thing in the cold light of reason, there was nothing to cheer about. However they wouldn't back down and, no earthquake intervening to help them, the final day arrived and the game had to go on.

Incidentally, the Engineers went over and high-graded two instruments and a couple of hundred yards of insulated wire and strung a line from the field to Hilding Palmer's bed and Polly broadcast the game to him play by play. Thanks are hereby tendered the Mountain States Telephone and Telegraph Company for this addition to their regular perfect service.

Little need be said about the score, except that the bluff nearly worked in the first game. After that the Tucson boys swung into action and, four games being played, we won all but the first four of them.

Anyway, we all had a corking good time and nineteen of us had a lovely dinner out under the stars after the game and the Tucson boys and their wives said it would have been a pleasant event even if they had lost, and they invited us to play a return engagement and we accepted, so there may be another chapter later on about this volley ball history.

Good as May becomes history

The Boss

P.S. That Vogt kid turned in a good report didn't he?

NATIONAL PARK SERVICE
RECEIVED
JUL 12 1935
MAILS AND FILES

# SOUTHWESTERN MONUMENTS

# MONTHLY REPORT

## JUNE 1935

DEPARTMENT OF THE INTERIOR
NATIONAL PARK
SERVICE

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

# SOUTHWESTERN MONUMENTS

# REPORT FOR JUNE

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## SOUTHWESTERN MONUMENTS PERSONNEL

HEADQUARTERS Southwestern Monuments, Coolidge, Arizona: Frank Pinkley, Superintendent. Robert H. Rose, Acting Assistant Superintendent. John H. Diehl, Associate Engineer. Dale S. King, Junior Park Naturalist. Hugh M. Miller, Chief Clerk. Robert Cole, ECW Clerk.

GENERAL FIELD MEN: Charles A. Richey and Harry Langley, Resident Landscape Architects. J.B. Hamilton, Associate Engineer. Andrew Clark, Topographer. J.H. Tovrea, Chief Engineering Aide. A.B. Pinkley, Howard Williams, Walter Smith, C.E. London, Rodmen.

FIELD STATIONS

1. Arches---Moab, Utah. J.J. Turnbow, Custodian.
2. Aztec Ruins---Aztec, New Mexico. Johnwill Faris, Custodian. E.W. Lewis, Temporary Ranger.
3. Bandelier---Box 669, Santa Fe, New Mexico. Earl Jackson, Custodian.
4. Canyon de Chelly---Chin Lee, Arizona. Robert Budlong, Custodian.
5. Capulin Mountain---Capulin, New Mexico. Homer J. Farr, Custodian.
6. Casa Grande Ruins---Coolidge, Arizona. Louis Caywood, Acting Custodian.
7. Chaco Canyon---Crown Point, New Mexico. Thomas C. Miller, Custodian.
8. Chiricahua---Willcox, Arizona. Charlie Powell, Acting Custodian.
9. El Morro---Ramah, New Mexico. E.Z. Vogt, Custodian. Alfred Peterson, Temporary Ranger.
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. Milton Wetherill, Acting Ranger.
16. Pipe Spring---Moccasin, Arizona. Leonard Heaton, Acting Custodian.
17. Rainbow Bridge---Rainbow Lodge, Arizona. No custodian.
18. Saguaro---Tucson, Arizona. No custodian.
19. Sunset Crater---Flagstaff, Arizona. J.W. Brewer, In Charge.
20. Tonto Cliff Ruins---Roosevelt, Arizona. Charlie R. Steen, Acting Custodian.
21. Tumacacori---Box 2225, Tucson, Arizona. George L. Boundey, Custodian. Martin Evanstad, Park Ranger.
22. Walnut Canyon---Flagstaff, Arizona. Paul Beaubien, Acting Custodian.
23. White Sands---Alamogordo, New Mexico. Tom Charles, Custodian.
24. Wupatki---Flagstaff, Arizona. J.W. Brewer, Acting Custodian.
25. Yucca House---Cortez, Colorado. No custodian.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
SOUTHWESTERN MONUMENTS

Coolidge, Ariz., July 1,1935

The Director
National Park Service
Washington, D.C.

Dear Mr. Director:

The general report on Southwestern Monuments activities for June:

Weather and Travel

June has beem a month of generally warm and dry weather contrasted with variable climatic conditions reported for May. Little or no precipitation in desert valleys while some summer showers have occurred in mountains and plateaus to the north and east. Some high winds and sandstorms have occurred as usual at this time of year.

Unique climatic conditions in southern Arizona have prevailed according to reports from the U.S. Weather Bureau. Average relative humidity at 6 p.m. for the month was 8, which is a record low that has not prevailed for some 35 years. Thus, June has been comparatively comfortable despite the fact that this June has been the hottest for 17 years.

Travel for practically all Monuments shows increases of around 10% over June last year. Decreases for Aztec Ruins and Montezuma Castle, however, and reason seems to lie in local road conditions.

Field Trips

Junior Park Naturalist Dale King returned to Headquarters June 24 from Field Division of Education laboratories in Berkeley where he has been on special assignment since April 24.

Engineer Diehl has spent a considerable part of the month visiting the district and getting first hand knowledge of problems.

Park Naturalist Robert H. Rose devoted the last eight days of the month to an investigation of proposed National Monument areas in southern and western Arizona. Report is being prepared for early submission.

Engineering Activities

Early in the month Engineer Attwell was busy getting all work in shape preparatory to leaving for his new assignment at Sequoia National Park. Park Engineer Diehl since arrival here has maintained close supervision of all going projects of this district.

In the Office following maps have been completed: Ruins Survey for Tumacacori, Proposed Boundary Extension at Montezuma, Fence Improvements at Pipe Spring, Boundary Extension at Tonto, Boundary Extension for Wupatki, and Proposed Water System at Tumacacori.

Engineer Hamilton reports the following progress for those Monuments comprising a part of his district: (1) Final completion of Ruins Repair construction report for Aztec; (2) Study of disintegrating trail steps at El Morro; (3) staked out location of residence an other improvements at Camyon de Chelly; (4) inspection of stream and revetment work at de Chelly; and (5) made an inspection trip to Yucca House. See p. 305 for account.

ECW Activities

Items here have been taken from reports of Project Superintendents at Bandelier and Chiricahua. Consult index for complete reports.

BANDELIER

1. Headquarters office building completed and occupied June 30.
2. 200 feet of entrance road guard rail completed, and 96 additional feet of footing constructed.
3. Campground extension and landscaping have progressed.
4. Campground table project completed.
5. About one mile of old woods roads in canyon obliterated.
6. Headquarters comfort station footings poured and construction proper started.
7. Crews have worked continuously quarrying rock needed in current construction projects.
8. Construction of utility area started and well under way.
9. Considerable work done in establishing side camp.

CHIRICAHUA

1. Rock slides along the road from the Ranger Station to Massai Point have made road maintenance a major task.
2. Excavation for water development at spring area completed and work on construction of dam started.
3. Pipe line to the 10,000 gallon reservoir completed and excavation for reservoir ready for forms.
4. 800 feet of Echo Canyon horse trail completed; total, 1800 ft.
5. Public campground facilities nearing completion.
6. Headquarters comfort station 30% complete.
7. Sugar Loaf Lookout House complete.

Personnel

Following is a summary of personnel changes that have been effected during the month of June:

1. For some time Park Naturalist Robert H. Rose has also carried the

designation of Acting Assistant Superintendent. The start of the new fiscal year July 1st, however, rpovides for a sedond Junior Park Naturalist position, several new positions of temporary ranger, and filling of old positions that have been vacant for some weeks.

Filling of these positions, together with the fact that time is ripe for organization of naturalist activities into a consolidated Naturalist Division, has increased responsibilities along lines of museum and naturalist work. Hereafter, Mr. Rose's designation of Acting Assistant Superintendent is discontinued and as Park Naturalist he will devote time to organizing and maintaining the activities of the Naturalist Division.

2. Concurrent with the above change, Chief Clerk Hugh M. Miller is designated as Acting Assistant Superintendent which is in line with increased office responsibilities in administration of the Monuments system.

3. Temporary Ranger Charles E. Powell, formerly at Saguaro National Monument, has been re-assigned to Chiricahua National Monument for the summer season.

4. E.W. Lewis has gone on duty as Temporary Ranger at Aztec Ruins National Monument.

5. Alfred Peterson has been on his old post as Temporary Ranger at El Morro National Monument since the first of June.

Visiting Park Service Officials

Mr. Herbert Evison, State Parks Supervisor, was a Headquarters visitor on June 29 in connection with inspection work on proposed new Monuments areas. See the Report of the Naturalist Division for a more complete account of this work.

Photographer George Grant has been at the office several times during the month in connection with his assignment in this district.

Assistant Landscape Architect Keeling of Chiricahua and Assistant Wildlife Technician Grater of Grand Canyon were visitors on June 29.in connection with the inspections of proposed Monuments areas.

Cordially,

Frank Pinkley, Supt. SW Monuments

REPORTS FROM THE MEN IN THE FIELD

# CANYON DE CHELLY

Robert R. Budlong, Custodian

The month of June brought our long-awaited increase in visitor travel, though we didn't get as many visitors as we had expected. Total number of visitors to this Monument for the month of June, 179. Of these, 88 drove to the rim of the canyon, and 38 of these descended the trail to White House. Seventy one persons drove into the canyons by car, and 20 rode into the canyons on horseback, muleback, burroback---and there was one other beast of burden used, resembling both horse, mule, burro, and jackrabbit, which I have been unable, as yet, to classify properly. One of the local Navajos rented it to a tourist, during a shortage of horses. It had a head, tail, four legs, and wore a saddle, but the technique it employed in throwing its rider every few minutes made it envied by every other saddle animal on the entire Navajo reservation.

Visitors arrived in 52 cars, and we had the following states represented: Arizona, California, Colorado, Georgia, Kentucky, Michigan, New Mexico, New York, Pennsylvania, Utah, and Wisconsin.

On the 15th of June I erected a weather bureau substation here, and in the future we'll include weather data at this Monument in these reports. Maximum temperature to date, 96, on the 20th; Minimum, 41, on the 18th. Quite a number of sandstorms, two thundershowers, and some high winds. During the afternoon of the 12th, while with a visitor on the canyon rim, we had a light flurry of snow. I admit the weather was very warm, but nevertheless we had some snow, and I have one witness who can substantiate my statement, though everyone else here insists I was probably suffering from the heat.

The canyons were passable for cars equipped with ordinary tires for a period of only about a week. Soon the sun and high winds did their work, and the canyons became too dry and sandy for travel by cars equipped with other than "jumbo" or "airwheel" tires. At this writing, even cars with the large "jumbo" tires find travel in the canyons very difficult. Unless we get some rain in the near future, visitors will be unable to drive within the canyons.

Indians living in the canyons have cut the first crop of alfalfa, and many fields are being cultivated and planted in the side canyons.

Landscape Architect Thomas C. Carpenter, and Resident Landscape Architect-Chuch Richey were here June 2, 3, and 4. A stake was set to mark one corner of the future custodian's residence, and floor grade was marked.

On June 10 we had the pleasure of receiving Dr. E.P. Meinecke, of the Department of Agriculture, accompanied by Chief Ranger C.R. Markley of Mesa Verde National Park, as visitors to this Monument. Using the pickup truck (which runs occasionally) we managed to drive up del Muerto as far as Twin Trails, and up de Chelly to White House.

On June 16 and 17, Mrs. Eleanor B. Pack, her father and daughter, and a

CANYON DE CHELLY (CONT.)
party of four, visited this Monument.

Mrs. White Mountain Smith, her sister Miss Brown, Mr. and Mrs. C.M. Bell, Miss Henning, Mr. Plant, and Ranger and Mrs. C.G. Harkins, of Petrified Forest National Monument and Holbrook, Arizona, visited here June 16.

As I write this report, Ranger Alberts of Petrified Forest is visiting us. We enjoy these visits of the personnel of other Monuments and government services, and hope for more of them.

Bids have been advertised for the construction of the Custodian's residence which we hope may be built at this Monument. At present we are living in a single room in the boy's dormitory at the Indian School here. Mr. McCurtain, principal of the school, has furnished us with quarters ever since I was detailed here, and his many kindnesses, courtesies, and fine cooperstion have been tremendously appreciated by us. We hope the Custodian's residence may yet be built before winter sets in. On the 20th of June one contractor checked over the ground here, preparatory to bidding on the construction of the house, and we are almost hopeful that we yet get that house built. Bids were advertised for the construction of the water and sewer systems, but apparently none was received, and it may be necessary to build these systems under force account.

The Honorary Custodian Without Pay, who is also Ranger Without Pay, does Ranger work here in a way that brings a faint tinge of green to the eyes of this Custodian. We still hope to get a Ranger here some day, but until that time comes, unless bigamy should become legal and the H.C.W.P. should approve (highly improbable), the two of us will continue to take care of all visitors, and run ourselves ragged hiking up and down that long, long trail a-winding to the canyon floor, accompanying horseback parties, accompanying cars, writing reports, attending to correspondence, etc.

We haven't a single complaint to make, we'll live in a tent if we can't get a house built, we'll carry water if the water system isn't constructed, an I'll pay bills for the re-soling of boots every other week, and do it all cheerfully---but if that Ranger ever should get here, you may be sure that we'll both appreciate it immensely.

**********

## CHIRICAHUA

By Charlie Powell, Acting Custodian

When I left Saguaro, I wrote a note stating where I was going, and stuck it on the inside of the glass door, together with a picture of Cochise Head. I do not know whether or not this has had any effect on our visitors, but we have had many more from Tucson this year than last, althe the season has scarcely begun.

We have had more than 700 visitors at the present writing, and these came from 19 states, and from Canada and Mexico, We hope to have all states represented this summer.

CHIRICAHUA NATIONAL MONUMENT (CONT).

Arrived here on the 29th. Erected a tent at the entrance to the new campground, with the aid of a crew loaned by Mr. French. We will be busy all summer making the area surrounding this tent a continuous nature exhibit ---with the use of dead leaves, water, flowers, pine cones, and mistletoe.

Three CCC men are on duty five days per week each---which gives us two men each week day and three on Sunday. Each of these boys wear O.D.s, black ties, and have purchased a light tan straw helmet of the "Elephant Hunter" type, giving them an uniform neat appearance. This is not boasting, because we are asked if they are brothers, frequently.

Some of our studies, which we are starting again this year, should rate some mention in this report. We have reviewed our file on the geology of this Monument, which includes articles written by Robert Rose, and Dr. Carl Trischka, Chief Geologist of the Phelps Dodge Corporation.

We have one book on the subject loaned us by the Southwestern Monuments library, and another from the local camp library. We are excluding all reading from the Ranger tent which does not have some scientific interest in connection with the Monument, so that each moment when we are not otherwise engaged is spent in profitable study.

Mrs. Rex Rice, Mrs. Ed Riggs, and several other local students will assist the Park Service personnel in securing specimens for study, and we hope to have a stenographer guide with the party at all times to record and report observations.

There are two other subjects which will receive attention this summer. We are writing for material on wild life, and are collecting some Indian material. As the region is a rich field for the study of both subjects, we should like to make some progress in both Archaeology and Natural History, and hope that Dr. Ball of the University will pay us another visit, and if we are very lucky, our Monumemts Archaeologist may drop in on us soon. Sooner or later, when our museum is ready for artifacts, we will begin on our collection in dead earnest. So far we have but a meager collection of metates, and a few rubbing stones, collected last year, which were too cumbersome to be removed during the winter.

I have been cautioned not to let my enthusiasm for Saguaro interfere with my studies at Chiricahua. May I place my sentiments on record at this time, concerning these two objects of my affection?

To me, Chiricahua is like a brilliant child, with its development encouraged, its dress in the form of roads, trails, campgrounds, and buildings provided as abundamtly as is reasonable, but which, in spite of all this attention, remains unspoiled.

The peculiarities of this precocious infant are a constant surprise and wonder to its sponsors, and its attractions are such that it deserves more attention than it will ever receive. It is particularly noticeable

after seven months absence that the camp grounds and rest rooms are conveniently located, and that continued development of trails has made guiding of visitors to points of interest much simpler, while in no way detracting from the pleasure of such trips.

To complete the comparison, may I say that Saguaro has been treated more as an unwanted step-child. This poor waif will come to the front rank when it has received a little financial attention, and with a cactus museum, a loop road, a sky line road, etc., you just watch Saguaro. But this is a report from Chiricahua---excuse it, please.

When Mr. Riggs finishes the Echo Park Trail, there will be more visitors walking along that trail than on all of the other trails together, tho there have been about 75 who were hardy enough to visit the big Balanced Rock on foot, so far, this month. I am painting the mail box which I brought with me from Saguaro, white with green lettering, and will use it to keep some registry sheets near the Rock. I will be interested to know how many actually get there.

Last night I tuned in on a bradcast from the college station in New Mexico and heard a very good description of the vegetation at the White Sands National Monument. I did not catch the name of the speaker, but the list of plants sounded quite familiar. I hope we have more broadcasts about our Monuments. How would a lecture on Chiricahua sound, coming from KTAR? I hope I hear one soon.

I have exceeded the space allotted me in the prospectus, but perhaps there will be plenty of room when the non-essential parts of this report are blue-penciled. You told me once that my reports were read, but it was necessary to keep the published part of the report within certain prescribed limits, so here is hoping that a part of this report will be published.

*********

# SAGUARO

By Charlie Powell

Although Chiricahua is taking all my attention now, I feel that Saguaro deserves a little additional report to cover the interval between the time the May report was mailed and my departure. To begin with, the last state to be represented, Delaware, finally appeared on the register, on Sunday, May 26.

Evon Z. Vogt called on the Ranger at Saguaro May 12, and later sent us a picture, which Mrs. Powell has mounted at home over the radio. Just what she did it for will have to remain a mystery, as two such charcters as El Morro's Kustodian and Saguaro's Ranger are seldom seen in one picture. Perhaps that is why.

I wish Mr. Vogt would call at Chiricahua during his travels.

Now to confess the real reason for this belated report from Saguaro.

SAGUARO NATIONAL MONUMENT (CONT.)

There seems to be some little misunderstanding about a certain specie of Cacti, called the Saguaro. Let me start at the plant and follow it back along the cactus tree so that it may be properly classified. The Saguaro is truly the Cereus gigantea, now called the Carnegia gigantea for reasons given later. It belongs to the subtribe Cereanae, tribe Cereeae, family Cactaceae. Its flower is the state flower of Arizona, as it was the territorial flower prior to the time Arizona became a state.

At the time of the establishment ofthe Carnegie Desert Laboratory Mr. Carnegie gave ten million dollars to a fund for the scientific study of the desert, and its flora and fauna, and later, in honor of his generosity, certain scientists changed the name of the Saguaro from the Cereus gigantea to the Carnegia gigantea, as far as their own writings were concerned. Later, it was said, Mr. Carnegie made a further donation of another ten million dollars for the same cause.

I have heard it said, by other botanists, that they, too, would gladly assent to the change for a portion of the gift, and I personally would be glad to give my own consent to such a change, if someone would appropriate a fraction of such a fund to the proper development of the Saguaro National Monument, which is the only place in the world where this same vegetation may be found, ranging all the way from the desert floor, through all the changes, to timber on the mountain tops.

It is hoped that the National Park Service will develop this wonderful area in its own efficient way, including a road to the mountain top where all the changes may be studied, as well as a few side trails, both from the proposed loop road and from the high scenic drive, in order to make all of these natural beauties accessible, before considering the return of any part of the area to other uses.

In my opinion, the name gives the casual visitor a wrong impression of this wonderful botanical unit. Most people come to think only of the giant cactus, and having seen that, are satisfied that they have seen the only attraction.

A cactus museum would help, bu showing that the Saguaro is one of about 90 varieties of the cactus family growing in Arizona. The loop trail will bring out several small coves, showing the beautiful other varieties of vegetation, and a road to the summit will permit the studies of all the chamges in vegetation in southern Arizona, from the desert floor to timber, within a few short miles. All of this within a few minutes drive from Tucson.

Can any other Monument match this in its own peculiar importance?

**********

Sincerely,

Cactus Charlie

# CHIRICAHUA E.C.W.

By Wm. Stevenson, Proj. Supt.

Several hard rains during this month have converted the maintenance of the Bonita Road into a project of major importance. Approximately 1,500 yards of rock slid into the road between Massai Point and the Ranger Station. Many of the rock cut banks continued to "work" for several days after the rains making it necessary to pull down and enormous amount of material before the road can be safely traveled. We are working extra shifts in an attempt to expedite the elimination of this danger.

Excavation for development at the spring area has been completed and forming started for the concrete core dam and 5,000 gallon reservoirs. This was extremely heavy work and progressed slowly as light charges were used in blasting to insure holding the present flow of water. Excavation reaches a maximum depth of 10 feet.

The pipe line to the 10,000 gallon reservoir is completed and the excavation for the reservoirs is ready for the forms.

800 feet of the Echo Canyon horse trail has been completed this month making a total of 1,800 feet. However no crew has been working on this project for the past twoo weeks as it was necessary to use these men on "double shifts" to expedite the spring development and pipe line work.

Public camp grounds are rapidly nearing completion---the road and parking stubs are 90% complete; Comfort Station 95% complete, and Picnic or Camp units 60% complete. We are prepared to start the construction of fireplaces at once.

The Comfort Station at Headquarters is 30% complete. Sewer line, septic tank, and filter trench have been completed this month.

The Lookout House on Sugar Loaf is complete.

On June 17, Fred Winn, Supervisor of the Coronado National Forest and George Russel, Forest Ramger, were very welcome visitors at this camp. Mr. Russel brought us the Forest Showboat and this camp and the YMCA boys who are camped near here jointly enjoyed his presentation.

**********

# EL MORRO

By Evon Z. Vogt, Jr., Acting Custodian

The 26th of the month approaches threatenly close and beckons me to attempt my second monthly report. Having received the "Prospectus for June Monthly Report" and not knowing whether it meant that we were limited to only two pages or whether we must write at least two pages, Pete and I have decided to play safe by making our two reports as near two pages as possible.

Weather and Roads: With the exception of a few days the weather has

been blistering all through June. Day after day a hot sun sends us scrambling for shade about 9 o'clock in the morning. The plentiful spring moisture is rapidly being lost, but we think the soil still holds enough to keep the grass and shrubbery from withering until the summer rains begin.

After many years of continued efforts, partial success has been attained in regard to the Grants-El Morro road. The road has been made the Number 1 project in the Rural Roads Program for Valencia County. When work will begin on the road, nobody has actually been able to determine.

An FERA surveyor continues to peep through a transit on the Ramah-Gallup Highway, but here again nothing definite can be discovered as to when the highway will be constructed.

Official Visits: On the 1st, three Park Service men visited the Monument. Mr. Hamilton drifted into the ranch about 8 o'clock in the morning and we made a hurried trip to El Morro. By noon we were back to the ranch, having measured all the stone stairways which need concrete cappings, and visited the local gravel pits about five miles from the Monument. I spent that same afternoon at El Morro with Mr. Richey and Mr. Carpenter, who looked over the various proposed studies for the parking area and administration building, examined the stone steps and discussed the possibility of dusting the proper-colored sand into the raw concrete to make the cappings the same color as the original steps, and made some valuable suggestions about the trail, wrongly placed drainage ditches, etc.

Other Visits: On the 2nd a Gallup grocery store held a picnic at El Morro; brought half the store and left the wrappings and celophane from off same to mess up the camp grounds.

On the 16th Gallup and Albuquerque Kiwanians picnicked at the Monument. The party ate a Dutch lunch, drank coffe made by Pete and myself over a campfire, made the round trip over the rock and around past the inscriptions and water cove, and had a good time in general.

Flora and Fauna: This being our best year for moisture for 50 years, one would expect everything to be especially bountiful. And every living thing is. Parts of our reclaimed area look like a Kentucky pasture. The clover stands 4 feet high and is a mass of yellow blooms, which fill the atmosphere with a fragrant aroma that floats gently into Pete's cabin, giving it an air of romance.

Old-timers have never seen the new shoots on the pinyon trees come out as profusely as they came out this spring. On the end of each shoot is a deep red blossom which will be a cone with pinyon nuts a year from this fall. Navajos are positive that pinyon picking is going to be immensely profitable next year.

Pete reports the presence of four eagles which may be seen soaring

around El Morro's loftiest pinnacles. He also located the nest high above the register on the north side of the rock. Three summers ago we had a nest with two eaglets. The mother eagle could be seen carrying prairie dogs and rabbits to her young and once in a while the eaglets would hang their heads over the edge of the nest and squawk shrilly at the visitors below. The one night a carload of Zuni Indians camped at the Monument and left hastily the next morning before sunup. From that night on the eaglets were never seen again. A Zuni will risk his neck any day for an eagle, which, when captured, is kept in captivity in a wicker cage within the Zuni Pueblo to grow feathers for Zuni ceremonies. This, so Pete claims, is what happened to our little eagles three years ago. I would like to suggest that Pete sit up on top of the rock every night and guard our eaglets with a double-barrelled shotgun. I'll furnish the shotgun.

Monumental Improvements: After taking your telegram on the 18th, I immediately hopped the mail truck to El Morro. Pete climbed aboard at the Monument, and we rode on over to the El Morro store and Post Office to find out just how the homesteaders felt about the water at the Rock. Finding that the water would soon be needed, Pete came to Ramah the following day, happened to catch a Gallup Mercantile salesman at the store, and ordered the pipe right then and there. The pipe is now at the Monument ready to be installed Monday.

In my few days work at the Monument rock dips and drainage ditches on the trails were repaired, campgrounds were cleaned, and ten new road signs were painted and put up on the road.

General: Pete and I have been going over the inscriptions together and discussing the hazy places in the translations which have so puzzled scholarly Spanish students. It helps us both to argue a bit once in a while about the translations. And, by the way, Mr. Pinkley, we could use some new translation cards sometime to replace the old weather-stained ones now in use.

Our local chapter of Navajos was the only one on the entire reservation that voted unanimously in favor of the New Deal for the Indians.

P.S. I'm afraid that I have written more than two pages. Just cut out a lot of the above trash, so that there will be room for Pete's report.

**********

ED. NOTE: The report is uncut.

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# EL MORRO RANGER REPORT

By Alfred Peterson

I reported here for duty on the first of the month, and it has been a fairly busy one, but those to follow will be much more taken up with visitors, judging from past seasons. El Morro has had about 373 visitors for the 24 days of June, representing 17 states, Washington, D.C., and England. Special parties are enumerated in the Custodians Report.

EL MORRO RANGER REPORT (CONT.)

One lady, after being shown around the entire Monument, expressed great appreciation of the service rendered and ended her thanks with the request that I "might tolerate having her 15-year-old son come and live with me for a few days." I appreciate the implied compliment, but hardly see how I can start a private boys school while on Park Service duty.

And just two days ago a young lady in a party seemed to be puzzled by hearing the rest of the party address me as "Ranger" and finally burst forth with "I should think you'd feel terribly antiquated having people call you Ranger. The name Ranger always makes me think of an old man with chin whiskers living up in the mountains all his life." I told her that just about fitted me but that I was trying to hoodwink the people. She would not believe it and accused me of spending most of my time in a city.

One of the radio operators at the nearby emergency landing field showed me a broken arrow or dart head which he found at the landing field. I was surprised to note that a cross-section showed it to be thinner through the central part than at the edges, which, if my memory serves me correctly, is one of the chief characteristics of Folsum points, thus:



This same man showed me what appears to be an old camp grounds of the Indians. There is a water hole filled with lava rock, although the water is plainly visible, broken pottery, and we found an arrow head and broken spear head. Also, there are the remnants of two houses, apparently of early settlers or Mexicans, and what is apparently a broken sandstone tombstone with some Spanish characters on it.

Gnats are terribly thick at present, and when they bite it leaves an itchy welt that endures for a week. They seem to be thickest around on the north side of the Rock among the pinyon trees in the neighborhood of the front entrance---just where the stones are piled up for future buildings.

I have never seen so many Evening Primroses, Spiderworts, and Yuccas all in blossom at one time as at present in the immediate vicinity of my cabin. The Evening Primrose has the reputation of opening in the evening, staying in bloom all night, and then hiding their faces from the rising sun. But as their numbers increased daily many of the blossoms remained open during the day. One lady remarked today "What's the matter with these flowers; don't they know it's daytime?."

Regarding the matter of piping the water from the interesting old Water Cove, the job has been completed today, at least to the extent that I expect to see some local settlers come in early in the morning to get some much needed water. This work has been done within the amount allotted me by your telegram, and now I feel some assurance about keeping the water from overflowing and causing damage to the seeded ground which we hope will eventually obliterate all sign of the old, filled-in arroyo.

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# TONTO

By Charlie Steen, Acting Custodian

Who turned on the heat? The weather has been an unfailing source of conversation since the last week in May. Despite the weather man's efforts to discourage half mile walks on a very sunny hillside, 447 people visited this Monument during June and of these 282 walked to the lower and 19 to the upper ruin.

I was quite interested in the correspondence, printed in last month's report, pertaining to the "buried treasure" at Tumacacori. Every section of the country has its own pet story of a hidden hoard of gold, and not to let Tumacacori get ahead of Tonto, I began asking questions to see if I couldn't get a good tale of my own.

There is a well known quotation to the effect that "He who seeks, shall find." I did, and the Tonto Treasure isn't a myth but is the real McCoy. There is a body of low grade ore not more than 100 yards from the lower cliff dwelling. A local prospector had it assayed years ago, but there was too little gold in the ore to be mined at a profit then altho he believes it could be now. A few days ago an Australian mining man told me the richest of the Australian and Fijian fields are in this same type formation---Perhaps we could put this Monument on a paying basis!

I received the two bulletins on the preservation of antiquities. Of the two methods advanced by the authors for the preservation of wood neither are possible, I believe, to be used for the timber in dwellings. Fumigation is entirely out of the question, and spraying with celluloid in acetone would be difficult and expensive. I should suggest a spray of some form of creosote for all exposed wood here. I hope the piece of timber I sent you was of some help.

Lately I have noticed javelina tracks in the lower dwellings on several occasions. A visitor here told me, after being shown the tracks, that his brother was in the desert southwest of Phoenix several years ago and a small herd of javelina chased him. He was on foot and to escape the pigs he climbed a saguaro and stayed there for three hours!

That paragraph introduced the question of the spelling of the common name for Carnegia gigantea. I received you correction last month with unbowed head and immediately began looking for a possible source of spelling. I find that proponents for using "g" and "h" are about evenly divided, and found one intrepid soul who wrote "suguaro." Webster spells the word with a "g" and says that it is probably an Indian word with a Mexican spelling. Given that derivation I lean even more toward "h", for I believe that letter is more correct phonetically, as it suggests the aspiration of the syllable better than the "g". I hope you don't mind, but I am going to continue spelling the word with an "h".

P.S. Can you suggest a good field book on the reptiles of this state or region?

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TONTO NATIONAL MONUMENT (CONT.)

It would be OK with us, Charlie, except that the order in regards to the spelling of Saguaro came from the Washington Office. Thus, in Government Reports you will have to stick with the "g". Shipping to you immediately Van Denburgh's "Reptiles of Western North America."

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# WHITE SANDS

By Tom Charles, Custodian

The warm weather of the past two weeks has brough justification of the claim that the White Sands National Monument is as much of a summer attraction as a winter one. We have no night shift at the Sands but rumor kept coming of many evening visitors there, so Saturday Night, after the day's work in the office and the chores on the farm were done, the"assistant" custodian and I drove out to the Monument. We arrived at the heart of the Sands about 10 o'clock and found 12 cars (60 people) parked around in the various coves. Most of the groups had selected a cove of their own. The most we found in any one group was three cars. They were all so well scattered that the noise and laughter of one group did not disturb another.

The next night we found 31 cars (160 people) playing on the Sands within a mile of the Turnaround. There was not an organized party on either evening. We find that most of the weekend visitors came from El Paso and the Rio Grande Valley.

We have kept up with the evening count for a full week and found that Monday night the official family of the Lincoln National Forest, about 50 strong, spent the evening there. Tuesday night the crowd included 21 cars of Alamogordo people in one big party, and several other smaller groups, with a total of about 125 people. Wednesday and Thursday nights had good crowds, and Friday night the local Methodist Sunday School had nine heavily loaded cars of children out for a picnic.

These people visit the Monument at night at this time of the year because it is 25 to 30 degrees cooler there than in the surrounding country. Last week the officials of the district court sweltered in the court room in Alamogordo all day and spent their evenings in the Sands, although the mountains of the Lincoln Forest were available at the same distance in the opposite direction.

These evening visitors stay from three to five hours and are pretty sure to leave with reluctance. The mid-day visitor, usually a tourist, gets out of the Sands as quickly as possible, for the glare is blinding and the heat terrific.

Our evening crowds are a pleasure. Excepting for a few kicks about water and other conveniences, they are satisfied. We challenge the whole Park Service to produce a more soothing atmosphere than a moonlight night, on top of a clean, cool white sandhill all your own; away from the heat and hustle of the streets; away from everything and everybody but the select

few whom you have brought along; no insects to bother, no noise except the ripple of children's laughter on a distant hill. Nothing but the stars and the moon, the deep blue sky, and the outline of the jagged San Andreas Mountains 30 miles away, and the winding, curling figures of the White Sands everywhere. That is solitude for you.

A break in publicity is that Joe Bursey, Director of the New Mexico Tourist Bureau, has received permission from Assistant Director H.C. Bryant to use the White Sands reel at the convention of the National Education Association in Denver in June. Joe grew up on the White Sands and knows thei recreational value. Another good thing that came our way was the fine new folder published by the Southern Pacific Railroad in which they give the Sands a place at the top of the column, front page. It deals mostly with the National Parks and Monuments and is very fine.

Among our visitors this month were Mr. Harry Hommon and his son Jim. Mr. Hommon seemed to be more interested in the new well of drinking water that we have developed than anything else. He expressed himself as being favorable to the idea of portable comfortable stations, so arranged as to be moved just ahead of the creeping sandhills.

We thought we caught him looking out of the corner of his eye a time or two, and suspected that he was looking for the bug that makes our lakes red, and which he has been trying to catch for sometime.

We noted by our registration book that Walt Attwell and Mr. Diehl, also Miss Nancy Pinkley and her party, visited the Monument while we were away on vavation, much to our regret.

Our tourist count has been good this month, despite the fact that our evening visitors do not register. 802 registered in 26 days or at the rate of 926 for 30 days.

About 40% of the daylight visitors register, so we had about 2,315 daylight visitors this month. Thirty one states and two foreign countries. were represented.

In addition to the above daylight visitors there were from 1,500 to 2,000 who visited after dark. We have no evidence that any of these have ever registered.

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## PIPE SPRING

By Leonard Heaton, Acting Custodian

There have been more birds nesting here than I ever knew of before and hundreds of mourning doves come in for water. Of nesting birds I have found the following: 1 killdeer, 1 Rusty Blackbird, 1 Bullock Oriole, 1 Western Tanager, 1 California Shrike, 1 Western Robin, 1 Western Flycatcher, 2 Arizona Crested Flycatchers, 1 Cassin Kingbird. There are many other nests, I think, but I have been unable to find them.

PIPE SPRING NATIONAL MONUMENT (CONT.)

Our weather has been very hot and dry the past month. Weeds and grass which came up so thick in the spring and bloomed so abundantly this past month have now almost burned up. Ground has become so hard that we have to use picks to accomplish much in working the ground.

There has not been much wind---that is, hard wind; just nice steady winds that have helped to keep nights cool.

Snakes have failed to show up as usual this year, as I have found only two bull snakes, two king snakes, and one very small rattler, and no racers. Usually the rattlers are the first to come and the last to go. Why the large ones have not appeared, I do not know.

About ten days ago we had a visit from Mr. Porcupie. I had been remodeling the Tower to conform to the original design and left the ladder up one night. About eleven there was a sobbing sound, so I got up to see what was the matter with the children, but found that they were all fast asleep, so went back to bed. After a few minutes the sobbing came again, this time from the roof of the house. Getting up, I looked on the roof and there was the porky, calling to his loved one, as in a few moments we heard an answer back on the hill a short distance. After the porky made the subbing call a time or two he immediately started to find the way off the roof. After making two trips around the edge, he started down the ladder backwards, and he did it as if it were a daily habit with him, and hit out as fast as he could go.

There have been to the Monument as visitors and as campers the following: California, 36; Utah, 47; Arizona, 32; Michigan, 2; Colorado, 3; D.C., 1. Total 121. Local travel I estimate at about 340. This is a total of 461, a few more than last month. Increase in local travel is due to the stockmen holding a meeting on range control and getting ready for spring roundup.

We have also had many homesteaders in for water. I believe they are averaging 350 gallons of water per day the last three weeks, and if it does not rain soon, I expect to have a lot more water hauled away by then.

I have had two men working this month to straighten up some of the grounds and do odd jobs-t-the upper meadow pond ready for grass seeding, and removing milk weed from the meadow.

I am making a trip to Zion Park Wednesday to see Mr. Cowell about getting the projects and estimates for the ECW men that are to be assigned to the Monument this coming six months.

I guess the place is getting along shipshape. I am enjoying the work of collecting the plants, and only wish I knew more about them.

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# WUPATKI

By Jimmie Brewer, Acting Custodian

Weather : Hot and dry; high 101 degrees (19th and 20th); low 55 degrees. June 6th provided the only trace of precipitation, and that was unmeasurable. On the 21st, 22nd, and 23rd the thermometer reached 100 degrees.

Visitors: 122 visitors registered at Wupatki Pueblo, representing 18 states. At Citadel 97 names appear. Of these 41 are duplicated at Wupatki. Total for June is 178, including 3 parties of overnight campers. Earliest arrival: 6:45 a.m.; latest arrival: 7 p.m.

The total for June, 1934, was 72 visitors. Increase 106, 146%.

Newsworthy visitors: On June 6 Mr. and Mrs. Hamilton of New Rochelle, N.Y., were visitors who expressed a desire to see Wukoki. After a trip around Wupatki I drew them a small map showing Wukoki's relation to Wupatki and Heiser Spring where they would join onto the Sunset Crater road. At 10:30 o.m. in response to a "hallo" outside our door, I went out and flashed my light on something of a spectacle. All three had walked back from the east side of the Little Colorado River where their car had stalled in loose sand; Mr. Hamilton was carrying a quarter section corner; Mrs. Hamilton was emptying her shoes of sand and cinders; and Son Bill was clutching an empty canteen. I put them all to sleep in the cook shack. In the morning with the help of Clyde Peshlacai (navajo) and his team we pulled the car out, returned the section corner, and sent them on their way. I can't help feeling a bit to blame, in spite of drawing a map, for their getting lost, because I neglected to give them a landmark. However, they seemed to look on the whole affair as the highlight of their coast to coast trip.

Walt Attwell and Jack Diehl were here on the 13th; for Walt a farewell (good luck Walt), for Jack a brief introduction to Wupatki (good luck Jack).

Mr. A.C. Kuehl of Plans and Design Division of N.P.S. visited us three times. Mr. Wirt, N.P.S. Forestery, accompanied him on his latest trip.

Mr. E.C. Alberts of Petrified Forest came May 31. Then Mr. and Mrs. M.V. Walker, with daughter, all of Petrified Forest, were here on June 3.

Mr. Virgil Hubert, Secretary of Northern Arizona Society of Science and Art, spent a good part of June 9 here.

Miss Ruth Harley who was advised at the Grand Canyon not to miss Wupatki (thank you Mr. Getty) arrived yesterday evening on foot. Our last cinder hill three-fourths of a mile from the Pueblo looked too tough, so Miss Hurley walked in. After a glance around the Monument and a bit of dinner, Sallie drove Miss Harley (who has since become Ruth to us) back to

get her car and drive it on in. Ruth is with us tonight and I expect you will see her at Casa Grande after you get this.

E.C.W.: The refusal of the Army to approve a camp at Wupatki or vicinity for C.C.C. has aroused citizens of Flagstaff. Telegrams to Congress ...people have followed up with an offer of City Park as a campsite. This is a beautiful spot not too far removed from any of the proposed work programs, and if I am not mistaken the water supply is unlimited and the shade plentiful. (I read in the paper that Heiser Spring was not approved because of inadequate water supply and lack of shade.)

ROADS: Are in very poor shape where cinders are deep and dry.

I have recruited the help of my Navajo neighbor Clyde (in exchange for watering privileges) and have been working on roads exclusively for the past six days, while Sallie guides visitors. Mr. Munro of the Forest Service has very kindly loaned me a light grader. I thought that since the CCC camp at Wupatki looks so doubtful I might at least use some ofthe non-expendible equipment to very good advantage. While I have the dump truck Clyde and I are grading the roads and shoveling the loose cinders from the deep places. The road between Wupatki and Citadel is improved now; I hope to have the whole thing whipped into good shape within the week.

ET CETERA: With the help of the staff of M.N.A. we are organizing some educational charts to be used at Wupatki and are studying visitor reaction to rough drafts of tentative lay-outs.

If any of you fellows happen to be in Flagstaff between the 1st and the 6th of July remember the Hopi Craftsman Exhibit at the Museum of Northern Arizona. Without much doubt this will be the finest collection of contemporary Hopi arts and crafts ever assembled.

This morning I passed Dr. Colton on Highway 89 as he was returning from Bonito Park where the M.N.A. has located field headquarters for the first excavation project of the summer's dig. We expect to have the expedition working on some problems around Wupatki later in the summer.

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# SUNSET CRATER

By Jimmie Brewer, in Charge

Travel total at this Monument for the past month is 563. Visitors from Arizona lead with 71 parties. Except for state visitors the registration sheets look as if they offer a pretty good cross section of the license plates following the main highways in this part of the state just now. The number of parties from each state represented, as shown on the registration sheets, follows: California, 30; Texas, 18; New York, 8; Colorado, 8; Ohio, 7; Oklahoma, 7; Pennsylvania, 6; Indiana, 5; Illinois, 5; Wisconsin, 5; Missouri, 5; Kansas, 4; Iowa, 4; Tennessee, 4; Arkansas, 3; New Mexico, 3; South Dakota, 3; Louisiana, 3; Florida, 2; Georgia, 2; Virginia, 2; Michigan, 2; Maryland, 2; Mississippi, 1; Montana, 1; D.C.,1;

New Jersey, 1; Nevada, 1; Washington, 1; Maine, 1. Which makes 31 states represented, and one party from Paris, France.

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# BANDELIER

By Earl Jackson, Custodian

Visitors: Numbered 2,083, arriving in 494 cars. Several large parties of students were in: one gorup of 24 from Texas, one group of 11 U. of New Mexico Summer School students, one group of 32 Texas Tech studemts, who are summering in New Mexico, an one group of 100 Indian girls from the Indian School, plus about 25 other interested people who were in the party. Visitors registered from 33 states and the District of Columbia. Alaska, Germany, England, Holland, South America, and New Zealand were represented.

The six highest states by travel were: New Mexico, 1302; Texas, 184; California, 97; Colorado, 92; Oklahome, 66; Illinois, 50. Our travel figure compares with 2,052 visitors for June, 1934.

One or two interesting facts might be pointed out about our Bandelier travel record. The new road has been in for 12 months. 11,645 visitors have come here in the last 365 days. Each month of the 12 has shown an increase over any former month, and in all but one month the chamge has been phenomenal. On Sunday, June 23, Bandelier had by far the largest crowd of visitors of any day on record---423; the largest previous day shown was 225.

Weather and Roads: Precipitation for the mont was so low I am ashamed to register it, but will anyhow; it was .06 of an inch. About half of our afternoons have come in with many blustering thunderheads in the western sky, but those clouds always heat a dismal retreat before Frijoles Canyon could benefit.

The highest temperature recorded in the shade here was 90 degrees Fahrenheit. Days have been windy or sultry, but always hot.

Roads are exceedihgly dusty and corrugated, but have not interfered with travel.

Special Visitors: May 29, Chuck Richey and Thomas Carpenter were in, and departed next day. It was Mr. Carpenter's first visit to Bandelier.

Mr. Harry Hommon, sanitary eningeer for the Park Service, accompanied by his son Jim, paid a brief visit for inspection purposes, and left the same evening. Wish he could have stayed longer, but perhaps it's just as well---he might have decided on some sanitary measures in my bachelor kitchen, where I wash the dishes once a week whether they need it or not.

May 31---Walter Attwell was in for a day and a half.

June 1---Mr. and Mrs. Frederick H. Smythe, of the American Museum of Natural History, were in. I was in town on business that day and didn't

get to meet them.

June 3---John C. Clark, judge, of New York. June 8---Walter Attwell and Jack Diehl arrived to install Mr. Diehl. Departed on June 10. June 12---W.R. Sheldon, acting superintendent, Northern Pueblo Agencies, and H.S. Nettleton, Forest supervisor at large for the S.W. district of Indian Service. June16---Mr. G.P. Harrington, State Cadastral Engineer, came in to try the Frijoles fishing.

June 19---Walter Attwell arrived for a stay of a day and a half. He was accompanied by his son Jimmy. E.N. Horner, owner of Horner Woolen Mills, of Eaton Rapids, Mich., was an interested visitor. He manufactures Germantown yarns, so widely used in New Mexican weaving, especially by the Chimayos. June 22---11 U. of New Mexico students under charge of Prof. Read, paid a visit to the ruins.

June 23---previously mentioned party of 100 Indian girls from 13 different Pueblos. Thirty two botany students from the summer school of Texas Tech, Lubbock, came for a two day stay.

Forest Fires: We have had no forest fires this year! That is a very remarkable and happy fact. We may have one break out any minute, however, for the country is very dry.

Nature Notes: Recently on the north rim of Frijoles Canyon very near the Monument boundary I saw be beautiful whitetail bucks standing at the side of the road. They showed no fear until the car had approached to within 100 feet, then they turned and gracefully trotted into the brush.

It is possible that our dreaded infestation of the eastern tent caterpillar will not strike this summer. While some of the pests are here, and are active, I can see no evidence as yet of any projected wholesale campaign of annihilation on their part. We hope and pray that last summer ended this particular cycle of their activity.

Bears are out again. We haven't seen one, but some lusty bruin has defied our attempts to keep the garbage pits on the mesa covered with dirt.

General: With continued increase in travel at Bandelier manifest by our June performance, I am well satisfied with attendance. Motor travel by private car is humming in this region. However, the other day I heard a very good indication that the depression is not yet over. Railroads are doing heavy business, representing a very economical means of transportation; but the private transportation companies which send visitors into the Indian Southwest by bus and car, representing luxurious travel and sightseeing, repprt a continued dull period.

On Sundays it seems that Santa Fe and Albuquerque move en masse to the campground in Frijoles Canyon. Here they fill the picnic area to capacity, their stomachs to the limit, and the creek water with bare feet. They just go native again, and breatherin Nature with great gulps. This

is evidently one of the best and most beautiful picnic places in New Mexico, for people come again and again.

Which is all well and good, and we like to have the people, but it makes me wonder what we are going to do for space if summer crowds continue to increase at the rate they are doing. When that camp ground was built, I figured it would be five years before we saw a capacity crowd in it, but that crowd has been here several times within one year.

Am looking forward with great eagerness to the arrival of a temporary ranger to help handle the situation this summer. Am sure the evidence put forth in this report would suggest we can use another man. The CCC boys are of some aid in checking visitors, and is guiding some parties, but the best they can do is not enough, for they are not trained. They do their best, but an 18-year-old boy with a high school education lacks the experience and book learning to answer the kind of questions visitors ask here.

Some visitor asked the other day why we call the talus ruins "tailless houses."

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## CHACO CANYON

By T.C. Miller, Custodian

General: The approach road to the north has been in good shape the entire month. During the first part of the month our road from headquarters to State Road 55 received some much needed maintenance. The approach road to the south that joins U.S. 66 at Thoreau, a distance of 65 miles, has been dry and passable but very rough, and has received no maintenance whatsoever.

The latter part of May and the first few days in June the Custodian spent much of his time showing prospective bidders the 40 miles of Boundary Fence that is to be let by contract soon. Mr. H.E. Williams, Rodman on Engineer Clark's crew, spent three days on the Monument Boundary with two prospective bidders. Mr. Clark's cooperation was greatly appreciated in this matter. Visitors are coming in to the Chaco in a big way, and without the help of Mr. Williams it would have been impossible to have rendered any guide service and at the same time show the prospective bidders the line.

Travel: 649 persons arrived in 304 automobiles coming from the following states and foreign countries: Ariz., Calif, Colo., Conn., Ga., Ill., Kans., Mo., Nebr., N.Y., N.M., Ore., Pa., S.D., Tenn., Texas, Utah, Washington, and the District of Columbia. Foreign country, Sook, Statt Eriyna.

Weather: June has been a warm dry month with clear days and cool nights. Maximum for the month was 92, on the 19th; minimum was 33, on the 5th. Precipitation, .01, was recorded on the 11th.

Trees: About 85 percent of the 93,770 trees that were planted in

the Chaco Wash during the months of April and May are growing. As previously reported, these trees were planted by the Soil Conservation Service now under the Department of Agriculture.

Special Visitors: Andrew E. Clark, engineer, and party arrived on May 28 to survey and stake the Mounument boundary.

Thomas C. Carpenter, landscape architect, Charles A. Richey, resident landscape architect, Assistant Engineer and Mrs. Gene Gordon arrived on the 5th and departed on the 7th. Purpose of their visit was to study a new proposed approach road some 10 miles west of headquarters. Also to study the new proposed headquarters area south of the Chaco Wash. The Monument approach road that far west would put us more than 50 miles from the nearest post office which would be Crown Point. Crown Point is only 29 miles due south of headquarters. Would we get as many appreciative visitors in this Monument on a ten mile stub road as we would on a stub road one or two miles long? However, we are getting more visitors now than we can take care of efficiently. We need some help and, of course, we won't object to a new road, but that approach road should be carefully studied before it is located that far west of headquarters.

Miss Nancy Margaret Pinkley arrived and departed on the 8th. Walter G. Attwell and Jack Diehl, associate engineers, arrived on the 10th and departed on the 11th. Mr. Attwell informed us that he was transferring to Sequoia and that Mr. Diehl was taking his place in the Soithwestern Monuments. We regret very much to lose Mr. Attwell, and we wish him well with his new assignment. We also welcome Mr. Diehl to the Chaco.

The first load of equipment for the University of New Mexico summer school was unloaded on the 15th. Arrived one cook, helper, and one student. Supt. Stacher of the Eastern Navajo Reservation was a Monument visitor on the 17th. Mr. Stacher's business here was in connection with the Indian Allotment within the boundaries.

University of New Mexico: The field school of the Universit y of New Mexico and School of American Research arrived on the 22nd. The party consisted of Dr. R.C. Fisher, assistant director; Dr. D.D. Brand, acting head of the department of anthropology; William Postelthwaite, lcturer of anthropology, Stanley J. Milford, research fellow, and 12 students. With all these Doctors, Professors, and scientific minded people in the Chaco all summer, we should be able to learn a lot about this archaeological Monument.

Boundary survey: Engineers have survey and staked 35 miles of the boundary. We are now ready for the contractor to start construction. We now have eight miles of boundary to survey, and then we can start on the outlying tracts to survey and stake the ruins. Some of these ruins, Some of these ruins are located 45 miles from headquarters.

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# YUCCA HOUSE

By T.C. Miller

Yucca House was inspected on the 20th. I found the approach roads rough and dry. Highway 666 from Ship Rock to Yucca House was rougher than I have ver seen it.

We are getting quite a lot of travel to that Monument according to tracks around the ruins. Mr. Ismay contacts most every car that comes in and discourages any pot hunters or vandals who would like to see what could be uncovered with their shovels. However, potsherds are being picked up even tho visitors are told such a practice is not allowed.

Travel bureaus an' all road maps show that Yucc House is near the highway, and naturally visitors are interested in seeing the ruins and it cannot be hid from them even though you keep all signs and markers down, some of these visitors are going to find the place. During the summer months this Monument should be protected. Mr. Ismay reports about 30 or 40 visitors for this month.

Museum Contributions: Mr. Houston Ismay plowed up two fine skulls in his field near the ruins during the month. The skulls wwre donated to the museum at Chaco.

These burials should be taken up and put in a museum for future study of Yucca House. Mr. Ismay pointed out to me what appears to be quite a large burial ground on his farm.

Due to the busy season here at Chaco I did not get to Hovenweep this month, but I have planned to inspect the place early in July after the Summer Ranger enters on duty here.

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# WALNUT CANYON

By Paul Beaubien, Acting Custodian

1306 registrations this month without any large parties.

To me the important visitor of the month was Chester F. Deaver of the Botany Department of the Arizona State Teachers College, who made two trips to acquaint me with the exact species names of the plants at Walnut Canyon. Soon hope to send copy for more of the aluminum signs furnished by the Berkeley Office on your order.

The 13th was a bad day as I had to say goodby to Walt Attwell. Felt like I lost one of my best friends. I sincerely hope he likes Sequoia, and that Mr. Diehl likes us.

Was tremendously disappointed to see that the proposed CCC camp at Wupatki with a stub camp here seems to be rather doubtful. A very little CCC work at Walnut Canyon would be productive of very much benefit not only to this Monument, but to the whole system.

WALNUT CANYON NATIONAL MONUMENT (CONT.)

In the first place, Walnut Canyon is midway between heavily traveled Petrified Forest and Grand Canyon. Last year more than 100,000 people traveled along Highway 66 to the those two. By coming to Walnut Canyon said tourists would only have had to travel five miles farther in distance to see more than 300 cliff dwellings. Of course, there are interesting botanical and geological features besides the dwellings.

Another point to be stressed is that Walnut Canyon is the western gateway to the archaeological Monuments of the Southwest. Not all tourists come from the east, for, with the exception of one car from Oregon, 25 consecutive carloads registered from California about two months ago. Many of these people didn't know the difference between a Pueblo Indian and a Cheyenne when they arrived but left asking where to find bigger and better ruins. Walnut's ruins are not so large and spectacular, but they are representative of an important type of dwellings not too well scattered through the Park system. Their archaeological worth is unchallenged. Their situation is lovely, and they are the only cliff dwellings that thousands of tourists will ever get to see, due to their accessibility.

If Walnut Canyon could be properly improved, I believe every Monument and Park in the Southwest would be benefited. It would draw its share of the 100,000 tourists going by only a few miles away, and influence them to see other places in addition to the Petrified Forest and the Grand Canyon.

Have been debating with myself about adding the following---but murder will out. Some people do queer things with ink but the ranger who got up at 3:30 a.m. to hunt a forest fire at the intersection of Highway 66 and the "loop" road, instead of Highway 66 and the Leupp road isn't any too brilliant. The next week I certainly received explicit directions from the Forest Service "lookout" wherr a fire started about a mile southwest of the Ranger Station.

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## TUMACACORI

By M. O. Evenstad, Acting Custodian

During the period of May 26 to June 25, inclusive, 843 persons visited Tumacacori. In looking back on the records for the corresponding period of last year, we find there were 764 visitors. We therefore have had an increase of a little over 10 percent over last year. Twenty eight states, Arabia, China, Mexico, and New Zealand were represented.

On account of beginning of summer weather, with its higher temperatures, we are not getting very many regular tourists who are passing right through the country. Rather, a good percentage are people who are making short visits for various reasons in this part of the country, as well as a good many local people.

One thing is noticeable, and that is a fair percentage of "repeaters," By that term I mean people who have visited this place at least once in the past. This means that during a former visit they became sufficiently inter-

ested in the place to want to make a second, third, or fourth visit. I often hear something like this: "I was here so and so many years ago, and this time I am bringing Mr. and Mrs. So and So in order that they may see the place, too. I think Tumacacori is very interesting." Another expression often heard is along this line: "I think the Government is doing a fine thing in setting aside this place, and looking after it. It would have been just too bad if it had been left to the elements and vandalism."

I don't know just where credit is due for instilling this feeling in so many people, but the fact remains that the people of the Southwest, especially, are quite conscieously proud of their monuments.

Upin coming back again, after an absence of nearly two years, I notice the following changes: the quite impressive entrance gates; the boundary wall (although not completed). Both have added to the attractive appearance of the Monument, in my opinion, and I am quite certain that this viewpoint is shared by practically all the visitors.

The need for a museum is quite apparent, and an authentic collection (even if small) properly housed and displayed would add greatly to the value of Tumacacori. There also should be a leaflet for distribution, briefly giving the Mission story in general and Tumacacori's story in particular.

Weather has been rather hot for the last three weeks, and right now there is a decided need for rain. However, the nights are quite cool and pleasant.

During the month, the Acting Custodian, in addition to attending to the regular routine, did some needed repair work on the pump for our water system, and also got the windmill into shape for use, so as to reduce the operation cost for pumping which has heretofore been done mostly with the use of a gasoline engine. I had to pull the pump once, and found the trouble to be a piece of wood getting under one of the valves. The curbing is gradually giving way, and dropping pieces of wood in the water, where the pump is liable to catch them any time. The motor of the little light plant was tuned up by grinding the valves, and cleaning out the fuel and oil systems. However, we do not expect to use the plant much until the days get considerably shorter.

Custodian Boundey and family left on the 10th, for a well- earned vacation trip to the coast and other California points, including Yosemite National Park. They are expected to be back the latter part of July.

Engineers Attwell and Diehl were here for a short visit during the first part of themonth. The past month has kept the present personnel of the Monument quite busy, and time has not had much chance to drag along.

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# AZTEC RUINS

By Johnwill Faris, Custodian

Visitors for the month total only 903. Just why we have this decided drop for June is not understood. It is possible that floods in the middle west and uncertainty of the mountain passes have something to do with it.

Everything with the exception of our few visitors has been normal, and the fact that we have had so few makes possible a longer time to each party than is usually the case. Oscar Tatman served as guide during the fore part of the month and did some excellent work. Many visitors expressed themselves as being especially pleased with the trip. E.W. Lewis of Clovis, New Mexico, the regular appointed guide, started on duty the morning of the 13th, and is proving very satisfactory. His guided trips are very popular and we appreciate the interest and enthusiasm he is showing.

Both Engineering and Landscaping divisions were represented at Aztec this month. Chuck Richey and Tom Carpenter were in the 8th, and spent time enough, even to eat dinner with us. We enjoyed having them very much and do hope they can come again and spend even longer. Walter Attwell and Jack Diehl followed the Landscape boys a day or two and we enjoyed having a meal with them also. While Walter has never been particularly active at Aztec, we are going to miss him and wish him every success at his new post. To Jack, we offer our entire resources, that he might develop our units in keeping with standards set by his department. We have not heard what Jim Hamilton is going to do yet, but we hope that he will stay with us.

By the way, speaking of the Landscape and Engineering Departments, I wamt to congratulate them both on reports sent in this last month. W. H. Gebhardt, Insepctor on the Museum and Administration Building, wrote an excellent report on his work, and was especially kind in his expression of our help, Hoss. When it comes right down to it, the help was mostly from him. Aztec will long remember the cooperation and excellent services of Gebhardt, and we trust that if we ever have any more building he will be the Inspector. Then Jim Hamilton turned in a dandy report on the ruins repair work conducted the past year under P.W.A. Jim always prepares swell reports, though, so we were not too surprised when he pops this last one on us. Both Jim and Herb were mighty pleasant to work with, and the work they did was of the highest caliber.

A week or so ago, the new guide and myself in company with the Editors of our local newspaper drove over to Chaco. The trip was most pleasant, and, as usual, all came away sold on the idea that Cal has the next best ruins in the Southwest. One purpose of the trip was my intention to convince Miller that we needed to do some repair work at Aztec, and I needed some of his nicest Type IV masonry for fill, etc., but I actually believe that he thinks his fill out there is better than our dressed stone here. There seems to be no accounting for some people's tastes, etc., so I am really not too bitter toward Cal. Upon second thought, however, I think as we were leaving he made some catty remark about not having to tear down

AZTEC RUINS NATIONAL MONUMENT (CONT.)
more than two or three of his rooms to build a couple of ruins like Aztec. We are going to hold these vile remarks against him, and are entertaining a hope that on Judgememt Day Cal will confront one of the high priests of our Great Kiva and be held accountable for all his harsh words about Aztec.

Shortly after my return from Chaco it was my pleasure to show Taylor Julian, state senator, our ruins. He seemed very much impressed, and his keen insight into the value of the Ruins to the state and the Southwest made him especially interested. He left assuring us that every effort would be made to secure a proper approach road for the Monument. He at least promised us that he would see that what we have would be declared a state road and receive state maintenance. Even that would be appreciated, and I in turn promised him that if the state would build us a good road up to the ruins, the National Park Service would build an entrance sign that would be a credit to the road and to the state. I am sure that the Landscapers will see to that part of it, and to the removing of the present sign.

This approach road has been a sore spot at Aztec the six years I have been here, and your Office is acquainted with the effort we have put forth with the various state administrations for this piece of work.

Several of our museum cases arrived a few days ago, and they are splendid. We await now the material prepared for us by the Berkeley Office, and hope to have the exhibits ready for inspection.

One feature we notice so often, Boss, and do appreciate very much, is the fact that visitors mention repeatedly their approval of spending public funds for the National Parks and Monuments, and how they enjoy visiting the various places.

The past few days our visitors are coming in with some greater regularity, so it may mean that July will pick up in proportion to the increase shown by many other months this season.

We folks up here with temperatures running about 40 to 50 every night, certainly feel for you folks down there with your heat. Come up and spend a few weeks in a most delightful setting. We will even take you over to see Cal Miller and his dump.

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## NATURAL BRIDGES

By Zeke Johnson, Custodian

I am pleased to report that all is well at the Natural Bridges; there never was a time in the history of the Monumemt when there was more grass and flowers---hundreds of acres of flowers that are more beautiful and of more luxuriant growth than ever before. Drinking water is still plentiful and very good in the Canyons.

The number of visitors so far this year exceeds that of any previous

year during this season. Sixteen states have been represented. There have been from one to three cars every day now for the last 20 days.

Visitors seem to be more enthusiastic and better pleased than ever before---due partly to the flower garden which extends from Blanding to the Bridges, which is quite a contrast to the dry condition of last year.

Among the many noted visitors we mention the following:
A.E. Borell, Wildlife Technician, N.P.S., Berkeley, Calif.
Supt. Tillotson, Grand Canyon National Park.
Hubert Evison, Supervisor State Parks, E.C.W., Washington
H. Langley, Resident Landscape Architect, N.P.S. San Francisco
Carroll H. Wegeman, Regional Geologist, N.P.S., Oklahome City.
Emery C. Kolb, Grand Canyon, Arizona.

Many have expressed themselves well pleased with the trip, offering as it does, such a wide variety of scenery.

First there is the "Goblet of Venus", then the great forest of yellow pine and quaking aspen on Elk Ridge, the beautiful view of "Arch Canyon", then the great panorama from the "Bears Ears" where many have expressed themselves as being in a place where for the first time in their lives thay are able to see the "whole world at a glance." They feel repaid for the trip before they even reach the Bridges.

I hope you do not think I am over-enthusiastic about my Monument or that the picture is being over-drawn, but I do feel, and othere feel the same way, that the trip from Blanding to the Bridges combines many prominent features of at least six other Monuments.

There is the coloring of Arch Canyon, the sheer bluffs and ruins of White Canyon, then the three Bridges, each an unique masterpiece in itself; as well as numerous other spectacular and unusual features.

I am happy to report that the State Road Commission has in operation a 60-Cat with all of its trimmings and plenty of men to handle it to improve the road all the way to the Bridges, and there is a prospect that there will be a camp established in that vicinity and continue the road on to the Colorado River.

I have erected a new Army tent, 16x16, floored and walled up, and have a good table and benches made, which will be quite comfortable until something better is furnished. There is also one new rest room. I am sadly in need of some tables and benches to accommodate the campers. What about it?

I am leaving this morning for the Bridges with Prof. T.C. Brues, wife and daughter, of Boston, Mass., who will spend a week or more at the Monuments.

NATURAL BRIDGES NATIONAL MONUMENT (CONT.)

Frank, I am still in love with my Monument, and am trying to promote its interest and to give every tourist every courtesy and care possible under the circumstances.

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## CAPULIN MOUNTAIN

By Homer J. Farr, Custodian

'Tis a pleasure this time to make my brief report for June. Weather conditions have been admirable. It appears that this Monument has come in full blossom and all leaved out almost overnight. We now have a wonderful crop of bluebells covering a hundred acres or more on the west side of the Mountain, especially around the cabin. No bluebells have been noticed on this Monument before as well as I can remember.

Vega and gramma grass are in abundance mostly due to the Monument being fenced and no livestock thereon.

There have been 2,500 visitors this month---a large percent seemingly from the 13 original states. I feel that the recent radio talks have swelled our number of visitors from the east, and all of those whom I have contacted have expressed appreciation of the trails and road. No particular notables have visited the Monument this month, but in general a mighty fine class of visitors.

The small PWA project which I have just completed on the Monument has left the rim and crater trails and roads in a very fine condition. However, the continued sloughing of ashes and lava into the road is a continuous eye sore to the Custodian. We hope sometime to correct this permanently.

Continuous showers keep farmers and ranchers smiling. While most crops in the community are a little late they look good and have a fair chance.

This Custodian felt mighty bad in failing to get this Monument included in the itinerary of Assistant Director Tolson, but will be willing to call it square if I can have a visit this summer from my own Southwestern Superintendent.

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## BANDELIER E.C.W.

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

The headquarters Office Building has been completed this past month with exception of the final coat of finish on the floors and openings. Arrangements are being made to move into it the 29th.

Construction of the stone guard rail along the entrance road has progressed very rapidly this month with 200 lineal feet of completed rail in place together with an additional 96 feet of footing constructed.

Additional work has been carried on in the campground extension con-

sisting principally of surfacing the parking stalls and planting of boulders for traffic and parking control together with landscape features.

The camp ground table project was completed this month which now offers a campers table with each camp site in the entire area.

Approximately one mile of old woods roads in the floor of the canyon has been obliterated by the landscape foreman and his crew.

Footings for the headquarters comfort station have been poured and wall construction started this date (June 27). This building is located adjacemt to the new office building which will serve the headquarters parking area and administration building.

Two crews have worked continuously in the rock quarry quarrying and trimming building rock for the buildings and guard rail.

Construction of the long-discussed utility area was started this month. To date 50% of the outside walls, to finish garde line, have been completed in addition to footing walls for the gas station and warehouse. The excavation project in conjunction with this area has been carried on for backfill as the footing walls were carried up.

A small amount of side camp preliminary work has been done in view of a quick establishment of the side camp on arrival of the material for construction of the Monument fence.

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## MONTEZUMA CASTLE

By M. L. Jackson, Custodian

Have had 1,587 visitors for the past month which is some 12 percent less than we had last June. I hate to have to report this because I imagine that all other Monuments will have more than last year.

Still we have had more out of state visitors than last year according to our register book. Where we have fallen down is with Arizona people, which is really not hard to account for,---at this time last year there were some 40 or 50 men working here, and we noticed that almost all of them brought their families out while they worked here. And, too, there is work being done on the roads from both Prescott and Flagstaff---a nasty detour or two.

And we have been told by several visitors that they were advised in Flagstaff not to attempt driving down here. While we believe that to be a little too streng, as the roads are surely passable, still they could be much better.

Another thing that has been very noticeable is that we have had very few of the Salt River Valley farmers this year. Have been told it is because of a late melon crop this year and that farmers have not been able to

MONTEZUMA CASTLE NATIONAL MONUMENT (CONT.)
GET AWAY YET.

Another one for you Custodians and Rangers to shoot at. Had a party in from Canada a few days ago who said his uncle had made a trip around the world some years ago and that on his return he told his family that Montezuma Castle National Monument was the most interesting thing he saw on his trip, and that he went into deato, describing it before anything else was mentioned. I feel just a little reluctant to mention any names, but it might be a good idea for Robert Budlong, Charlie Steen, and Earl Jackson to get a load of this.

I hereby call you attention to the fact that you and Bob Rose shall not have the distinction of being the only dumb ones in the Monument service. Even if you do pull a good one now and then, Ranger Frank Fish is still working, you know, and he is so dumb that he thinks La. is the abbreviation for Louisiana. The proof: a party was in the other day and Fish asked them where they were from. They replied "La.", and Fish said, "Oh, Louisiana, and how is Huey?" The party immediately replied they were from Los Angeles, not Louisiana. Fish then wanted to know is Los Angeles wasn't some place in Iowa. The visitor insisted that Los Angeles was in the state of California.

A pair of Gambel quail showed up at the ranger quarters last night with a nice brood of babies,---the first young ones we have seen this season. We are hoping for a better hatch this season than last. We saw only five young ones all last season.

Would like to add that we are quite in harmony with your idea of changing the personnel around from one Monument to another. It will surely be educational and will give some of the other fellows a chance to see the best cliff dwelling in the world. And, of course, will give me an opportunity to see what the other fellow is doing.

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## ENGINEERING REPORT

By J.B. Hamilton, Assoc. Engineer

Aztec Ruins National Monument: I made final revisions of the Ruins Repair construction report and sent it to San Francisco for typing and assembly.

El Morro National Monument: I left Mesa Verde the afternoon of May 31 and went as far as Gallup. The next day I went as far as Vogt's Ranch, picked up E.Z. Vogt, Jr., surveyed and photographed the carved steps which disintegrated last winter, priced sand and cement in Gallup, and returned to Mesa Verde that night.

June 2 I prepared sketch plans of the work to be done and made an estimate of cost. This data was sent to the Branch of Engineering the next day.

Canyon de Chelly National Monument: I spent June 24 to 26, inclusive,

at the above Monument. With Custodian Budlong's help I staked out the proposed Custodian's residence and the water and sewer system. I made slight revisions of the lists of materials as advertized to correspond to the staked lines and mailed data from Gallup.

I made an inspection trip up Canyon de Chelly as far as the Monument. Fences put in by the S.E.S. last fall are in sad shape, undermined and tipped badly. They have done a lot of planting which has a chance to survive of we have no heavy floods for the next two years and the Navajos live up to their agreement not to run sheep and goats in the Canyon.

There were quite a few sheep and goats in the canyon at the Monument. They may have been there only to get water as per agreement. Elsewhere there were none except a small band climbing out in charge of a herder.

Yucca House National Monument: On the way to Canyon de Chelly I drove off the main highway to Yucca House. None but prairie dogs have done any excavating there since my last trip on May 26.

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June 7, 1935

On Sunday, May 27, Supt. Leavitt and I, with our wives, visited Yucca House and Hovenweep National Monuments. I visited them in accordance with Chief Engineer Kittredge's request that I keep an eye on them and report to you. This is a report of my first visit to either place.

Yucca House is about as I expected from what I had read of it in Southwestern Monument reports and elsewhere. The fence is still standing, though badly in need of tightening. But both gates are wide open allowing cattle and sheep to graze over the area at will.

Pothunters have dug a few holes but none appear very fresh. I noted that some erosion control work should be done in a gully in the southwest corner of the fence area.

Mr. Ismay was away; I met Mrs. Ismay briefly.

We had some little difficulty in finding Hovenweep Ruins, but felt well repaid when we did find them. I took several pictures, a print of which I enclose, with notations on the back.

I looked up what references I could find on the ruins in the library here. I hoped to find old pictures which I might compare with mine. About the only pictures available were those taken in 1917 and appearing in "Prehistoric Towers and Castles of the Southwest", by J. Walter Fewkes, published in June, 1918.

Since his pictures and mine were taken from a different viewpoint I could make no direct comparison. When I make another trip out there I hope to take Dr. Fewkes pamphlet along and make a clearer comparison to

ENGINEER HAMILTON'S REPORT (CONT.)
see if any changes can be noted.

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# LANDSCAPE REPORT

By Charles A. Richey, Resident Landscape Architect

On June 1 a field trip was made to El Morro N.M. with Mr. Carpenter from our San Francisco Office. It was found that homesteaders are again using water from the reservoir and I believe the temporary facilities used last year to get the water down as far as the ranger cabin should again be installed. Settlers are driving up to the reservoir with their wagons, and starting erosion in the area which was the large arroyo which was filled in during CWA program.

The alternate site for the headquarters area on the west side of the Monument was studied on the ground with the new topography and was found to be inadequate for present needed facilities and would allow for no expansion whatsoever. The area on the north side was studied and thought to be much more satisfactory regarding future planning.

June 3 and 4 we spent at Canyon de Chelly going over proposed development with Custodian Budlong. Proposed Custodian's residence was staked and floor grades set. Plans for the proposed sewer and water system were checked over and the alternate on the plan to provide a windmill for pumping power was discussed with Cozy McSparron and several people from the Indian Service. All parties pointed out that there is not enough wind at this Monument during July and August to operate a windmill.

Considerable time was spent with Mr. Carpenter and Mr. Budlong studying approach roads to find whether it was possible to locate these roads so that better protection could be given the Monument.

Mr. Carpenter also accompanied me to Chaco Canyon June 5. Here we spent several days studying approach roads in the vicinity of this Monument with Assistant Engineer Gordon and Custodian Miller. We found that a road location to by-pass the Monument on the west was possible and would be easy to construct. The Indian Service has just finished 20 miles of construction on this line to reach a new Indian Day School at Juans Lake.

The fencing project was reviewed and cattle guard locations checked. It is felt that the proposed 28 foot cattle guards should not be placed on the present narrow approach road as the road location will probably be changed when this road is improved. Proposed development plans were carefully reviewed on the ground.

On June 7, enroute to Mesa Verde N.P. we stopped at Aztec Ruins N.M. an reviewed the proposed PWA and ECW program with Custodian Faris.

June 18 to 20 inclusive was spent at Southwestern Monuments Headquarters at Coolidge reviewing development plans for the above mentioned Monuments, 6th period ECW plans, and proposed PW plans. June 20 to Carlsbad N.P.

# CASA GRANDE

By Louis R. Caywood, Acting Custodian

With seasonal travel dropping off because of the heat our visitor registration came down to 1359 as compared to 2443 for last month. These people came from 35 states and three foreign countries. Arizona visitors numbered 789 with Texas having 49 and Oklahoma 40.

These visitors were personally contacted on 230 ruins trips and 222 museum trips. Besides this number there were approximately 300 who used the picnic grounds and other facilities offered at the Monument. At this season of the year many families bring picnic lunches and hold picnics in the evening. When compared with 1355 for June of last year we have an increase of only four persons.

Weather: Thermometer has jumped around a bit during the month. Maximum was 108 and Minimum was 49 on June 1. There was no rain nor even a cloudy day all during the month.

Museum: During the month three sliding map and chart file cases were received from Berkeley. Two of these will no doubt be sent into the field when need arrives. A large cartograph showing the Culture Areas of the Southwest and representative ruins was also received from Berkeley.

Robert Rose and the Acting Custodian spent considerable time cataloging specimens in the museum and planning new labels.

Miscellany: The Acting Custodian spent an afternoon of his day off using the library of the Gila Pueblo at Globe. Their library is almost entirely archaeological and is rather complete. Material was obtained for the article in the Supplement on prehistoric irrigation.

Four wicker settees have been placed outside the east wall of the Casa Grande. It has been observed that a great many visitors. It has been observed that a great many visitors take advantage of these chairs while listening to the Ranger.

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# ENGINEERING REPORT

Several months ago according to the Monthly Report "the Engineers moved White Sands National Monument." This month, however, we have no such alarming engineering activities to report, for the Engineers, instead of doing the moving, are getting moved.

Associate Engineer Jack Diehl arrived at Casa Grande the first week in June to replace Walt Attwell. Walt in turn replaces Mr. Diehl at Sequoia National Park. So long, and good luck, Walt---we enjoyed working for you. Mr. Diehl and Walt immediately set out on a two weeks tour of the Southwestern Monuments.

Assistant Engineer Gordon was transferred to Zion National Park.

After spending s week with his party at Mesa Verde doing some work for Associate Engineer Hamilton, he left the Southwest to resume his new duties.

Transitman Howard Leslie was sent to Grand Canyon National Park to take charge of road construction.

Transitman Andrew Clark, having finished his Topography Survey of Frijoles Camyon at Bandelier, moved with his party to Chaco to run out the new fence line.

In the Office we have completed maps on "The Ruins Survey" showing the walls recently discovered at Tumacacori National Monument. Also maps on proposed "Boundary Extension, Montezuma Castle National Monument," "Fence Improvements, Pipe Spring National Monument," "Boundary Extension, Tonto National Monument," same for Wupatki National Monument. For Tumacacori we have also prepared a map of the "Proposed Water System."

Other engineering activities are covered intthe Project Superintendents' reports for Bandelier and Chiricahua National Monuments.

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# NATURALIST DIVISION

By Robert H. Rose,
Park Naturalist

This marks the re-appearance of a separate report on museum and education activities. For some months in the past activities along these lines were reported under individual Monuments, or were treated briefly inder "Southwestern Monuments General" which was usually prepared by the Park Naturualist. Personnel of the Naturalist Division has generally given assistance in the preparation of the Southwestern Monuments Monthly Report and will probably continue to do so, but the filling of the new position of Junior Park Naturalist, Southwestern Monuments, is going to make a continuing program of museum and education activities possible. Hence it seems that *now* is the desirable time to start organizing a separate report to show the constant progress we are going to make in general educational work.

Before going into detail regarding our activities for June it is well to point out that the position of Junior Park Naturalist is not to be filled until sometime after July 1st and that we have been extremely short on personnel during the month. Despite this fact, it appears that progress along some lines has been made.

## The Staff

The Park Naturalist was at Headquarters at Coolidge from June 1st to June 22nd, inclusive. Remainder of the month he devoted to investigation of proposed National Monument areas to which further reference will be made.

On June 24 Junior Park Naturalist Dale S. King returned from Berkeley where he has been on duty at the Field Division of Education since April 24. His work there consisted in supervising preparation of museum exhibits for Southwestern Monuments. In the Supplement for this report a more detailed account of Mr. King's work in Berkeley will be found.

Ranger Louis R. Caywood has devoted much time to Naturalist activities during the month in addition to the usual guide duty and this occasion is taken to express appreciation for his cooperation.

Museum Equipment, Supplies, and Materials

Three sliding panel map and chart cases were received from the Field Division of Education, Berkeley, during the month. These cases will be used in Monuments having cramped museum space. These cases have the advantage of occupying small space compared with the number of illustrative materials that can be exhibited in them.

Requests for "Birds of New Mexico" have come from a number of Custodians and Rangers during the Month. Tumacacori, Bandelier, Montezuma Castle, El Morro, Chiricahua, Tonto, Walnut Canyon, Pipe Spring, Chaco Canyon and Aztec are among the Monuments that should have this volume for ready reference at least all during the summer season of heaviest travel. An order of six copies of this valuable reference has been placed. These volumes will become a part of the circulating library and will thus be made available to all needing them.

Labels for Nature Trails at Chiricahua have been forwarded to Ranger Powell for installation. Chiricahua has several miles of beautiful nature trails abounding in scenic, geologic, and botanic interest. These labels should perform a real service to visitors there.

Museum cataloguing at Casa Grande has been started several times during the past two years only to be interrupted by acute personnel shortage, field trips, or other reasons. However, some 100 cards were completed fully up to June 1st. During the past month Ranger Caywood and the Park Naturalist spent the equivalent of two full days, at odd times, getting this work well under way again. About 500 additional cards have been numbered and the numbers entered on the museum pieces. Considerable cleaning, washing of Indian baskets, and other work was done at the same time. Entering detailed descriptive data on all of these cards will be an extensive task. Upon filling of positions now vacant, it is hoped that this project can be carried steadily to completion without further delays.

In order that plant and flower specimens might better be prepared some botany presses have been requested through the Field Division of Education, Berkeley.

Publications, Circulars, Correspondence, Miscellaneous

The Park Naturalist prepared Museum and Education Series No. 3 during the month entitled "Reviewing Our Public Contacts Problem" for distribution among Southwestern Monuments personnel. This is the beginning of the busiest travel season in most of the Monuments to the north and now seemed a most appropriate time to stress the importance of trying to improve our public contacts services.

About three days during the month were spent in the preparation of personnel papers for permanent and temporary positions in Southwestern Monuments. Approximately two full days were spent in catching up on routine correspondence while the spare time during several days was spent assisting in the organization of monthly report material for the Southwestern Monuments Report for May. Relief duty and public contacts work during June have taken the equivalent of approximately seven full days.

Junior Naturalist King prepared copy for a circular on relief work and vacation schedules. It is expected that the new Junior Naturalist to be appointed will do a great deal of relief work at various Monuments during the vacations of Custodians and Rangers.

During the month vird banding and natural history records were kept current by Ranger Caywood.

Special Lectures

On May 23rd the Park Naturalist gave an illustrated talk before the members of the Tucson Rotary Club with an attendance of about 110. There followed and invitation to give the program at the meeting of Kiwania on June 14th. This engagement was met and the attendance numbered 65.

Investigation of Proposed National Monument Areas

Toward the latter part of June all plans were completed for the investigation of proposed National Monument areas in western and southern Arizona. The Park Naturalist was assigned to accompany the party which included State Parks Supervisor Evison of the Washington Office, Regional Geologist Wegemann of the Oklahoma City Office, Assistant Wildlife Technician Russell Grater of the Southwestern District, and Assistant Landscape Architect Keeling of Chiricahua National Monument. This party left Phoenix on the morning of June 23rd. After visiting the Palms area in the Kofa Mountains, Mr. Wegemann left the party proceeding to Santa Fe and Colorado. The remainder of the party continued their work by visiting a proposed area south of Ajo. Most of seven days was devoted to visiting these areas on the ground. On June 30th the assignment was completed with an airplane flight. Supervisor Evison, the Park Naturalist, Staff Photographer Newcomer of the Arizona Republic, and the pilot comprised the air survey party. This investigation is the subject of a detailed

report now being prepared. It is well to say here that a number of definite conclusions regarding the proposed areas resulted from these studies.

Closing

Thus ends a very busy month of June in Naturalist activities. During July we hope to get all vacant positions filled. Once this is done the Naturalist Division will be situated to initiate and pursue to completion a number of definite projects and to work out a proper administration organization scheme. Before July is over it is expected that the Headquarters Naturalist Division will consist of the Park Naturalist and two Junior Park Naturalists. Public contacts and other naturalist work is such a fundamentally important phase of duties of Custodians and Rangers as to make closest co-operation at all times a necessity. We hope to be of more direct help than ever before to men in the field and we invite your assistance in the submission of naturalist activities from your Monument that they might become matters of record.

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# CHIRICAHUA ARCHITECT REPORT

(Partial report of Assistant Landscape Architect Edward L. Keeling).

The month of June has been very active, inasmuch as several new projects have been started and much work accomplished. Among the projects now under way are the following: Grading and landscaping the trail at Sugarloaf Mountain, Road Dips at the Comfort Station in the Campground, and the masonry work at the Comfort Station in Headquarters Area. Work is also progressing on the Twin culvers, foundation being laid and stone work going ahead.

....A landslide on the Massai Point road June 11 poured about 900 yards of rock material into a cut about one mile below Massai Point, blocking the road completely, and stranding a party of tourists who had to leave their machine and walk to camp. This slide reemphasized the necessity of properly backsloping portions of this road, and removing the hazard of overhanging and loose rocks. Some work has already been accomplished under the direction of the Camp Superintendent.

....June 23, upon telegraphic orders from Mr. Pinkley, I left camp for the Kofa Mountains and Organ Pipe Cactus regions, to accompany the inspection party making a reconnaissance for possible National Monuments. I returned from this trip to arrive at camp at noon, June 30.

....Work has begun on Dip No. 2 at the Camp Grounds. The plans call for a dip 120 feet in length, which, in my opinion, is a length not justified by the terrain. After careful consideration, and a corroborating opinion by Mr. Stevenson, it appears that a length of 60 feet will be ample. Mr. Pinkley appeared to agree with me, and if agreeable to Resident Landscape Architect Langley, we will proceed with the 60-foot dip.

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# GRAN QUIVIRA

By W.H. Smith, Custodian

Travel has been rather slow for the past month. I have registered only 386 visitors entering the Monument in 101 vehicles---somewhat below my expectation for the month of June which is generally the top month here. It has not been surprising, however, considering that when one goes from here to Mountainair the road is very bad. It is in worse shape than it has been for three years. The state sent a grader and a caterpillar out to maintain it about a month ago, andthey ran the blade over about five miles of it and then work stopped.

Among those registered last month we find Mr. Charles A. Richey and wife and Mr. Thomas E. Carpenter, both of the Branch of Plans and Designs. While here Mr. Richey and Mr. Carpenter located the proposed comfort station. Late in the afternoon of June 7, Mr. Walter G. Attwell investigated the water well work here, and he and Mr. Brown went over the sewer line work.

The sewer line work here under the supervision of Mr. Harry F. Brown has almost reached completion. While here Mr. Brown has constructed four four-foot manholes with two-foot covers, has laid 400 feet of sewer tile , and moved 225 yards of material in ditching for this. He built a septic tank seven feet by 11 feet by five feet, and also a drain. Moved 55 yards of material in excavating for this. Also an aeration trench 60 feet long where he was obliged to move 70 yards of material. He is now running a line from the Custodian's Quarters to the cistern at the southwest corner of the old residence to catch the water from both houses.

The water well here has been quite a problem as they had to drill to a depth of 840.3 feet before they struck water. Then they drilled 35 feet deeper to insure a good supply of water and get to a good solid bottom. At 875.3 feet they stopped drilling and tried the bailer with 125 feet of standing water, By running a 15 gallon bailer three hours they lowered the water to 75 feet. The well stood a seven gallon test without lowering the water.

The well is cased from top to bottom with five inch casing. The last 35 feet drilled was all water bearing formation and the volume of water increased all the way until they struck silid rock bottom. Mr. Sheets, the driller, is a very agreeable man and is very particular to try to carry out his agreements. He is a man that I can recommend to be a good driller and a first rate gentleman.

I am using the little leftovers of the regular appropriation this week to do a little much needed repair on some wall work and clean out some of the debris which has fallen into excavated rooms. This makes them show up so much better and it shows the little fireplaces more clearly.

GRAN QUIVIRA (CONT.)

Weather conditions here the last month have been very disagreeable for travel. There has not been any rainfall and it continues to be hot and windy. It is getting so dry that about all the vegetation of spring has dried up and died. If we do not get some rain before long, farming in this district will be a failure again this year. Just at the present time it is almost as dry as it was this time last year. It is beginning to look as if we were in for another drouth.

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CLOSING Taking it up one side and down the other, it has been a pretty good month and I think the reports from the men in the field reflect the fact.

As Bob Rose intimates, we are putting our heads together and when we fill the vacant places anong our personnel we hope to put into execution some new ideas and revive some old ones which we have had to put on the shelf due to our shortage of man power. We are looking forward to the new fiscal year with a great deal of pleasure; the new setup will make us shave the corners, but we are used to doing that among the Southwestern Monuments.

Cordially,

Frank Pinkley

Frank Pinkley
Superintendent

# THE SUPPLEMENT TO THE MONTHLY REPORT FOR THE SOUTHWESTERN MONUMENTS

WHERE WE ARE SERIOUS
—BUT NOT TOO SERIOUS

# PREHISTORIC IRRIGATION IN THE SALT AND GILA VALLEYS

- LOUIS R. CAYWOOD -

The present development of irrigation in the Salt and Gila valleys has so completely changed the status of these two valleys that there is no comparison between the old -- the dry desert -- and the new -- well kept fields. Ecologists would say that this is man's triumph over his surroundings. However, this new era has only come into being because of two major dams that have been built, the Roosevelt dam on the Salt River and the Coolidge dam on the Gila River. As a part of the resulting irrigation projects there arose the need of miles and miles of canals to properly distribute this water to the land owners. Engineers laying out these canals found that an early people had already laid out an elaborate system hundreds of years before the white man had come into this region. So well laid out were these canals that in some cases the same course was used by modern engineers.

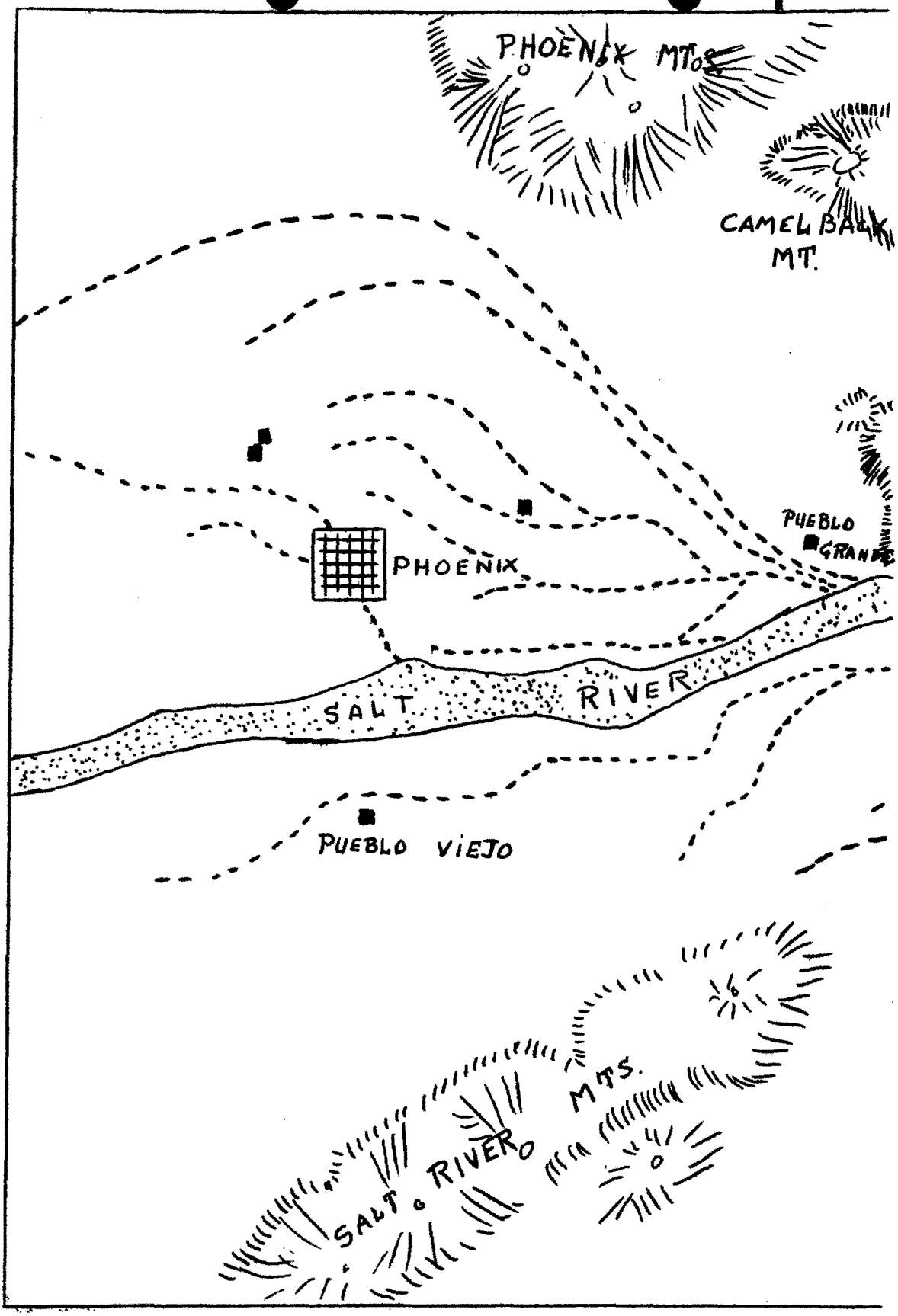
Many interesting things have been found out about how and in some cases why such elaborate canals were dug. The Hohokam, the prehistoric inhabitants of southern Arizona, no doubt used very elementary methods in laying out such canals. The biggest problem was not to get the grade, but was to clear the heavy growths of mesquite and ironwood and to remove the dirt and in some cases stone to make way for the water to flow to a lower level. The water itself was undoubtedly used in the digging of these canals by letting it soften the ground ahead of the actual digging. The task of clearing the mesquite and ironwood trees with stone axes is no mean job. And the digging of canals which in some cases were as much as fifty feet wide by fifteen to twenty feet deep was a tremendous undertaking. Some of these canals show evidence of an inner canal or channel which would concentrate the water into a very narrow space so that in dry

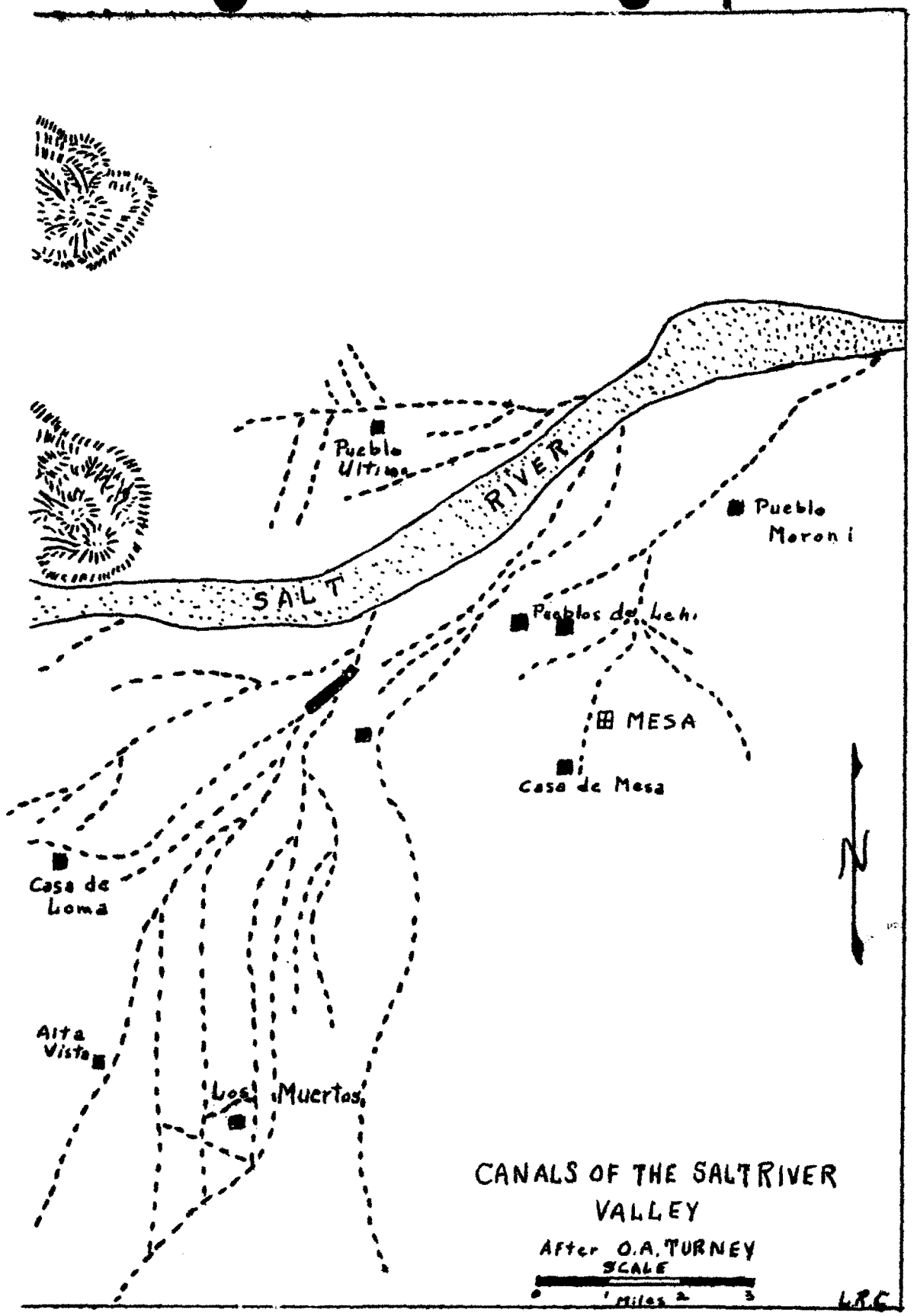


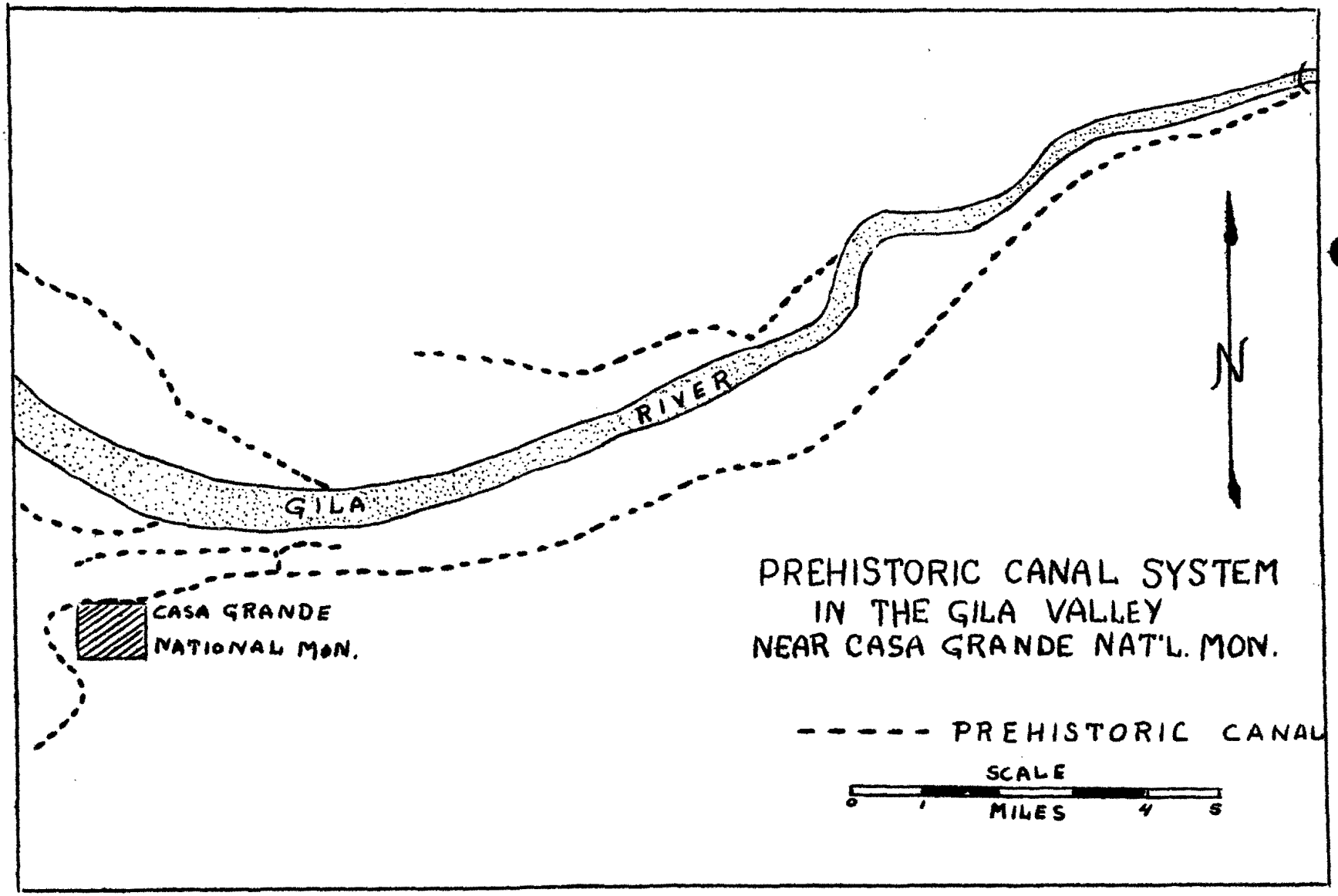
Cross section showing inner channel.

times or times when they were not using the canals for irrigation purposes there might be water for drinking in some of the pueblos some distance from the river bed.

The tools used in digging canals were the stone hoe, as it has been called, a flat piece of stone which was used to scrape up the dirt which


PHOENIX MTS.
CAMELBACK MT.
PUEBLO GRANDE
PHOENIX
SALT RIVER
PUEBLO VIEJO
SALT RIVER MTS.


Pueblo Ultimo
SALT RIVER
Pueblo Moroni
Pueblos de Lehi
MESA
Casa de Mesa
Casa de Loma
Alta Vista
Los Muertos
N
CANALS OF THE SALT RIVER VALLEY
After O.A. TURNEY
SCALE
Miles
LRC


GILA
RIVER
N
CASA GRANDE
NATIONAL MON.
PREHISTORIC CANAL SYSTEM
IN THE GILA VALLEY
NEAR CASA GRANDE NAT'L. MON.
PREHISTORIC CANAL
SCALE
0
1
MILES
4
5

had been softened by water, and perhaps a digging stick might well have been used in some cases. The wet dirt was removed from the ditch in baskets and possibly bags.

Where these old canals originally left the river they are now in places as much as thirty feet above the present water level. This would indicate that among other causes the lowering of the river level in the Salt and Gila rivers brought on the decline and final exodus of the Hohokam civilization.

The canal systems of the Salt and Gila valleys were traced out a number of years ago before the present system of canals and the cultivation of land had almost obliterated all traces of the old canals. Foremost in the tracing of these old canals in the Salt River Valley was Mr. Herbert Patrick. Dr. Omar Turney later took over the study. More than 240 miles of main canals were found. In the Gila Valley in the vicinity of Florence and the Casa Grande Ruins Dr. Byron Cummings, Emil Haury and A. Larson traced out more than fifty miles of canals.

Today very little evidence remains of these canals. Modern agricultural methods demand that all ground be leveled in order that it be properly watered. So the evidence of the prehistoric canal system is fast disappearing.

The accompaning maps show the miles of canals that were traced in earlier years. The canal system of the Salt River Valley was drawn from a map by Dr. Omar Turney. The canals of the Gila Valley were taken from a map presented by Dr. Byron Cummings of the Arizona State Museum at Tucson, Arizona.

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## TALL CACTUS

....The Southwestern Monuments reports are very interesting and enlightening. The Tonto cactus list and the measurements of the saguaros especially so, as we claim to have the tallest one here in Arnett Canyon. It is 49 feet by actual tape measure. It is close to a bluff where one can stand and hold the tape on the top, while an assistant goes below to read the tape at the first root, which is above the surface of the ground. That figure is a challenge to Ranger Powell at the Saguaro Monument. He has a very good idea to develop:---the classification garden according to the outline of a tree. If we can aid him in any way, call on us.

-----Extract from letter from Fred Gibson,
Boyce Thompson Southwestern Arboretum
to Frank Pinkley, Superintendent,
Southwestern Monuments

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# WOOD BORERS AT TONTO

By Charlie Steen

Dear Boss: I have tried to get one of those wood boring beetles for you. I have just spent some 15 or 20 minutes blowing cigarette smoke into a piece of timber. The operation was successful but the smoke blower was so startled by the sudden appearance of the bug that he nearly dropped the wood and ket the beetle get away.

I am sending you the timber so that you may see the type of hole which is bored. The beetle itself is a large black one and makes quite a buzz while flying----particularly so when he suddenly emerges from a hole into your face. I am of the opinion that there may be eggs, or possibly larvae in the tubes. Perhaps it would be advisable to split the wood in order to find out. So far I have found only three pices of wood in the Lower Ruin which have been attacked by this beetle, and as all three were lying loose, I have brought them down to the house.

There are, however, a number of timbers in the Upper Ruin which have been bored by these beetles. If they should bore into the rafters which are still supporting adobe, the structure would be materially weakened.

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The wood has been sent to Chief Forester Cook, Charlie, and soon we will get a method outlined for the preservation and protection of your vigas.

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# "BOOK OF MAGIC"

Note from Charlie R. Steen

....I have just read an article in the American Magazine for July entitled "Book of Magic", which deals principally with the Grand Canyon and the Hopis. It's the darndest mixture of fiction and misinterpreted fact which I have received in a long time. Articles of this sort explain some of the wierd fancies which easterners, and even some Arizonians, entertain about this country.

He speaks of ruins which have beem visited by only one white man, a gun-toting guide of his whom I suspect is entirely fictional, petroglyphs of ibexes, monkeys, and mastodons in Havasupai Canyon, "black" flint arrowpoints, the method of manufacture of which is unknown, and relates that, in the Petrified Forest, "On the long-dead trees we sat, knocking off chunks."

He is either a liar or a vandal---possibly both. There ought to be a law against articles of this type....

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Charlie also asks about making a catalog of his museum articles. We are trying very hard to complete catalogs of all Monument museums, and are sending him standard catalog cards to be filled out. Other Custodians desiring such cards and file boxes, please communicate with Headquarters.

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# TONTO BIRD NOTES

By Charlie R. Steen

BIRDS BREEDING IN TONTO NATIONAL MONUMENT, APRIL-JUNE, 1935:

Lophortix gambeli gambeli--Gambels Quail
Zenaidura macroura marginella--Western Mourning Dove
Melopelia asiatica mearnsi--Western White-winged Dove
Carthartes aura septentionalis--Turkey vulture
Buteo borealis calurus--Western Red-tailed Hawk
Falco sparverius plalaena--Desert Sparrow Hawk
Centurus uropygialis--Gila Woodpecker
Colaptes cafer collaris--Red-shafted Flicker
Aeronautes saxitalis--White-throated Swift
Myiarchus cinerascens--Ash-throated Flycatcher
Sayornis sayus--Say Phoebe
Corvus corax sinuatus--American Raven
Helodytes brunneicapillus couesi--Cactus Wren
Catharpes mexicanus conspersus--Canyon Wren
Salpinctes obsoletus--Rock Wren
Mimus polyglottos leucopterus--Western Mocking Bird
Icterus parisorum--Scott Oriole
Icterus cucullatus nelsoni--Arizona Hooded Oriole
Richmondena cardinalis superbus--Arizona Cardinal
Carpodacus mexicanus frontalis--House Finch
Astragalinus psaltria--Arkansas Goldfinch
Astragalinus psaltria hesperophilus--Green-backed Goldfinch
Phainopepla nitens--Phainopepla
Calypte costae--Costa Hummingbird
Piranga rubra cooperi--Cooper Summer Tanager
Amphispiza bilineata desericola--Desert Black-throated Sparrow
Piranga ludoviciana--Louisiana or Western Tanager
Vermivora luciae--Lucy Warbler
Tyrannus verticalis--Arkansas Kingbird
Vireo belli arizonae--Arizona Least Vireo

BIRDS SEEN ONLY OCCASIONALLY:

Geococcyx californialis--Road Runner
Chordeiles minor henryi--Western Nighthawk
Chordeiles acutipennis texensis--Texas Nighthawk

I have been unable to identify the owls and other night birds. Of the thirty two birds in the list I have been able to see the nest and eggs of the young of 30. I believe the other two---Road Runner and Nighthawks---breed in this vicinity. I am starting this week to study the night birds.

ON THE PRESENCE OF NESTING LOUISIANA TANAGERS AT TONTO:

In speaking of the country near Roosevelt Lake, on June 6, 1917, Swarth (1920) says, "From a thicket of mesquite several Western Tanggers emerged, belated migrants, looking very much out of place in this hot

Desert. Bailey (1928) gives the breeding range of this bird as in the Canadian and Transition Zones.

On the evening of May 27 I saw a male Louisiana Tanager just below the mouth of the canyon leading to the cliff dwellings and four days later evidently saw the same bird at the same place. Since that time I have noted a pair of these birds at the water trough in front of the Roosevelt postoffice on several evenings. To all appearances these birds are nesting in the vicinity, although I have not seen any nests. Perhaps the proximity of the timbered section of the Sierra Ancha may explain their summering at this low altitude.

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# TUMACACORI TREASURE

Following is an extract from a booklet prepared by Frank Pinkley on Tumacacori about 1922:

The Treasure

Almost all vandalism (at Tumacacori) can be traced to the treasure hunters. For generations tales of buried treasure have hung around the Mission. If one is to believe all these tales, the padres spent all their time in mining and reducing immense amounts of gold and silver and the church was rich beyond computation.

Most of the vandalism has been done, not on any system, but on "hunches". A scoundrel with a pick and shovel seems to have felt free to walk into the church any day and dig here, there, and yonder without rhyme or reason. It never seemed to dawn on his dull brain that if the padres were hard pressed and decided to abandon the Mission in haste, they would hardly try to secrete any valuables by tearing up a perfectly good cement church floor where the soft earth and broken material would be sure to tell the tale to the first visitor, when they could go out into the garden and dig a hole in the fresh turned earth where a newly covered hole would merge into the rest of the soil and would not be noticed 12 hours after the work was completed.

One school of treasure hunters are trying to use some system in their work, but so far, at least, have not attained any success. In my work I have happened upon four copies of a document in the hands of different treasure hunters, from which they were constructing charts with which they were expecting to find the mines and treasure of the padres.

A copy of this manuscript might be of interest, and I will insert a fairly accurate translation here, leaving the distances blank at the request of the person who allowed me to transcribe this copy.

The Manuscript:

"One document which dates of the years 1559 to 1658. It expresses as follows:

"The mine which is called 'Virgin of Guadelupe' close to Tumacacori, it will be found at ___ leagues, measured from the great door of the church to the south, and from the waters of San Ramon measured to the left ____ varas to the north. About ___ varas before arriving at the mine is a black rock engraved with a chisel. On the rock you will read the inscription

$$\frac{CC \mid D}{T \mid D}$$

and ___ varas from the cross you will find the treasure and that is what the letters signify.

, "At ___ varas after you pass the black rock you will find a small monument in the direction of southwest. It is two peaks which were demolished by powder and fell over the mine in great masses. Without more testimony than the powder put in the cliff the place was abolished forever so people could pass over it and it would never be seen.

"In a certain place exists one square of ___ varas in a square inside and outside the mine and the treasure is in the middle of the square. In the mouth of the mine there is silver and gold and white silver. The gold was brought from the mountain of Guachapa close to Tubac. The silver consists of 2,050 bars melted together with 905 of virgin silver. The whole amounts to the value of about 50,000,000 (pesos?).

"Ahead in the same direction to the south at ____ leagues from the mine of Guadelupe there is a pass which is called 'Deep Water'. It has at the south, by the road at the pass way, a town which opens out at the town of Santa Cruz. The mine will be found when you get in the pass. Below the said pass way are 12 arrastras and 12 patios. There is one tunnel of 30 varas which has the name 'Purisima Conception' engraved with a chisel. A tunnel runs to the north and about 20 varas ahead there is another tunnel, small about 100 varas, and it runs to the west. The ore is yellow. It runs $\frac{1}{2}$ silver and 1/5 part gold.

At ___ varas there is a mine in the direction of north. You will find in this native silver from one pound to at least five arrobas, the greatest. This mine will be found covered or hidden by a copper door; it has enormous iron bars, everlasting. The copper was brought from the neighborhood of the mountain of Guachupa in the neighborhood of Tubac, smelted in Tumacacori and was taken with oxen to the mine in the years 1538 to 1658.

From the mine 'Purisima Conception' to the mountain of Our Lady of Guadelupe there are ___ leagues and half way on the road in the same direction there is another mine. It will be found by the name 'Opata'. It has a tunnel 400 varas long and it runs to the south. The metal of this mine has a lime contact, and about 300 varas from the mouth of the mine there are some inscriptions and furthermore there is along black mesa from the side where the sun rises and sets. Follow a deep canyon to a rock slide. You will see one inscription made by a bar. Here is a hole $\frac{1}{2}$ vara deep and it will last forever. Opposite, to the south of the canyon, you can see the mark of

the gold. At the side of the canyon to the north of the mark we have____ leagues from mine Opata to Tumacacori. The mark is to the west.

On the other side of the mountain you will find the mine of Our Lady of Guadelupe. You will find the letters engraved 'P.L.R. 12 Dec. 1508.' This mine was found by chance and all her interests remain in charge of Tumacacori. In this mine will be found a copper box. It has a key hanging on one corner. There is a set screw which you open and then there is a rod which you pull out and open the box. There will be all the maps and the great treasure.

If any one by chance will have the great fortune to find one of the mines he shall be obliged for the good of his soul to give 10% to the mother church.

In the year 1558 belonging to Tumacacori was a mine by the name of San Pedro which you will find ___ leagues from the mine Isabella. The river is to the north ___ leagues and the mine is close to some black rock at the point of the mountains. From this point a trail goes to the mine San Pedro in a line with the line of the mountains at a point of the bar. The mine is ___ leagues from the side door of the church to the west and when the sun rises it is directly in the mouth of the mine, and from this mine you can see the town of Arivaca.

From the Virgin Guadelupe it is ___ leagues to the mine San Pedro. From one to the other there is a deadly sign. There is a landslide of about ½ vara from the top to the bottom of the canyon. There is a trail that descends from the mine San Pedro. It comes down to the Virgin Guadelupe in the direction of the south to the mine of San Ramon. The eyes will be engraved in one rock. In the mine of San Pedro will be found enormous slabs of virgin silver. There is a wooden door. To the west there is a landslide and in it is a deposit, and to the east there are others, and at a certain place there are three deposits containing all pure virgin silver.

And notice is given that amy person who finds this mine will be obliged to give to the mother church 10% and repair this church, and the Lord will bless his soul."

(The following notice is appended to the copy of one document which I saw.)

"Notice: The original of this document was in the archives of the parish of Magdalena, Sonora, and from there it was taken by a priest to the museum of Paris."

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It will be noticed at once that the dates of 1558 to 1658 given in this document are entirely too early. Tubac, Tumacacori, Arivaca, and several of the names given here do not appear in history until after Kino's

first visit in 1691.

Yet the internal evidence points to the fact that all the copies of this manuscript which I have seen came from the same master document. On the face of it it looks like a hoax, yet I know two or three people who believe earnestly that it is an honest document and points the way to real mines and treasure."

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TWO RECENT LETTERS:

Department of the Interior
National Park Service

June 10, 1935

Gentlemen:

It has been called to my attention that during recent government excavations at Tumacacori National Monument, located south of Tucson, Arizona, a quantity of silver and gold bullion was discovered. The excavation was being performed within the walls of the old mission. If my question is in order, I would like to know if the above rumor is true.

I own some property close to the old Mission and at odd times have carried on operations in search of the bullion "reputed" to have been buried in that vicinity. If government excavators ahve found this bullion, you can save me a lot of unnecessary digging by informing me of the facts.

(Signed)

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Washington, D.C.
June 19, 1935

Mr. Blank
___ Avenue,

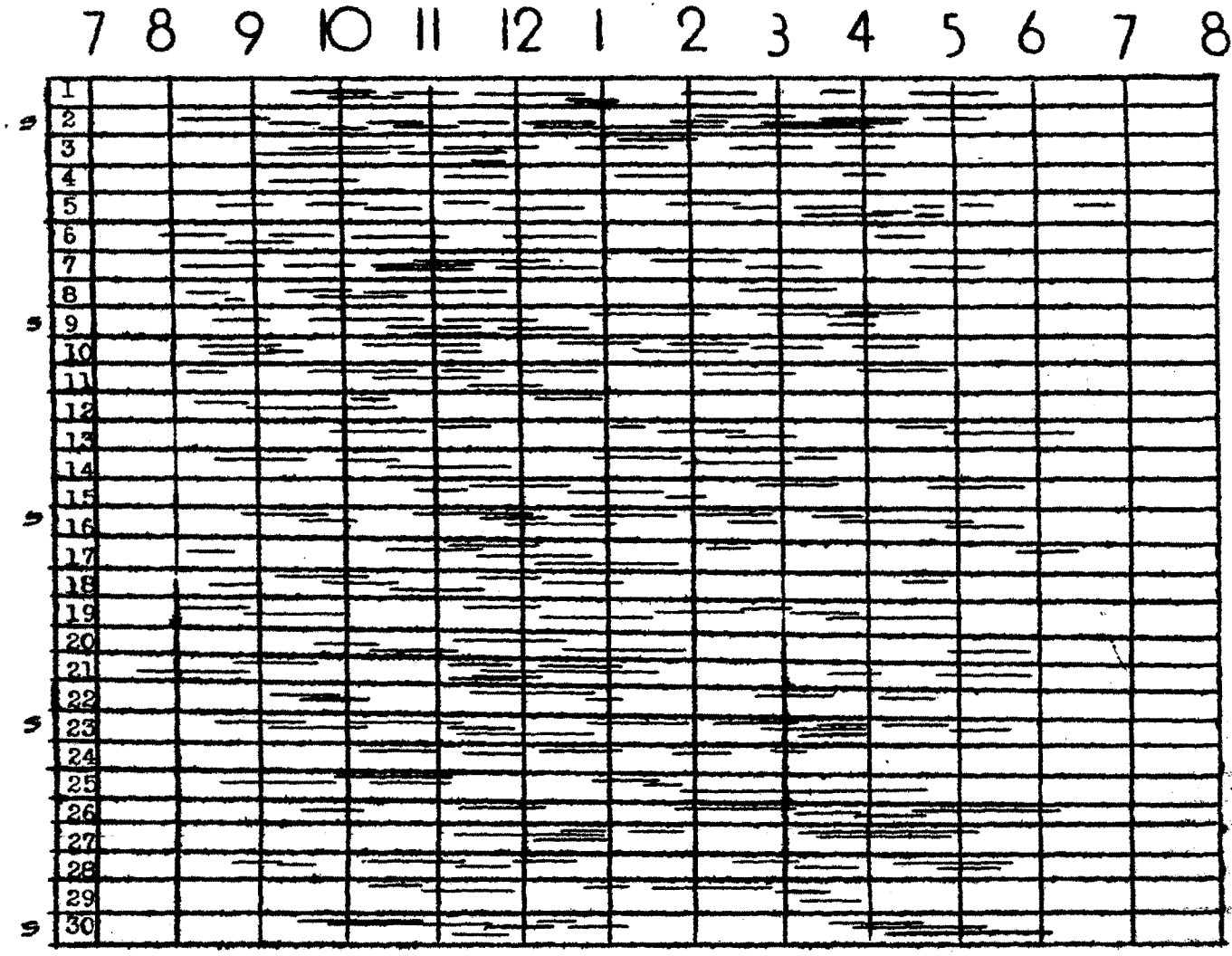
Dear Sir:

The National Park Service has received your letter of June 10. It is astounding how the rumor of buried treasure persists in connection with Tumacacori Mission. Previous to government operation the area had been searched continuously with only disappointment for the searchers. During the past year the Government has done some excavation so as to present better the historical picture. To date the finds have been limited to utensils and experience lends no support to the idea that buried treasure exists. It is the firm belief of all Government men best able to know that the rumor about bullion is "pure fiction" and that disappointment and wasted time and energy await everyone who pursues this unfounded rumor relating to buried treasure in this area.

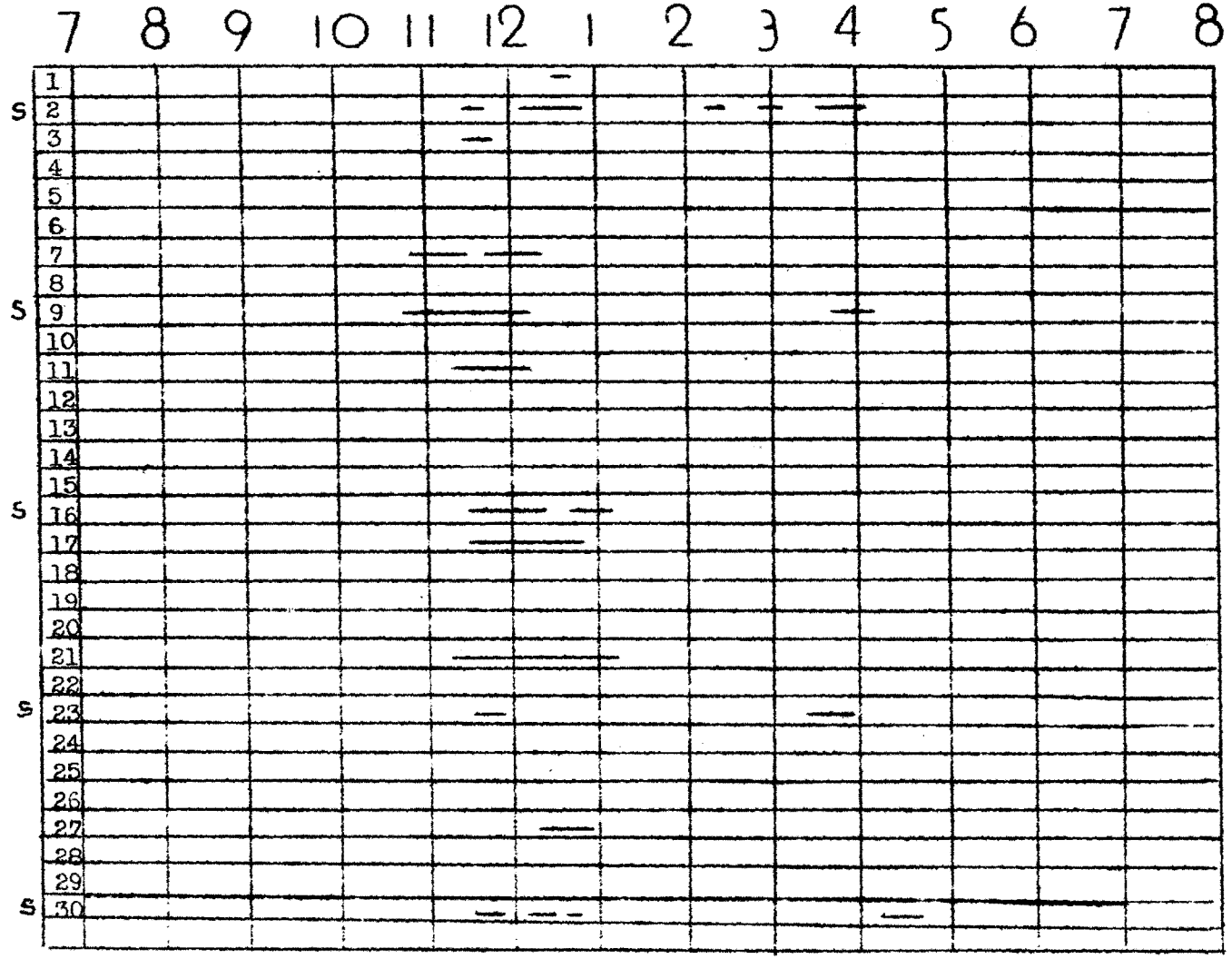
Very truly yours,

Arno B. Cammerer, Director, N.P.S.

# CASA GRANDE JUNE TRIP CHART



# CASA GRANDE POOR SERVICE CHART-JUNE



# THE BERKELEY LABORATORIES

By Dale S. King

On April 22, I left Headquarters for Berkeley, California, where I had been detailed on special duty in the Field Division of Education museum laboratories. Perhaps a general description of the laboratories and the work done there will be of interest to the men in the field and will serve to show ourbtieup with Berkeley and how they can serve us in our museum and educational needs.

The Field Divison of Education has tackled a whale of a problem and is doing an excellent job toward solving it despite many hindrances and a great handicap in not being able to obtain sufficient supervisory personnel.

Work is done in three buildings: Hilgard Hall on the University of California campus, the ECW Laboratory on College Avenue, and the rented Federal Land Bank Building just off the campus.

Hilgard Hall is, of course, permanent headquarters of the Educational Offices and houses the executive officers of the setup: Ansel F. Hall, Chief od the Field Division of Education; Dr..Ralph Beals, Assistant Chief; Mr. Montgomery, Purchasing Officer; secretaries, etc. These men have the terrific task of organizing the whole program, keeping it running, an attending to the million and one difficult problems that arise in such a complex situation.

Workers at the Laboratories fall under six classifications: CCC, ECW, PWA, SERA, FERA, and EEP. The CCC boys and their ECW supervisors (although perforce too scanty) provide the backbone of the organization, because they are more or less permanent and can be depended upon to finish a project once started. A small group of PWA artists and sculptors do remarkable work, but PWA money is very scarce, and this group is necessarily very small. Some good results can be obtained from State ERA and Federal ERA workers, but each one usually is assigned for only three to six or seven days each month which means that they must be used on "hack" projects which can be started and stopped with impunity, else the work will suffer. The EEP (Emergency Educational Program) workers number only six, and have to be used in a teaching capacity---instructing workers in painting, casting, modeling, etc.

Altogether there are about 200 persons working at the laboratories. You can imagine the problems arising---payrolls, supervision, trying to select workers according to their special abilities, if any; purchasing the widely varied list of materials needed; keeping paper work up, particularly when half of the workers change every few days.

ECW Laboratories on College Avenue: Here Mr. H. Smith, technician, directs about 15 CCC boys and about six or eight carpenters. The carpenters have a fairly complete set of mill machinery and construct museum storage cases, lantern slide cases, trays, botanical specimen cases, etc.,

---in fact any wood work orders that come in from the field. The CCC and ECW workers make relief maps according to the new and efficient methods evolved there. They also make bird traps, stamp and paint aluminum labels, model and cast figures, and are prepared to produce almost any type of handicraft. There is an efficient photographic laboratory.

Land Bank Building: Here are the majority of the workers. In the basement are additional carpenter shops, two store rooms, the label-printing shop, and the lantern slide mounting department.

On the first floor about 30 to 50 SERA typists hammer away on bibliography cards which have been written by a dozen or so reasearchers who go through all library material available at the University. Bibliographies of all Parks and Monuments will be forthcoming soon---Yellowstone's was issued only a few days ago---some four volumes and more than 400 pages, comprising all the known printed references to the Park---books, newspapers, magazines. Many hundreds of cards are already assembled on the Southwest, and when our bibliography is complete, it will be a major step in the educational program of the Monuments.

Also on the first floor are the painters of relief maps and dioramas, order and supply department, lantern slide colorists, SERA supervisor's office, and the Accessories Department which makes all the miniature trees, shrubs, and grass which are used in dioramas and other exhibits.

The mezzanine floor is occupied by the Mimeographing and Book Binding Department.

On the second floor are rooms which house about 20 artists making maps, cartographs, charts, diagrams, and paintings to go in various museum displays. Here, too, are the sculptors' office, andoffice for the Foresters who make visibility maps, the etcher's workbench, and the office of Technician Arthur Woodward and whatever supervisory assistants have come in from the field.

This is probably enough to convince you that the place is huge and that there is a convincing bustle of efficient activity manifest at all times.

How can this Laboratory help your Monument?

Dioramas, elaborate and expensive displays, naturally have to wait for regular appropriations or PWA funds, but there are many projects which can be done with CCC or relief labor which you may obtain. If you want maps, cartographs, sketches, small carpentry or cabinet maker jobs, pictures framed, lantern slides made from negatives, aluminum botanical or field labels, small printed signs or labels of cardboard, bird traps, relief maps, small architectural models, models of animals or human figures, etc., work up your plan in complete detail, and shoot it to Southwestern

Monuments Headquarters. We will determine the advisability of ordering it and make the official order to Mr. Hall's Office.

The following projects were started, under way, or completed during my two months in Berkeley. Much of the material will be shipped within the next two months. Glance over the list and see if it does not give you some ideas:

1. Diorama, 8'x5'x3', showing Montezuma Castle with archaeological crew in foreground. On display at San Diego Exposition.

2. Water color and tempera scenes for Ecology, Animal Foods, and Vegetal Foods cases for Aztec National Monument. (PWA project).

3, Map and Chaco kiva model for Comparative Culture case at Aztec. (PWA project.)

4. Twelve museem storage cases for textiles, basketry, and bird and small mammal study skins. For Headquarters, Aztec, Bandelier, Canyon de Chelly, Casa Grande, Chiricahua, Navajo, Tumacacori, White Sands, Wupatki.

5. Twenty two-compartment bird traps for Monuments which have established bird-banding stations: Casa Grande, Canyon de Chelly, Navajo, Wupatki.

6. Six woodpecker traps for the same Monuments.

7. About 40 lantern slides for headquarters, and coloring of 14. Berkeley Office can make the slides, but can notcolor more at the present time.

8. Two hundred trays for sherds and artifacts. For headquarters and various Monuments.

9. Two lantern slide cabinets. One for Headquarters; one for Aztec.

10. Approximately 2,500 metal cactus labels for Saguaro and all other Monuments wherein is found cactus.

11. 2,000 metal rods to affix same, and to be used if desired for labels already distributed to Bandelier, Walnut Canyon, El Morro, and Chiricahua.

12. Three pyrite mirror reconstructions for Casa Grande and, eventually, Tumacacori.

13. Model showing Pima house, kitchen, and store room, for Casa Grande. Now on display at San Diego.

14. Relief maps of Wupatki and Citadel portions of Wupatki National Monument.

15. Restoration drawing of Pueblo Bonito for Chaco.

16. Three maps showing distribution of Western Apache in 1850. For Tonto, Tumacacori, and Casa Grande.

17. About 15 signs for archaeological and botanical features along trails at Walnut Canyon.

18. Thirteen insect and dust proof vases for botanical specimens. For Aztec, Bandelier, Casa Grande, Chiricahua, Montezuma Castle, Tonto, Tumacacori, Walnut Canyon, White Sands, Wupatki, Canyon de Chelly.

19. Large map showing relation of Mission and ruins at Gran Quivira, for display at Gran Quivira museum.

**********

# "THANK YOU'S"

Lubbock, Texas
June 30, 1935

"....Would like to receive the monthly report here at the College of it would not be too much trouble to send it here. It is the most interesting and wide-awake report I have ever had the opportunity to read."

Carl A. Moosberg

(Mr. Moosberg will be remembered as the generous donor of a fine ceramic collection to the Casa Grande National Monument Museum.)

---

Smoki Public Museum
Prescott, Arizona

Mr. Louis R. Caywood
National Park Service
Coolidge, Arizona

Dear Mr. Caywood:

We wish to express our appreciation to you for your co-operation an help in making the opening of the Smoki Public Museum a success on Wednesday evening. The illustrated talk was a very decided addition to the program.

Very truly yours,

The Yavapai Archeological Society
Kate T. Cory, Secretary

CLOSING And so we close the month and the year and wipe off the slate and open up the new business for Fiscal year 1936. It seems to us this report carries considerable real information and as we look back over the last six months period and leaf through the other reports with which this will be bound we think we can see some real progress.

I might tell you here that we are trying out a plan of sending out a circular letter to the personnel of our district about once a month. Tentatively we called it the Broadcast, principally, I suppose, because that was what it wasn't and we couldn't think of any name that fit any better. It just goes to the home team, as it were, and is am attempt to cover the weak spot in our armor of being scattered so widely that we get to thinking of ourselves as single units instead of members of an organization. It is much more personal than the Report or the Supplement, and incidentally is giving signs of filling a real need. You will probably hear more of this Broadcast as time goes on.

We were glad to see from some press releases out of your office this past month that the idea of Reserve Monuments is taking hold and we may have one proclaimed in the near future. This will form a precedent and we will follow up with several offerings as soon as the way is made clear. Future issues of the Supplement may contain articles on such proposed reservations of our present plans work out.

Cordially,

Frank Pinkley

Frank Pinkley
Superintendent

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# SOUTHWESTERN MONUMENTS
# MONTHLY REPORT

## JULY 1935




DEPARTMENT OF THE INTERIOR
NATIONAL PARK
SERVICE

SOUTHWEST REGIONAL OFFICE
NATIONAL PARK SERVICE
LIBRARY

# SOUTHWESTERN MONUMENTS
# JULY REPORT
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# SOUTHWESTERN MONUMENT
# PERSONNEL

HEADQUARTERS Southwestern Monuments, Coolidge, Arizona: Frank Pinkley, Superintendent. Hugh M. Miller, Acting Assistant Superintendent. John H. Diehl, Associate Engineer. Robert H. Rose, Assistant Park Naturalist. Dale S. King and Louis R. Caywood, Junior Park Naturalists. Robert Cole, ECW Clerk. Eric Reed, Roving Ranger.

GENERAL FIELD MEN: Charles A. Richey and Harry Langley, Resident Landscape Architects. J.B. Hamilton, Associate Engineer. Andrew Clark, Topographer. J.H. Tovrea, Chief Engineering Aide. A.B. Pinkley, Howard Williams, Walter Smith, C.E. London, Carl Schmidt, Knox Borden, Rodmen.

FIELD STATIONS:

1. Arches---Moab, Utah. J.J. Turnbow, Custodian.
2. Aztec Ruins---Aztec, New Mexico. Johnwill Faris, Custodian. E.W. Lewis, Temporary Ranger.
3. Bandelier---Box 669, Santa Fe, New Mexico. Earl Jackson, Custodian. Jerome W. Hendron, Temporary Ranger.
4. Canyon de Chelly---Chin Lee, Arizona. Robert R. Budlong, Custodian. J. Douglas Harritt, Temporary Ranger.
5. Capulin Mountain---Capulin, New Mexico. Homer J. Farr, Custodian.
6. Casa Grande Ruins---Coolidge, Arizona.
7. Chaco Canyon---Crown Point, New Mexico. Thomas C. Miller, Custodian. Lewis T. McKinney, Temporary Ranger.
8. Chiricahua---Wilcox, Arizona. Charles E. Powell, Temporary Ranger.
9. El Morro---Ramah, New Mexico. E.Z. Vogt, Custodian. Alfred Peterson, Temporary Ranger.
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. Milton Wetherill, Acting Ranger.
16. Pipe Spring---Moccasin, Arizona. Leonard Heaton, Acting Custodian.
17. Rainbow Bridge---Rainbow Lodge, Arizona. No Custodian.
18. Saguaro---Tucson, Arizona. No Custodian.
19. Sunset Crater---Flagstaff, Arizona. J.W. Brewer, In Charge.
20. Tonto---Roosevelt, Arizona. Charlie R. Steen, Acting Custodian.
21. Tumacacori---Box 2225, Tucson, Arizona. George L. Boundey, Custodian, Martin Evanstad, Park Ranger.
22. Walnut Canyon---Flagstaff, Arizona. Paul Beaubien, Acting Custodian.
23. White Sands---Alamogordo, New Mexico. Tom Charles, Custodian.
24. Wupatki---Flagstaff, Arizona. J.W. Brewer, Acting Custodian.
25. Yucca House---Cortez, Colorado. No Custodian.

# CONDENSED REPORT

Coolidge, Arizona
July 1, 1935

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

Dear Mr. Director:

The Condensed Report on Southwestern Monuments activities for July:

TRAVEL

| | July, 1935 | July ,1934 | July, 1933 |
|---|---|---|---|
| Aztec Ruins | 1675 | 1691 | 1314 |
| Bandelier | 2092 | 1723 | ---- |
| Capulin Mountain | 5000 | 6000 | ---- |
| Casa Grande Ruins | 1198 | 1163 | 944 |
| Chaco Canyon | 672 | 384 | 2056 (?) |
| Canyon de Chelly | 165 | ---- | ---- |
| Chiricahua | 1766 | 1368 | ---- |
| El Morro | 381 | 472 | 293 |
| Gran Quivira | 950 | 404 | 436 |
| Montezuma Castle | 1847 | 1896 | 1361 |
| Natural Bridges | ---- | 46 | ---- |
| Navajo | 86 | ---- | ---- |
| Pipe Spring | 930 | 258 | 329 |
| Sunset Crater | 909 | ---- | ---- |
| Tonto | 324 | ---- | ---- |
| Tumacacori | 712 | 526 | 725 |
| Walnut Canyon | 1982 | 1822 | ---- |
| White Sands | 4755 | ---- | ---- |
| Wupatki | 268 | 90 | ---- |
| Actual reported registration | 25,710 | 17,483 | 8,195 |

The 13 Monuments which reported both in 1934 and 1935 showed an increase from 17, 797 to 19,473---1,676 visitors, or 9.4%.

The eight Monuments which reported both in 1933 and 1935 showed an increase from 8, 195 to 10,457---2,262 visitors, or 27.6%.

Thus, it would appear that 1935 as a travel year is 9.4% better than 1934; 27.6% better than 1933. The betterment over 1933 probably should be even more, taking into account the dubiously high figure reported from Chaco that year.

WEATHER

Weather has been far from normal in the Southwest this month. Cloudbursts occurred at Canyon de Chelly, Wupatki in the north and at Chiricahua

in the southern section. Northern New Mexico and southern Arizona seem to have experienced cooler weather than usual, while other sections have produced warm, dry weather broken by spotty showers. Gran Quivira in New Mexico seems hardest hit by dry weather---conditions there are as bad as last year.

Some hindrance to visitor traffic can be attributed to threatening weather and uncertain roads.

## FIELD TRIPS

Between July 9 and 18, Park Engineer Diehl and Naturalist Rose visited Bandelier, Chaco Canyon, El Morro, Canyon de Chelly, Walnut Canyon, Montezuma Castle, and Tonto National Monuments on a field trip concerned with engineering and educational matters.

On July 15, Junior Naturalist Caywood met Assistant Director H.C. Bryant at Douglas. They spent two days in Chiricahua, visited Tumacacori and Saguaro, and arrived at Southwestern Headquarters on the 18th. Dr. Bryant was accompanied on a trip to the Southwestern Arboretum at Superior, Gila Pueblo at Globe, and Tonto National Monument on the 19th by Superintendent Pinkley, Park Naturalist Rose, and Junior Naturalist King.

On the 19th, Caywood rejoined Dr. Bryant, taking him to Canyon de Chelly National Monument, returning to Grand Canyon by way of the Hopi villages. From the Grand Canyon, Dr. Bryant resumed his trip westward by train.

Between July 24 and 27, Engineer Diehl and Assistant Superintendent Hugh Miller visited Walnut Canyon, Sunset Crater, and Wupatki National Monuments, and spent some time in Flagstaff on business.

## ENGINEERING ACTIVITIES

Engineer Diehl spent the month supervising going work at the Monuments listed above in his itineraries.

Office work has been confined to map preparation and data recording.

Field parties at Chaco Canyon completed the fence line survey and made a topographic survey of 22 acres of headquarters area; at Walnut Canyon began topographic survey of proposed headquarters area; at Chiricahua continued cross-sectioning the Bohita highway preparatory to flattening grades and landscaping, and established many lines and grades; at Bandelier, set many alignment stakes and established grades for E.C.W. projects.

Engineer Hamilton started paper work for the paving project of the parking area at Aztec, inspected and aided the sewer and water supply pro-

ject at Canyon de Chelly National Monument.

E.C.W. ACTIVITIES

BANDELIER

1. Headquarters comfort station completed to ceiling height.
2. South wall of utility project completed, as well as walls of warehouse and gasoline station building.
3. Utility yard excavation approximately 50% complete.
4. Warehouse wall footings about 25% completed.
5. Tree spraying work against Eastern Tent Caterpillars started.
6. Large crew worked quarrying and shaping building stone.
7. 396 lineal feet of stone guard rail and in addition, 79 feet of footing in place on entrance road.
8. New campground project started: firebrick linings in place in fireplaces and ten grills completed.
9. Small amount of obliteration carried out.

CHIRICAHUA

1. Bonita road maintenance and repair carried on by large crew.
2. Campground dip grading completed, and materials for pouring concrete in place.
3. Large masonry head wall near headquarters completed.
4. Headquarters comfort station 60% complete.
5. Spring development completed except for fencing, although work was retarded by cloudburst.
6. Sugar Loaf Trail backsloping and cleanup almost complete.
7. An additional 200 feet of Echo Canyon Trail completed.
8. Sara Deming trail now completed for 1½ miles.

PERSONNEL

1. Louis R. Caywood became the second Headquarters Junior Park Naturalist by promotional transfer from status as Park Ranger at Casa Grande National Monument.

2. The following men assumed duties as acting rangers pending confirmation of appointments as temporary rangers: Lewis T. McKinney at Chaco, July 14; James D. Harritt at Canyon de Chelly, July 18; J.W. Hendron at Bandelier, July 19; and Erik Reed as traveling ranger for Arches, Yucca House, Hovenweep, July 19.

VISITING PARK SERVICE OFFICIALS

Assistant Director H.C. Bryant visited Headquarters the 19th and 20th, and other places in the field on dates stated above under Field Trips. Resident Architect Langley and Associate Forester Wirt dropped into Headquarters for short business sessions late in the month.

Cordially, Frank Pinkley, Supt.

# PROPOSED... MONUMENTS

Since so many references to proposed Monuments are appearing in these pages, it might be well here to describe briefly some of the areas under discussion,

Kofa Mountains

This area has been inspected by Superintendent Roger W. Toll of Yellowstone National Park, E.C.W. State Parks Supervisor Evison, Assistant Wildlife Technician Crater, Assistant Landscape Architect Keeling, Regional Geologist Wegemann, and Assistant Park Naturalist Robert Rose.

The Kofa Mountains are situated in central Yuma County, Arizona, about 35 miles airline east of the Colorado River, and about 50 miles directly northeast of Yuma. Included in the discussed area are the Kofa, Castle Dome, Eagle Tail, Dome Rock, and Trigo Mountains---all massive and rugged. Main interesting features are several groves of native palms, the only ones in Arizona, and the only Washingtonia palms in the United States outside of California. Also a pleasing association of desert flora, fairly interesting geology, and an opportunity to preserve one of the ranges of the Bighorn sheep.

Organ Pipe Cactus

An area southwest of the Ajo Mountains in southwest Arizona includes a good growth of this species of cactus, which is second in spectacular appearance to the giant saguaro, but is larger than any other cactus in the United States. The species is remote and seldom seen by visitors. Only in this part of the state or United States is this cactus found. The flora associations of the region are interesting, and many Bighorn sheep can be protected who are now being illegally hunted.

Sierra Ancha Cliff Dwellings

A group of very fine Pueblo IV cliff dwellings located in precipitous canyons of the Sierra Ancha Mountains northeast of Phoenix. For further description, see Dr. Emil Haury's report on Cliff Dwellings of the Sierra Ancha, a publication of the Gila Pueblo, Globe, Arizona.

This area requires further inspection and study before action is taken, but undoubtedly should become and National Monument.

Area south of Manuelito, New Mexico

There has been a recent movement by local people to make a National Monument of a canyon and butte area south of the trading post of Manuelito, located on Highway 66 in western New Mexico.

In the proposed area are a series of fine ruins, it is claimed, and early structures may be found. The section is claimed to have spectacular beauty, and would be accessible to the large number of travelers on this transcontinental highway.

# REPORTS FROM MEN IN THE FIELD

## NAVAJO

By Milton Wetherill, Acting Ranger

Visitors from June 18 to July 20: Be-ta-ta-kin, 86; Keet Zeel, 25. Three visitors from England; three from Hawaii.

Plum trees at Keet Zeel are coming along fine, with a good crop of potatoes at Turkey Cave.

There was a rock fall at Be-ta-ta-kin on July 17, but no damage was done to walls.

There will be a large party here July 28---part are to go to Keet Zeel; part will stay here. Will try to handle the party so they will get the most out of the trip for the time they have.

The Rainbow Bridge-Monument Valley expedition is working in the Canyon. The mapping crew is camped at Keet Zeel.

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I obtained my bird banding permit and bands last year. Banded five White-rumped Shrikes two miles south of Kayenta last year but have done no banding at the Monument.

This is a very rich area for bird life, and no work has been done in this section. Be-ta-ta-kin Canyon is a natural feeding ground for birds, as it has both feed and shelter. Woodhouse Jay, Junco, and Green-tailed Towhee were the only species to come in for feed I furnished.

Have made up three Junco and one Woodhouse Jay skins since I have been up here---these birds were found dead. Need a collectors' permit as there are several birds here that can be classified only by the skins. I do not like to kill birds and would do it only for the purpose of establishing records for the Park Service.

I hope to start trapping as soon as I can make the trip to Kayenta for the traps you sent me. *********

## GRAN QUIVIRA

By W. H. Smith, Custodian

Report time approaches and I will try to submit some of the activities of the Monument for the past month.

I find my register to show 950 visitors entereing the Monument in 175 vehicles from nine states. This is the largest registration I have made in any singke month since I have been stationed here.

GRAN QUIVIRA (CONT).

One reason for the unusual registration of the month was the County singing convention held at Gran Quivira on June 23. On that day I registered 520 persons. That is one time (and the only time since I have been Custodian here) that I could not give every visitor a little of my undivided attention. But they were just coming in so fast that day that I did well to keep them registered.

I got two of my boys to help me watch and see that things were orderly, and to give them the very best brand of service possible considering we were so crowded for time.

The Fourth of July brought quite a registration also but not to compare with that of June 23. The rest of the month has been slightly above the average for visitors.

July 11, I hired a couple of local boys to drag the approach road. It had become rutted pretty badly down the center, and I was afrain if there was a big rain it might start washing the road. After making two round trips they obliterated the ruts and leveled the road bed. I think it will be safe now even if rain comes.

If there were some way to get travel spread over the entire surface of the road there would be small danger of it ever getting rutted enough to start washing, but all vehicles use the same set of ruts except when they meet and have to pull around each other. Naturally the ruts form down the center of the road bed, and have a tendency to drain all water down them, and on a long grade like this one, water accumulates quite a force toward the lower end.

On July 14, Reverend Huff, of Lovington, N.M., came here on his way to Corona, N.M., to a singing convention. Mr. Huff, having quite a congregation with him, assembled his party in the Mission and preached to them. Afterward they went on to Corona, where the Huff sisters gave a song recital. They are a famous quartet who sing quite often for broadcasting.

Weather still continues to stay dry here and all vegetation is thoroughly parched. Crops are drying up here and there isn't any grass. It seems that it is as dry or possibly worse than last season at this time.

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# WHITE SANDS

By Tom Charles, Custodian

Our visitor list grows constantly. Last month we had more than 802 registered, and this month we have had 1,182---an increase of more than 47% of daylight visitors.

Three percent of these are from Alamogordo and vicinity and the other 97% are from points more than 75 miles away. A close count on registration

some weeks ago showed that about 40% of the daylight visitors registered and practically none of the night visitors take time to put their names on the book. On the basis of 40% registration we have had 2,955 daylight visitors this month.

The number of evening visitors is uncertain. Every moonlight night there are from 50 to 100 people there. To others, moonlight seems to mean but little. They come to enjoy the cool, soft sand, the freedom from noise, from people, and because they can relax here with no insect life to bother them. There are from five to 15 car loads of these people at the Monument every night, moonlight or not. We estimate 1,800 of these nightly visitors each summer month. They are largely local and do not register.

On the basis of calculation above, the total visitors list this month was 4,755.

Those who registered represent 32 states and four foreign countries. Texas leads with 479, New Mexico 383, Oklahoma 86, California 41, Illinois 24,

We have another count of cars which may be of interest. Until June, 1935, our Monument has been located on State Highway No. 3 from Las Cruces to Alamogordo. At that time this road was designated Federal Highway No. 70, which runs from the seacoast in North Carolina to Los Angeles. State Highway No. 3 past the Monument has been hard surfaced for many years, but the new Federal marking will no doubt bring improvement and will lead many tourists this way who would have hesitated to follow State Highway 3. This road is already one of the main arteries of travel in the Southwest. I have secured a count on it for 40 minutes a day over a period of 60 days and it shows that an average of 18 and three eighths cars go through the Monument every daylight hour.

Traffic men tell me that to multiply this hourly count by 15 will give us accurate estimate of the 24-hour traffic. This process gives us 278 cars through the Monument daily. If the line of reasoning is coorect, then we have more than 100,000 cars through the Monument annually.

You will be interested to know that we have completed the water well a quarter mile north and east of the turn-around, and have installed a pitcher pump according to the specifications of the Health Department.

It is an improvement that has been greatly needed. Many of our guests have expressed their uppermost feelings while visiting at the Sands in the heat of the day by writing on the register "Water, Water", "Oh, for a drink," "No water any place," and even more forceful declarations of the need of water.

The new well is only six feet deep but it has an abundant supply of water which stands at about 56 degrees Fahrenheit. The chemical analysis

shows some magnesia, some sulphur, lots of lime, and a little salt. After trying it out on the local personnel all summer, we feel safe in offering it to the public insofar as any unfavorable effects are concerned. It "tastes", but not enough that one suffering from thirst will refuse to drink it.

A local cowboy thinks this well will make the Sands an ideal health resort. "There is lime for the rickets, magnesia for the stomach, sulphur for a spring tonic, and always a double dose of violet rays," is the way he puts it.

The high light of the month was a full days visit from Dr. H.C. Bryant, Assistant Director. Dr. Bryant seemed to enjoy every minute of his time at the Monument, but at that I am sure that my pleasure was greater than his.

Another incident which livened things up around the White Sands headquarters was the 15-page article in the National Geographic illustrating the White Sands with 12 full page pictures. Text was furnished by Dr. Carl P. Russell and pictures by George Grant and Editor Grosvenor himself.

Other Park Service officials who visited us were Mr. and Mrs. Charles Brill of Washington and Tom Boles of Carlsbad. It was a real regret that this last named group came after closing hours and we did not get to meet them.

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# CHIRICAHUA

By. Charles E. Powell, Acting Custodian

Our travel is increasing. Average daily visitors since June 1, 33. Average daily visitors for past eight days, 45. Total registration since June 1, 1,766. Average Sunday registration, 117.

Chiricahua was honored when Dr. H.C. Bryant and our brand new Junior Naturalist paid us a two day visit June 16 and 17. After a short visit to Massai Point and the Echo Park Trail, we visited the Indian Caves on the Stark Ranch and looked over a few pueblos in Pinery Canyon, visited Mr. F.H. Hands, Rustlers Park, Cave Creek, and missed Mr. John Hands. The result was something like this: The Ranger started to show some visitors around the Monument, and was shown more than the visitors.

Never was that far from the Monument before, while working. My first visit to Rustlers Park and Cave Creek. Learned something about Indians, and saw Louis Caywood pick up an arrowhead beneath our feet, which was seen by no one else. I still think that the darned thing wasn't there until Louis bent over, and that he is sort of a magician.

Received a hundred shipping tags to be used for temporary labels, and have all the tress and plants in our vicinity so marked that a visitor

has only to read the label to find what they want to know about our vegetation.

Dr. Bryant thinks a trail could be built across the road from the campground, about 18" wide and a half mile long, which would serve as a Nature Trail where I think nearly all of our interesting trees and plants may be seen. I have mentioned the trail before, but if there is any reason I should not have it, just blue pencil this item.

Last Friday, we had some little excitement here, when one of the enrollees was reported missing from the Echo Park trail. After a great crew had spent a half day in search, the "lost" one strolled into camp, explaining he had just been "looking around" and had not noticed the time.

One thing was accomplished by this search, however. Several of our lads saw scenery which repaid them for their walk, and many more of the camp personnel will visit the interior of the Monument because of their new enthusiasm.

The C.C.C. boys who are working with me here show real interest in their work. They have access to all the books I have been able to obtain, listen to every bit of talk I give visitors, and when asked any questions they are unable to answer, promptly refer the visitor to the Ranger.

It is not unusual for them to return from a trip over the trails, carrying a few leaves, or a small flower, or a bit of rock, saying: "This lady wants to know what this is," or something like that. The boys have received a lot of compliments, and no complaints so far.

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## CHIRICAHUA E.C.W.

By Wm. Stevenson, Project Sup't.

Maintenance on the Bonita Canyon road has continued through the month. Several thousand yards of material have been removed in the area where the large slides occurred, and the cut banks have been trimmed to prevent future slides at this point. A large masonry headwall near the Headquarters Area has been completed. Grading has been completed for the dips in the campground area, and all materials are on the ground preparatory to pouring concrete.

The comfort station at Headquarters Area is 60% complete. Masonry walls are constructed and plates and beams are in place. The campground comfort station has been completed.

A cloudburst caused a slight setback in the spring development, but this project is now completed except for fencing. The pipe line trench from the 10,000 gallon reservoir to Headquarters Area is partially dug.

A crew has been working this month on backsloping and cleanup of the

Sugar Loaf Trail, and this project will be completed soon. Work has been resumed on the Echo Canyon Trail, and 200 feet of new trail constructed. One and one half miles of the Sara Deming Trail location has been completed.

W.H. Wirt, Associate Forester, and Harry Langley, Resident Landscape Architect, made a very complete tour of the work projects and gave helpful advice concerning present and future projects. Fred Winn, Supervisor of Coronado National Forest, visited this camp July 24, and it was agreed to establish a fly camp at Rustler Park about August 1.

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# CANYON DE CHELLY

By Robert R. Budlong, Custodian

Visitors for the month totalled 163. Of these, 40 drove into the canyons in the car of the concessionaire or in government cars equipped with big tires, the canyon having been impassable the entire month for cars equipped with ordinary tires. 112 visitors drove to the rim of the canyon, and 46 of these descended the trail to White House. Six persons rode horseback within the canyons, and five descended Bat Trail in Monument Canyon.

Temperatures have been moderate, 98 being maximum on the 12th; minimum, 44, July 4. Total rainfall, .09 inch, with .08 inch falling on July 14.

Assistant Director H.C. Bryant arrived at this Monument July 21, and was here all day the 22nd, leaving the morning of the 23rd for Grand Canyon, in company with Louis and Winnie Caywood. Bob Rose and Jack Diehl were here on the 14th. Assistant Engineer Hamilton has been in a number of times during the month.

We have moved twice since submitting the last monthly report. I am writing this with a typewriter parked on a box bearing the label "Arbuckles Ariosa Ground Coffee." My chair is the floor. As the personnel of the Indian School here at Chin Lee increased, more quarters were needed, and we had to move from our old quarters to a smaller room.

Then we had to move from the smaller one, and there were no more rooms to be had. Finally located one room in a little stone house at the Mission of the Franciscan Fathers, a mile from Chin Lee, and we completed moving into it two nights ago.

We have it completely equipped with all modern inconveniences. Water and plumbing? Well, we have running water---that is, we have to run up the road about a mile to get it, bringing it back to the room in a big can. And then the true beauty of our water system becomes apparent: I bought a 20-gallon water barrel, equipped it with a wooden spigot, painted the barrel bright orange, with black bands, lettered it in black letters, "Budlong's

Best", and that barrel reclines on a cradle in a conspicuous place in the room. Into that barrel we pour our can of water, and draw it from the barrel by the spigot. Visitors to our room, upon beholding the barrel, invariably complain of thirst, and when we obligingly draw a glass of water from the barrel, they seem somewhat disappointed.

Huge piles of impedimenta occupy most of the available space. Of course, we share the room equally, even though we are somewhat cramped for space. I, being the head of the house (hope the H.C.W.P. doesn't read this) naturally made an equitable division of the room. I claimed the north half of it for my own, the remaining half belongs to both of us, and the bureau belongs to the H.C.W.P. That bureau is made of three empty coffee boxes, stacked one upon the other. Our one and only table supports the two bird cages in which are our three pet parakeets, Bozo, Warp, and Woof. There being little remaining floor space, the H.C.W.P. has had to go for a walk, while I occupy said space in writing this report.

Work has started upon the P.W.A. project here, which is the construction of a sewer and water system, under force account. Work commenced under Foreman Harry Brown, and fine progress had been made until the afternoon of July 19. That morning there was a good rainfall in Black Rock Canyon, the water came down the canyon several feet deep about 2 p.m., flooded the sewer trench, filled the excavation for the septic tank, and floated out of the trench what tile had been laid.

As I think on the disaster, and as I call to mind the fact that all bids on the Custodian's Residence were entirely too high to come within the appropriation, I would that my tongue could utter the thoughts that arise in me. But if it could, and if it did, and I wrote them down here, you wouldn't print them in the report, so I refrain.

The damage done by flood is rapidly being repaired. To date, 75 yards of earth have been excavated for the septic tank, 275 yards of earth from the ditches for the sewer tile, 27 yards of solid rock have been removed for the water storage tank, 275 feet of sewer tile have been laid, and 175 yards of silt and sand removed from excavations, where it was deposited by the flood. The project is approximately 25% complete.

In my last report, Boss, I told you how glad we would be to get a Ranger here. The afternoon of the 18th, I was rapidly being driven frantic by attempts to move from the old room into this one, guide visitors to Chin Lee, take some of them to the Rim, others down the trail, make trips to sparrow traps, measure rainfall, and I was also attempting to keep an eye on four roads, located several miles away from each other, all at the same time---and as I was attending to these duties, and many others, my Ranger arrived! Words failed me altogether, and I could only shake his hand and squeeze back a few tears (the H.C.W.P. was peeling onions at the time). He is on the job, and doing it well, and I wish again to express to

you my great appreciation. James D. Harritt, or "Doug", entered on duty at this Monument Friday morning, July 19, 1935.

And not only do we have a Ranger, but we have a brand new pickup truck! And, in addition to running well, it climbs the road to the canyon rim, something the old one never would do. Again I find myself groping for words, and realize that I can not even begin to tell you how greatly we appreciate both Ranger and pickup.

But now the H.C.W.P. has returned, and wants to get in the room, so I must relinquish the space I am now occupying, and bring this report to a close.

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# CHACO CANYON

By T.C. Miller, Custodian

General

Approach roads have been passable all the month with some maintenance to the north. From the Monument Headquarters to Ste Road 55, with the exception of blow sand near the Escavada Wash, that road is in fair shape. Wolf Creek Pass was opened on the 15th and we are glad because visitors ask us about that road every day.

Weather

July has been a warm dry month with high winds and very little rain. Maximum for the month was 93, on the 16th. Minimum was 44, on the 5th. Precipitation of .63" was recorded for the month. The weather box was moved from the trading post to the Custodian's Residence during the last part of the month. It was set up near the flag pole.

Travel

672 people arrived in 185 cars, busses, and passenger trucks, coming from 28 states, the District of Columbia, Canada, and England. Overnight campers, 91.

Special Visitors

Engineer Hamilton, Mesa Verde National Park, arrived and departed June 27. Divisional Engineer Clifford, Soil Conservation Service, arrived on the 8th and departed on the 11th. The purpose of his visit was to estimate the cost of the revetment work to be done at Del Arroyo and Yellow House. Also some work is to be done on the side arroyos that empty into the Chaco Wash.

Park Naturalist Rose and Associate Engineer Diehl arrived July 12, and departed on the 13th.

Dr. A.V. Kidder, Director of Research, Carnegie Institution, Dr. W.D. Strong, Smithsonian Institution, Mr. and Mrs. Gladwin, Gila Pueblo, Mr. Donald Scott, Director of the Peabody Museum, Harvard, and Mr. and

CHACO CANYON (CONT.)

Mrs. Leslie E. Bliss, Huntington Library, Pasadena, California, were among our noted visitors.

Dr. and Mrs. John Keur, members of the Biology Department, Long Island University, Brooklyn, New York arrived on the 16th. As previously reported, the Keurs are making a study of primitive engineering methods pertaining to Threatening Rock. We find the Keurs to be a fine couple. We hope their stay here in the Chaco will be an enjoyable one. Attached to this report you will find a report on the Threatening Rock written by the Keurs.

Mr. Hillis L. Howie, Director of the Children's Museum of Indianapolis, and party of 20 people arrived on the 17th and departed on the 18th. Accompanying the Howie party was Dick Frank, son of Naturalist Frank of Mesa Verde. Dr. James F. Zimmerman, president of the University of New Mexico, and daughter, were here also.

Personnel

Mr. John Roden was hired as guide and general helper from July 2 to 12. Temporary Ranger Lewis T. McKinney entered on duty July 14. Ranger McKinney, being an oldtimer in the Service, got right in line guiding visitors, giving information about the ruins, and, best of all, he learned right away that we have the finest masonry found anywhere. We are able to give our visitors more time, show them more, and render much better serviee than we did last season, due to the increase in personnel.

Inter-Monument Transfer

The 3/4-ton Dodge Truck No. 8117, N.P.S., was transferred from this Monument to Aztec Ruins National Monument on the 17th. The Dodge was driven to Aztec by Ranger McKinney---I drove the V-8 pickup over so I could bring McKinney back. The new V-8 pickup was received in Gallup on the evening of the 6th. I like the pickup very well, and have installed a 30-gallon tank in addition to the equipment tank. It is a good looking job, and I find it very serviceable. I can make the round trip to Gallup or Yucca House and Hovenweep National Monuments and return to Chaco without adding more gasoline.

Since the June Report I have been wondering of I had overlooked something at Aztec Ruins; this time I did look it over from stem to stern. I was awe-stricken and speechless when I found that polished stone in the northwest corner of the Ruins. Boss, I have been wondering if Johnwill did rebuild those Ruins a few years ago and borrowed that beautiful stone from Chaco. We fully intend to hold him accountable for the word D*U-M-P he used in the June Report, but after the good western hospitality shown by Mrs. Faris, we overlooked that remark. We will have to admit that Aztec and Mesa Verde are the nest best ruins in the Southwest.

Boundary Survey

Engineers under Associate Engineer Diehl completed their work here

on the 16th and departed on the 17th. Engineer Clark, Rodman Pinkley and Schmidt completed a good job before leaving the Monument. We have enjoyed having them with us the past seven weeks and we hope you will send that same crew back, Mr. Diehl, when we have another job at the Chaco.

Improvements

New garbage pits have been made for the public campground. Toilets have received a new coat of paint (color, reindeer brown). Windows in the Custodian's Residence have been re-puttied; doors and window facings have been painted. In general, the quarters have a better appearance when you drive up to the Monument Headquarters. During the month of August the roof and other things around the Monument will be overhauled.

Excavations

The University of New Mexico has been running two crews: one crew is excavating a large Kiva at the ruins of Una Vida; the other is working on Talus House No. 1, Chetro Ketl. Very little has been found in the way of artifacts to date. A complete report of their activities will be mailed to you in the August report.

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THREATENING ROCK By Dorothy and John Keur

Here we are again at Chaco for our annual visit, enjoying our stay as much as ever. Last year we were here at approximately the same time and made measurements between the various hubs which had been established in 1933 on the Mesa and Threatening Rock. Perhaps Mr. Patterson wrote you that we found all our measurements to be about one inch less than those of the year before. So Pat asked, "Did the Rock shrink during the year?"

That certainly looked suspicious until we discovered that the year before we had read distances from the inside of the tape loop instead of from the end. Therefore all figures given in my original report on Threatening Rock had to be revised and one inch subtracted from each measurement. One inch more or less certainly would make a difference in the position of the gravity-center of the rock.

So yesterday we went out again with Carol Miller to measure between the stations. This time no such evidence of shrinkage was found. On the contrary, most measurements showed increases ranging from 1/8 to one inch. These variations, however, are not sufficient evidence to assume that the rock is leaning forward more now than last year. A variation of 1/8 inch in a 68-foot distance between two stations may very well be attributed to a difference in individual pull on the end of a chain, or to "side-blow" by wind, etc.

I think that we cannot evaluate this year's figures correctly until next year and years after to see if supposed forward settling of the rock shows a continued or substantiated increase in measurements. We carefully

inspected the base of the rock to see if any new cracks of splits had appeared since last year. In 1933 and 1934 all cracks at the base were carefully plotted. No new cracks have appeared since, which is another evidence to my mind that the rock did not settle much.

Mr. Miller has been most helpful to us and has made our stay here ever so much more pleasant.

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# MONTEZUMA CASTLE

By Martin L. Jackson, Custodian

Visitors for the month, 1,847, which is 49 less than last July. While we have more names on our register book than for the same period last year, we probably have not had as many visitors.

We counted the number of visitors for a period of 18 months, then checked them against the number of names appearing on the register book and learned that only 33% climbed the ladders, so have been multiplying the number of names on the book by three for the total number of visitors.

It has occurred to both Ranger Fish and myself that more than one third of the visitors have been climbing the ladders of late. On checking against the book for three days during the month, the suspicion is borne out. We fond that instead of one out of three going up and into the Castle, that on an average one out of every $2\frac{1}{2}$ makes the climb, and the number for this month is based on the $2\frac{1}{2}$ figure instead of one out of three as has been used heretofore.

Weather has been about normal for July. If any difference, a bit cooler than usual.

Roads leading into the Monument are still being worked and there is quite a lot of complaint from visitors about detours.

In my opinion, it is easy enough to account for more visitors climbing the ladders than did a few years back because at that time we had more crowds on Sundays and holidays. At that time visitors could drive down to the shade for their picnic parties, and we had several cars on the grounds almost every night during the summer months. A good percentage of these picnic parties and campers had been in before so did not care to climb the ladders again.

Since the new parking area has been built, we do not have as many picnic parties, and no campers to speak of. The reason being that picnic parties can find other places along the different streams where they can drive up to the shade and not have to carry their lunches, water, ice cream freezer, and in some cases a case of beer for twelve or fifteen hundred feet. We have no decent place for campers, so do not get them.

MONTEZUMA CASTLE (CONT.)

While I agree that I did a lot of complaining about the grounds being shut off to picnic parties and campers, I am not so sure now but it was a good idea as far as the picnics are concerned, for whoever is on the grounds, it takes more or less of one's time and attention, so it follows that if they are not here, it leaves more time for the visitor who has not been here Before. I still think we should have a decent camp ground for visitors who want to stop overnight. Suppose we will get one in time.

Have had a number of prominent people this month, among them Dr. Thomas C. Poulter, second in command of the Byrd Antarctic Expedition. Mrs. Poulter accompanied the Doctor. Also Dr. Charles F. Hottes, Department of Botany, University of Illinois; Dr. Harold A Bulger, Washington University, St. Louis; Dr. Frances M. Smith, Metabolic Clinic, La Jolla, California; Dr. H.C. Graham, University of New Mexico, with his annual trip for geology students.

Want to thank you fellows in the office for not getting back at me last month when I left such a wonderful opportunity in telling about Ranger Fish thinking that La. was the abbreviation for Louisiana instead of Los Angeles. I misspelled Louisiana---left out the second "i". That being the only mistake I have made, am sure you overlooked it.

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# EL MORRO

By E. Z. Vogt, Jr., Acting Custodian

I am very proud to sit beside and admire our brand new filing cabinet in the Custodian's Office while I scribble my July Monthly Report.

Weather and Roads

This region is having more unusual weather. Judging from the recent reports of western New Mexico's weather, one would think that our weather man should join a circus sideshow as a peculiar freak. But what do you think of this? No rain until the 18th of the month. Then it rained almost steadily for three days, and now the days are clear, dry, and terrifically hot. Has been this way since the 21st. The peculiarity is fast becoming a calamity, for crops and grass which were given a new start by the rain are soon going to burn up.

Huge prop trucks traversed our approach roads in the wake of the rain and left them in a hellish chaos. A life-saver was the Indian Service grader which smoothed up the Gallup road yesterday. However, the Grants-El Morro highway is still a spring-breaking, back-wrenching approach to the Monument.

Floraaand Fauna

A deer was sighted passing along the Monument fence about two weeks ago. It was travelling north toward the Zuni Mountains and probably came from the wooded volcanic country south of El Morro, where the water supply

doubtless gave out. We considered the possibility of hanging a feed bag of oats on the Monument gate, or strewing alfalfa about the entrance with the purpose of enticing the next passing deer into the Monument. A few head of deer would be quite an attraction for El Morro and would thrive in the little blind canyon on the west side of the Monument.

Last Monday I had a most enjoyable jaunt into this blind canyon. It was, I believe, the first time this summer that any human being had invaded its primitive remoteness, poked around in its beautiful little rincons, marvelled at its 150-foot rock spire, and explored a few of its inaccessible crevices. Purpose of the jaunt was to find out just how wild and lovely the canyon is becoming.

I entered the canyon by way of the prehistoric hand and foot trail that leads from the southbruin to the canyon floor which is covered with knee-high luxuriant grass, wild geraniums, scarlet bugler, horse mint, and rose mallow. At the foot of the ancient trail stands a dead but gigantic old pine whose top towers above El Morro's summit. This old tree was probably therevwhen the more recent Spanish Conquistadores passed, and may have seen Oñate clanking over the rock in his tin suit. Pete and I have been thinking about boring out a specimen of the tree and having it dated.

Surprising to me is the fact that the new wall around the old Indian well has caved in, making the well appear to be dry. By throwing out a few of the smaller rocks, I was able to find plenty of water beneath all the debris. Cause of the cave-in was evidently disintegration of the foundation rocks. By use of a little cement and carefully selected rocks the wall can be substantially rebuilt. We have found that the yellow and white rocks will disintegrate in a few months, but that the red and other dark-colored rocks will withstand the weather.

From the Indian well my jaunt took me down the north side of the canyon where the red-shafted flickers slowly wing their way between the stately alligator junipers, some of which are four or five feet in diameter. The Rocky Mountain Nuthatches pecked their way around the trunks and branches of pines as if they were following the red stripe on a barber pole, and the cliff swallows darted about the rock spire and north cliff. A pair of Arizona Hepatic Tanagers were seen for the first time on the Monument. The brick red male and dull yellow female were quietly chirping in a western yellow pine.

I continued along the cliff following the one-time CWA trail and road which is now overgrown with grass and weeds, is used only by rabbits for a route from the well to old Rafael's fine corn field. I passed a pack rat's nest and found a chewed yucca seed pod,---a little farther the indigestible remains of a rabbit that an owl had coughed up after eating the more delicious parts. Perhaps seven or eight hundred years ago on a similar July day a prehistoric Pueblẽo had wandered down along

this same cliff, had seen the same sights and the same varieties of birds and trees.

As I climbed out of the canyon to the north ruin, my ponderings were suddenly interrupted by a TWA plane which dipped low over El Morro. I waved and the plane continued its westward journey.

Side-interest Stuff

Three of our local Navajos returned last week from a horseback trip to the Mescalero Apache Reservation, where they spent the 4th. Mescalero is close to 300 miles from here as a crow flies, and the Navajos (ex-chief Pitagai, Richard Pino, and Dick Pino Begay) made the trip down and back in two weeks.

Jim Haverkampf, old-timer from Bluewater, visited the Rock three weeks ago and gave is some new ideas concerning old Spanish trails in the lava bed. Mr. Haverkampf is a surveyor, prosepctor, and practical archeologist, has been all over the lava bed and claims that it is full of Spanish trails but that the netrances are hidden, that is, the trails were not constructed at the edge of the lava. You must walk over rough lava for three or four hundred yards before you can find the beginning of the trail. He thinks that they were built by Zunis who were taken as slaves by the Conquistadores. The trails are built like flagstone walks and in places dips and canyons were filled in to make going easier for Spanish horses. For what the trails were used for he doesn't know, Possibly to search for gold.

Otis and Herbert McDaniels, starvation killers and now widely hunted for the shooting of the Colorado sheriff, spent many of their boyhood years in Ramah. I used to go to school with them. Ramah people think they will eventually head this way and probably hide out in the lava bed not 20 miles from El Morro.

Few spots in New Mexico are as inaccessible as this lava bed, where they could hold out for months and shoot the authorities from ambush as they entered the lava. Everyone feels rather shaky about their coming and all agree on one thing---that they can have anything they want, a horse, car, or grub. Being as desperate as they are, they wouldn't hesitate an instant to shoot anybody who refused to up his horse or car.

General

Although the three-day rain did not damage the stone stairways, it did damage the switchback trail more than any previous rainstorm. The drainage ditches are apparently too small to carry the amount of water off the Rock in a hard rain, for the water washed an arroyo right down the middle of the trail. Many of the rock dips did not hold the water at all.

To keep persistent visitors off seeded ground and the nice sod on the upper side of the road, a line of posts were set along each side of

the road leading up to the ranger's cabin. They seem to serve their purpose very well.

The Custodian is expected back in about a week for a stay of a month or so.

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EL MORRO RANGER REPORT By Alfred Peterson, Temporary Ranger

Visitors

Visitors for the month number about 381, representing 20 states. In addition to these, there were between 60 and 70 people came in to haul water for home and stock use.

On June 26 we had visitors by airplane---Major Robert D. Knapp and son from Kelly Field, San Antonio, Texas. They landed at the El Morro emergency landing field about three miles from our entrance, and one of the radio operators, Mr. Campbell, brought them over in his car. Major Knapp said he was stopping to see the most interesting points along the way and expressed himself as well repaid for his rather brief visit. The boys at the landing field said they like to have such people stop there, but it means reams of reports in the form of extra work for the,.

A very charming visitor on July 4, the first one for the day, was Miss Frances Gilmor, author and member of the faculty of the University of Arizona. She was accompanied by Dr. Mary A. Hill, head of the English Department of the Arizona State Teachers College at Flagstaff.

Two parties of police officers came through and stopped briefly in their search for the four lost tourists from Illinois. One officer even prodded into the roily water of the cove with a pole to test its depth.

The first Courier Car came on July 4, bringing a party who had come by the same means about a year ago.

On July 14 there were 75 visitors, and I was certainly glad Vogtie was here to demonstrate his fine ranger abilities.

Members of the Southwestern Monument "family" who were here during the month were Bob Rose, Naturalist, and Engineer Jack Diehl on the 13th, and on the 16th Mrs. Chuck Richey was in with two school chums.

Campers

Our small but very inviting campground is frequently occupied by overnight visitors. The beauty of Nine Pine Cove, along with its restful atmosphere, is frequently complimented. That will probably be spoiled when good roads bring many unappreciative visitors. These campers are practically always good visitors---intelligent and interested---frequently teachers and their families. One couple from California who stopped there

had a monkey, and the little primate from South America, after a sample of a June bug as a gastronomic delicacy, demonstrated great abilty in catching them on the fly with only the light of a camp fire to alleviate the darkness.

Fauna and Flora

The Evening Primroses and the Spider Worts have decreased greatly in number, but the Rocky Mountain Bee Plants are very attractive, especially to myriads of Humming Bird Moths. From dawn to dusk these bird-like insects are busy gathering nectar. As for the Humming Birds, contrary to usual conditions at this season of the year, they are very scarse. I have seen one Black Throated Humming Bird, one female of the Rufous, and one not identified.

One day a commotion in the air attracted my attention to a flock of seven Golden Eagles flying about and apparently quarreling. They flew off toward the mesa to the east.

Many of the "water dogs" in the Cove have recently gone through the metamorphosis that changes them from a gilled, flat-tailed animal into a lunged, round-taled salamander, and many of those have been seen coming out of the water. I put one of these in a box with a baby rattlesnake I'd picked up on July 4 with the idea he might be food for the snake, but they seemed to have too much in common. I've tried frogs the same way, but the rattlers do not seem to relish amphibians.

Incidentally, someone disturbed the screen over the snake cage and left it raised a little at one corner, and baby rattler wriggled away. At any rate he has not been seen for three days.

General

So much rain fell the afternoon of the 18th that water level in the Cove was raised over three feet, which left it 2'10" from the top of the spillway. Another such rain and we would have water running through the seeded area of the old arroyo. In haste I opened the irrigation valve of the 1" pipe and let it run for about 60 hours. This stream, puny compared to the flow into the Cove during rain, slowly lowered the level to a point where I feel safe until another heavy rain. And I have learned that this pipe siphons the water at the rate of about 200 gallons an hour.

During and after heavy rains I have heard and seen pieces of rock fall off the cliff. Last year a small one, weighing a few ounces, fell about 15 feet from me. The other day a stone weighing about eight or ten pounds nearly buried itself in the soft dirt of the trail at the base of the cliff near the Cove. I have come to the conclusion that it is not wise to show visitors around at such times; at least it is not wise to approach near the cliff.

Late in June, from a missionary who has been among the Zunis for years,

I learned something of the attitude of the Zunis toward the incident related in the Lujan inscription which tells about the expedition to punish the Zunis for having killed the priest Letrado in 1632. Zuni Indians swear they did not kill the priest, but that Apaches did it. According to the Zunis, the Apaches harassed them so much that they occasionally abandoned a village to escape them, and that during one of their raids they caught a priest in front of the church and scalped him.

On July 4 I had an interesting family here by the name of Garduño (that's the way it looks on the register). The man looked Irish and was half Spanish and half Irish. His wife was half Spanish and half Navajo, and her father and grandfather had been Navajo war chiefs.

The lady reminded me that Bandelier in his Delight Makers lets out the information that Navajo Indians did not scalp, but simply took a lock of hair. She said, "Don't you ever believe it; the Navajos took scalps just like other Indians, and I know."

These people were just cram full of historical information---and other---and were so well read they took exception to Dr. Lansing B. Bloom's latest New Mexico history in some respects. Sr. Garduño told the story of how the Mexican settlement of Tenaja was named. It seems that the early Mexican squatters at that site were digging to improve the water supply, or some such reason, and they unearthed a large tenaja (water jar) which was full of papers, presumably documents or records placed in the jar and buried for safe keeping. The papers were in poor condition and were scattered and lost or destroyed by the wind. That, according to the prevailing story, is the reason for so naming the town of Tenaja, but don't you wonder what interesting and valuable records were in the jar?

Also, this gentleman, for the benefit of a lady from Mexico who knew no English, would, instead of struggling through reading the old Spanish, step up to the English translations and make them sound as if he were reading directly from the inscriptions.

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# AZTEC RUINS

By E. W. Lewis, Temporary Ranger

Were I but a baby taking his first misguided steps, I would not be more in doubt than I am in trying to write this report. I hope those who read it will be mighty patient with the contents and please do not romp on it with critical, eagle-like eye.

We are very glad to report a decided increase over last month in the number of visitors. We hope that next month will show a similar increase. The number of visitors total 1,675, which compares very favorably with July of last year.

With the exception of last week, we have had very decent tourist

weather. Last week, however, we had several stormy days, and a little rain, too. We had total precipitation of .43 inches. At least the cloudy weather seemed to cool the atmosphere and for several days the thermometer hovered around 80 degrees. We are very thankful for the cool weather, too, because it seemed to pep us up a bit, and the visitors appreciated the nice cool pläace we have here.

Speaking of increased energetic feeling, Custodian Faris worked out a nice little schedule of dailywwork for us to do, such as going over museum trails for gum wrappers, etc., watering the trees in the parking island, and even to a certain time for shinging our boots. I think it all works out very nicely, because thenwe are sure of nothing being neglected that should be done daily to make this a better Monument. As an example: Tuesdays, Thursdays, and Saturdays we do certain things, such as giving the office rooms a good sweeping and cleaning.

After the first little shower of last week, Custodian Faris took the grader and dragged the road from the main road to the Ruins. This road is one of our little sore spots, and we hope to have something done about it in the near future.

Along about 4:30 p.m. Custodian Miller and Ranger McKinney paid us a visit. It is very likely that the main purpose of their visit was to present us with the Dodge truck. Indeed we were very glad to get it, because when we do need some conveyance of the kind, we need it badly. We don't like to say this, but somehow or other we feel like Cal was glad to pass it on to us, especially since he has that new Ford.

On the morning of July 20, Roving Ranger Reid appeared, and he remained here until the morning of the 23rd, awaiting instructions as to his future duties.

Late in the afternoon of July 18 Engineer Hamilton, Mrs. Hamilton, Mr. Walt, and Mr. Richey paid us a visit. The main purpose was to come to some agreement on the proposed parking area, cattle guards, and trails leading through the Ruins. We hope to see men working on this job soon. Tourists are not very well pleased with the loose gravel we now have.

Generally speaking, however, all tourists have been well pleased with this Monument, and many have been heard to remark that they would certainly send their friends hhre first, all of which we are very proud.

July 21, we had as visitors several people from Mesa Verde. Among them were Mr. and Mrs. Saunders, also Mr. Saunder's mother.

Since we try to treat all our visitors as special visitors, we can't particularly point out any as special, but we have had some from far away places. One came from London, and one from Sydney, Australia.

Mr. and Mrs. Charles R. Brill of the Accounting Division at Washington

paid us a visit on July 13. We aprticularly appreciate Supt. Pinkley suggesting to them that they should stop by and pay us a visit.

Deric Nusbaum and two friends were in for a short while the 7th of July. Mr. Faris, superintendent of the new Navajo Central Agency, spent a brief time with us July 17.

We are happy to report that a friend of the Service has offered to print us some of those charts of Prehistoric Peoples of the Southwest. At various times, if we had them available, we would be able to supply people who are very interested in the data they give. A great many teachers have asked us if they might be obtained. We have also had another gratis offer by an interested party to have 1,000 copies mimeographed for us.

So, there must be a closing, and I might add that as a sort of summary that the weeds are still growing, and that we are endeavoring to combat them with muscle and brawn when we are not showing visitors through the Ruins.

Boss, if this report lacks all the necessary things you think it should have, blame Custodian Faris for his inability to judge my writing qualities, and for goodness sakes don't believe it's on a par with my ranger ability.

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NOTE By Johnwill Faris, Custodian

Dear Boss:

Above you will find our July report, not prepared by myself, but by Ranger E.W. Lewis, even to the typing. With all the discussion regarding monthly reports I thought it would be only fitting to round off my Ranger's experience by allowing him to write one of the reports. This is really a Lewis product, and is indicative of the splendid manner in which Mr. Lewis does all his work, and I take great pleasure in presenting it to your office without change.

Feeling that I must have my little say, July has been a very normal month in most respects. I feel that our brand of service is on par if not superior to usual. Every attempt is being made here to improve the service, and hardly a week goes by that Lewis does not accompany me or I him---the sole purpose is to pick out little defects and note the comfort of our visitors. To mention one, minor yet of great importance to our visitors: in the handling of our hand lights, we often become so enthusiastic with our story that we lose sight of the fact that the light might flash across a visitor's eyes. We are making a point to guard against this, and although we have never had a complaint of that nature, we both realize it might have occurred many times. We try to bear in mind that the more attention we pay to the little things, the less likely we are to have any cause for complaint at all.

AZTEC (CONT.)

It was my pleasure on several occasions this month to hear our past and present Directors spoken of with the highest esteem. Two persons in particular spoke of their appreciation and regard for the work of Horace M. Albright, to whichm ofcourse, we added our hearty Amen.

Call it Providence or what you may, it seems that just about the time that we are feeling especially low and blue, a visitor will come in all inspired with the work of the Service, and we feel somewhat ashamed that an outsider can receive such inspiration when we in the Service might be low.

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# TONTO

By Charlie R. Steen, Acting Custodian

A rather dull month has just passed. Only 324 people visited this Monument during July; of these 220 walked to the Lower Ruin, but no one went to the Upper Ruin. Summer traffic on the Apache Trail is the heaviest since the road was built, but the cars just aren't stopping.

The weather factor seems to be the principle deterrent to Monument traffic. July days have been either quite hot or high winds with heavy clouds have threatened rain. I have also heard reports that some filling station and cottage camp proprietors are telling their customers that since the ruins are visible from the highway, there is no need to turn off.

The summer rains, in spite of great banks of clouds which have been blowing along the mountain ranges for three weeks, have failed to materialize. There is no summer grass, but the cattle on this ranger are still very fat and sleek as large amounts of filaree still lie on the ground and the browse shrubs are ready. The spring has a greatly decreased flow from that of a month ago. There seems to be less water than during last summer. In order not to tax the spring, I have quit watering the grass around the parking area and back of the house.

There has been a regular parade of brass hats here during July. On the fifth, Hugh and Christine Miller brought Mr. and Mrs. Charlie Brill of the Washington Office for what I thought was a friendly visit, but which turned out to be a towel inspection. Bob Rose and Jack Diehl spent an hour with me on the 18th. On the same evening Albert Munsch of St. Louis University and A.D. Spearman of Loyola of Los Angeles walked to the lower dwelling. I am sure that Dr. Munsch will remember his visit as he was stung on the neck by a bee.

It is evidently considerably cooler here than at Casa Grande for next day Bob Rose came back. This time the Boss, Dr. Bryant, and Dale King were along. Nancy Pinkley just saved herself from being disinherited by me by tagging along with the rest. She showed the poor taste of failing to stop at Tonto on her recent trip through the Southwest.

TONTO (CONT.)

Dr. Emil Haury of the Gila Pueblo ended the month's list of notables on the 23rd; in his party were Dr. Paul Martin of the Field Museum, Chicago, Dr. Martin's brother, and three students.

Early in the morning of July 14th an old rattletrap of a Ford pulled up the entrance road and two prospectors got out. They asked permission to prospect on the Monument, and on being told that would be impossible, said they would take a look anyway. I thought that meant they intended to dig around, and started to explain what I meant when I had said "no prospecting" until one pulled a forked stick from the tonneau of the car. From his pocket he took a small tin box which contained a 100-gr. capsule filled with a silver colored powder. He fastened the capsule to the forked end of the stick, grasped an arm with each hand and held it upright, just above ~~the~~ and in front of his head. Sure enough, the attraction of the gold below the lower ruin pulled the forked stick down until it pointed in that direction. He disappointed me by saying that there isn't very much metal ther. (I don't have much faith in doodle bugs anyway.)

As I write this, which is probably my last report from Tonto, I realize that history is about to repeat itself. Another invasion of the Lower Gila from the upper reaches of the Salt River is about to take place. These mountain people are supposed to be pretty virile and dominating in character, but perhaps the strain has been weakened during the last few hundred years, for this is one invader who doesn't intend to build any four story mud towers in the middle of the desert.

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# WUPATKI

By James Brewer, Acting Custodian

Travel

129 visitors registered at Wupatki Pueblo, and the unattended book at Citadel records 203. Duplications, 64. Total travel for July, 268. July, 1934, only produced 90 visitors.

There have been two overnight camping parties, and three picnic parties. Earliest arrival, 8:30 a.m.; latest, 8 p.m.

Weather

Cooler and generally cloudy. High temperature, 103 (13th); low, 52 (5th). Precipitation, 1.45 inches. A cloudburst on the 17th provided 1.33 inches of rainfall within 45 minutes.

Newsworthy Visitors

Mrs. Mabel Cook Cole, Dr. Fay Cooper Cole, with Dr. Colton and Miss Bartlett came on the 12th. Dr. Cole is Professor of Anthropology at the University of Chicago.

Also on the 12th came Mr. and Mrs. Philip Johnston of Los Angeles. Mr. Johnston's father founded the mission at Tolchaco, about 15 miles

above us on the Little Colorado, in 1899. The mission has been abandoned for approximately 15 years, but will be remembered as the place at which E.D. Mitchell compiled his Dineh Bizad. Mr. Johnston told us of their trek up the river from Tuba City and that in building the mission they used ---interesting to note---beams from an old saloon of the lumber town, Winona. He also described the Mormon wagon trains travelling the road along the Little Colorado which was then the link between the Mormon settlements in the upper valley and Salt Lake City. On a drive acress the river from Wupatki he pointed out remnants of the old road---now used occasionally by Navajo wagons.

At Citadel Julian Hayden and bride are registered.

On the 17th Bob Rose and Jack Diehl delivered a nice Pueblo III automobile to Wupatki and took the Basket Maker down into the Hohokam. The jumbo sandals on the PIII job have proven to be just the thing in our cinders.

Roads

1.33 inches of rainfall in 45 minutes washed parts of the road below Doney Mountain into Deadman's Wash, We pitched in and patched it up in short order with Sallie driving the scraper and Clyde and I on the business end of a shovel. The road is not in good shape, but the rain has packed the cinder-dunes and crossing them is less difficult.

The trails are badly washed out where they cross hillsides. It's darn hard to direct the drainage of so much water coming at one time.

Preservative

(see April report, 1935. p. 175). The plastered area on the east wall of Room 41 shows no change after the rain. The firepits have not withstood so well---probably the damaging effect of standing water.

Education

As mentioned in the June report, we are experimenting with charts and diagrams to help visitors toward a better knowledge of Wupatki. Included in our program is the use of small signs designating archeological features and different [illegible] storation. The sign contemplated is similar to that used in na[illegible], etc.

Before permanently installing the charts and signs we are studying "visitor absorption" of the field lecture by having guests who are not hurried answer a typewritten questionaire. In this manner it is expected we will learn how much more, if any, a visitor profits by the charts and signs, after they have been installed. Since the 23rd, five people (two parties) have filled out the questionaire with apparent enthusiasm. The procedure has been the usual trail trip, followed by an explanation of the purpose of the questionaire. If the visitor is interested---everyone

so far has been---we give them a copy with blank spaces to be filled out. All visitors who have filled out the form were interested enough to ask about their "scores" and welcomed a discussion on the points in which they were in error.

We expect there will be those who will not want to fill out the questionaire. But we also expect that those who do will help us formulate a program, through trial and error, that will present Wupatki in an understandable way.

At a less-traveled Monument like Wupatki where more time can be given each visitor, where a visitor has driven 15 miles solely to see Wupatki, and where a majority of visitors come directly into our "home" we attain a more personal contact; I think we are in a favorable position to analyze visitor reaction.

Entah Eclipse

Clyde Peshlakai has told me the following: (Because Clyde doesn't speak much English and I less Navajo there may be some errors in this account).

"I go to Squaw Dance Dinnebito; stay up all night, no sleep atall. Dance all night, couldn't stop-it. Early morning go to Bridge (Cameron); everybody lotsa eat; kill-it little lamb, steer, and mutton; everybody brings. I buy velvet and stick and bean candy (probably jelly beans). Same night dance all night, couldn't stop-it. Early morning go to 'nother place Dinnebito; ride lotsa mile. Night-time start-it dance again an' a moon gets sick (the recent eclipse). 'At's no good, he stop-it dance. Dinneh Tso he walk aroun', tell everybody no eat-it, no smoke, no drink-it, no sleep, moon's dead. 'Bout two o'clock moon get well; start-it again dance. Early morning he say 'Moon too bad fellers, spoil-it dance.' I go home to Sallie's half-mother." (????) (his wife, Sarah, has become Sallie.)

Etc.

On Saturday, July 20, the Museum of Northern Arizona moved its field expedition from Bonita Park to a site a couple of miles below Grand Falls on the little Colorado River. Unless this latter site proves unexpectedly nonproductive, the expedition will not work at Wupatki this summer. It now appears that we will continue for awhile to grope in the dark concerning our reservoir--gaming area--problematical structure.

I was glad to see---and get---evidence of the cooperation and encouragement men-in-the-field are obtaining from the Educational Department, as evidenced by Dale King's report concerning the activities of the Berkeley division.

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# SUNSET CRATER

By James Brewer, In Charge

Since installing a registration box earlier this year, we have obtained visitor counts which show that travel interest is certainly not lacking at this Monument. During July, 909 visitors registered here.

All of which brings out the fact that an unusually large number of people are visiting a Southwest Monument at which there is no guide and protection service, very little provision fro non-guided education, and at which the only Park Service development is the placing of a register.

Perhaps the most immediate need is for signs which would enable the unattended visitor to add much to his enjoyment of the Monument. If possible, we would like to have the Berkeley Office make up the usual nature trail signs pointing out the less obvious, but very interesting fumeroles, squeeze-ups, etc. The only provision for such explanation at present is the glass-enclosed case containing copies of Museum of Northern Arizona notes concerning Sunset Crater and vicinity, and a sign pointing to the ice caves.

The entrance road at present is in chuck-hole condition, in spite of which cars were overflowing the improvised parking area when we picked up the travel sheets this morning.

A visitor at Wupatki, who had just come from Sunset Crater, told me of an unusual party at that Monument: the members were taking ice from the ice cave and freezing ice cream for their picnic lunch dessert!

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QUESTIONAIRE

Following are some of the questions on the questionaire mentioned by James Brewer in the Wupatki report:

1. Have you ever studied archaeology?
2. Have you visited other archeological Monuments or Parks?
3. To what cultural stage (Pueblo I, II, etc.) dies each belong?
4. When was Wupatki Pueblo inhabited?
5. Why was it abandoned?
6. What was the major difference in physical type between Basket Maker and Pueblo people?
7. What plants were cultivated at Wupatki?
8. What is a "kiva"?
9. Is the kiva at Wupatki rectangular or circular?
10. How do the houses of Pueblo II and Pueblo III differ?
11. To what cultural stage does Wupatki belong?
12. What does the name "Wupatki" mean?
13. Is it your impression that Wupatkians were: (yes or no) industrious? ___ raiders? ___ religious? ___ abnormally tallor short ___ resourdeful? ___ numadic? ___ organized to cooperate in work, religion, etc.? ___.

# BANDELIER

By Earl Jackson, Custodian

## Visitors

Visitors numbered 2,092, arriving in 540 cars. Of the 48 states, only six were missing---Nevada, Utah, Oregon, Idaho, Maine, and Mississippi. One car was from Hawaii. This is the widest travel representation we ever had. England, Hawaii, Ontario, British Columbia, Jamaica, Czechoslovakia, and Scotland provided registrants. In fact, three parties came from England.

The six highest states by travel were: New Mexico, 970; Texas, 314; Oklahoma, 150; California, 87; Illinois, 78; Kansas, 70. Our travel figure compares with 1,723 visitors for July, 1934, showing an increase of 349.

It is noticeable that Texas and Oklahoma, especially the former, are sending a much higher number of people in proportion than at any other time this summer. Part of the "Solid South" forms a "Solid Procession" down the road toward Santa Fe and points west.

The largest visitor group this month was a party of 20 girls from the Cimarroncita School.

## Weather and Roads

Precipitation for the month was all of.81 of an inch. Are we proud of it? 'Twas better than nothing. We are thinking of having one of those Rain Dances to see if we cannot propitiate Awanyu, Bringer of Rain. Cloudy weather is still the vogue here, but brings only a promise of rain.

Water in El Rito de los Frijoles is quite low. If a thirsty cow were to find her way into the canyon and take a drink, the stream would stop running.

Roads are quite dusty, and rough in spots. Tesuque and Pojoaque Washes received the run-off from a cloudburst in the Sangre de Christo Mountains, and were almost impassable for a day and a half. Otherwise, travel has not been interfered with.

## Special Visitors

June 27---A group of 10 students of the recently found Eidolon School in Santa Fe were in. This school teaches art, sculpture, metal work, and dancing.

July 5---Major and Mrs. James Sawders spent half a busy picture-taking day with us. Major Sawder is an internationally known lecturer on subjects pertaining to Spanish American life.

July 6---19 Iowa school teachers, members of a travel club, visited Frijoles Canyon.

July 9---Chuck Richey was in on inspection on a three day stay.

BANDELIER (CONT.)

July 10---Bob Rose and Jack Diehl came in for two days.

July 13---Principal and Mrs. J.B. Vernon of the Santa Fe Indian School were very interested visitors.

July 17---A Mrs. Martin, director of the Cimaproncita Girls' Camp brought 18 girls for an afternoon in the ruins, and they spent a night on the campground.

July 18---Mrs. J.F. Zimmerman, wife of the president of New Mexico University, paid a return visit with friends.

July 19---Mr. W.H. Wirt appeared for a two and one half day inspection.

July 25---Chuck Richey is in for his second inspection this month.

Forest Fires

Lightning has been very slight this summer, and so the region has been very fortunate in its fire problems. Only fire reported in Bandelier National Monument turned out to be a controlled campfire of cow punchers passing through. Forestry men are as happy as we are over the fire situation,---their fire guards suffer from innocuous desuetude. (????)

Nature Notes

The Eastern Tent Caterpillar has at last broken out again. The first generation, raised early this summer, did slight damage. The second generation, now becoming ravenous, shows considerable signs of spreading. Jim Fulton, the Forestry Foreman, has a bug crew hard at work on these pests with our new Hardie Sprayer, using a lead arsenate and blood albumen mixture with water. Unfortunately, the long leaf cottonwoods are so tall their tops must go untreated.

The Abert squirrels are becoming so tame they will hardly move out of the road to let a car pass. I have seen a number of them cavorting gaily through the new campground recently, and they are the subject of much interested comment.

A particularly vigorous colony of Ant Lions (Doodle Bugs) has founded its capitol just off the ruins trail under a projecting ledge near the Snake Kiva. The funnel shaped houses of these savage looking creatures are of considerable interest to visitors, especially after the mutilated carcasses of the lions' victims are seen in process of rejection from the doodle bug houses. The ant lion, when he wishes to throw away the body of an ant or other insect, simply gets his head under it, flexes his neck and jerks his head, and sends the heavy load far outside his hole.

General

The visit of Bob Rose was much enjoyed. He gave a great number of

intelligent pointers on our educational problems here, and also straightened out several questions in regard to the geology of the rhyolite tuff.

Jerome W. Hendron, of Albuquerque, began duty as summer Ranger here on July 19. Jerry comes here with an M.A. in Archeology from the University of New Mexico, and is thoroughly acquainted with the archeology of the Rio Grande Valley, hence is quite valuable here. Also, he is not afraid of work, which is one prime recommendation for anyone in the Park Service. There would be no place for a lounge-lizard here.

Lieutenant and Mrs. J.F. Kuehnert, U.S.N.R., arrived at Bandelier on July 8. Lieut. Kuehnert is succeeding Lieut. E.F. David in command of Camp Bandelier. He comes to us with a good fund of experience in handling men, gained partly from his years in the Navy.

More campground comment. Campers are not populating our grounds overnight as well as they should normally be expected to. While it is not our purpose to induce people to come out here just to use the campground, it seems odd that with so many visitors coming one of the finest campgrounds in the state can receive so little overnight use.

Everybody is in a hurry. In my experience I have never seen so many hurried tourists, even with fast traveling summer crowds. One feels sorry for these folks. It is impossible to see the United States in a week.

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BANDELIER E.C.W. REPORT — By H.B. Chase, Project Superintendent

Construction of the Headquarters comfort station has been completed to ceiling height this date.Rough electrical and plumbing work will be started the 29th with efforts to complete this building ready for use by Sept. 1.

The wall project along the south side of the utility area is completed together with walls of the warehouses and gasoline station buildings to the same elevation.

Approximately 50% of the excavation necessary in the utility yard has been moved and placed, this project being carried simultaneously with the wall building for fill material to the proper area elevation.

All footing walls together with 25% of the building walls of the warehouse are now in place; fill within the warehouse footing walls has been made. A small amount of footing wall for the garage building has been completed this month.

Spraying of trees along the Frijoles on the canyon floor has been carried on at intervals when evidence of tent caterpillars has shown up. This work being carried on under the direction of Forestry Foreman

Fulton with the new spraying equipment received at this camp.

A large crew has worked this month in the rock quarry quarrying and shaping rock material for the different building projects and the stone guard rail.

A total of 396 lineal feet of stone guard rail with an additional 78 lineal feet of footing is now in place and completed along the entrance road leading into the canyon.

The campground fireplace project was started this past month within the new campground area; firebrick linings have been constructed on substantial footings at all the new camp sites. Ten of the grills have been completed in the blacksmith shop which now allows the building of complete structures to go forward.

A small amount of obliteration in barren areas and along old roads has been carried through this month.

Our equipment has taken on new life of late due to the work performed by our recently acquired mechanic, Lawrence Scherier. Scherier is continually showing his ability in the mechanical field.

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# YUCCA HOUSE; HOVENWEEP

I left Chaco at 8 a.m., July 19, enroute to Yucca House and Hovenweep. I visited Mesa Verde National Park on this trip for the purpose of familiarizing myself with that Park and the type of service rendered there. I had planned for the past year to make the trip, but until I got a Ranger, I did not feel like leaving this Monument for a two-day trip.

I arrived at Mesa Verde at 2 p.m., made the Ruins trip and scenic drives with Park Naturalist Frank on a special tour. After visiting with Superintendent Leavitt and his office staff, I had the pleasure of having dinner with Chief Ranger and Mrs. Markley.

Then to the campfire lecture which lasted about two hours and was time well spent. I put all this in my report because I think it is very important that a Custodian learn all he can about the Service and the surrounding country.

I left Mesa Verde at 5 a.m. on the 20th and went down McElmo Canyon and out on the Mesa to Hovenweep. The next four hours I spent climbing around in those canyons, inspecting cliff dwellings, square towers, and ruins. I found several cliff dwellings this trip that I had never found before. There were no evidences of freash vandalism around the ruins. A heavy rain had fallen the day before and I found the road

in McElmo Canyon quite slippery. I found only one fresh car track since the rain.

I left Hovenweep and arrived at Yucca House at 2:30 p.m.---inspected the ruins and found everything in fair shape. There were no stock in or around the ruins. No signs of fresh digging other than prairie dogs. I spent considerable time repairing the fence and gates. The Monument is now fenced up and the gates shut so that no livestock can roam promiscuously over the ruins. ---By Carrol Miller, Custodian, Chaco Canyon

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Spent July 24 working on the fence at Hovenweep, and on my next visit there will try to fix up some other things. Since leaving this morning (July 25) I've thought of a couple of items already. Just now I am writing this while having a leak in the radiator fixed; after lunch I shall go to Hovenweep. I imagine I shall be at Arches National Monument before the end of the week and wander around the Lukachukai region next week.

I was at Yucca House from 4 p.m. July 23 to 8:30 a.m. July 25. The ruisn seem to be in fair condition; none of the holes dug by pot-hunters look at all recent.

The entire fence has been tightened and repaired; many of the posts are not very solid but it is not essential that they be reset immediately. The gate on the southeast side was fastened up so that it cannot be opened and becomes a part of the fence; there is no necessity for visitors to drive onto the Monument---they can park outside and walk in through the opening in the fence behind Mr. Houston Ismay's house. This arrangement is satisfactory to the Ismays. The approach to the north gate is barred by a fence recently constructed by Mr. Ismay. The north gate, although badly battered and dilapidated, will suffice to keep out stock if it is kept chained.

According to Mr. Ismay, the large gully across the southwest corner of the Monument has done no cutting for two years; it presents no immediate problem, although a little erosion control work would be a good idea. A sort of little marsh just beside Upper House is quite a nice home for mosquitos and should perhaps be drained.

Highway 666 is in excellent condition from Shiprock to Cortez, considerably smoother than for example the road from Aztec to Shiprock. The road in to the Monument from the highway is rather bad in spots but navigable.

Mr. Ray Ismay is away at present; I found both Mr. Houston Ismay and his wife very friendly and cooperative.

There have been relatively few visitors to the Monument lately, according to Mr. Ismay.

One small rattlesnake was encountered along the south fence.

The present arrangement seems to me sufficient for protection of the ruins at the present time. The Ismays keep an eye on the place fairly continuously, and there is little danger from pothunters and vandals. At some future date it would be fine to have a regular custodian and to encourage tourists to visit Yucca House, but that will entail further repairs to the fence and improvement of the road in from the highway.

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# TUMACACORI

By M.O. Evenstad, Park Ranger

Visitors for the month totalled 712. By comparing with the figures for the corresponding period last year we find an increase of over 35% over the 526 reported last July. Twenty nine states, the District of Columbia, Alaska, Ireland, and Mexico were represented.

We had a pleasant visit with the Boss on the 3rd, who in company with his daughter Nancy Margaret, accompanied Mr. and Mrs. Charles R. Brill of the Washington Office on a visit to the Monument.

On the 18th, Dr. H.C. Bryant of the Washington Office, accompanied by Junior Park Naturalist Louis R. Caywood, stopped in for a short visit.

Senor Plutarco E. Calles, former president of Mexico was a visitor on the 21st. An interesting as well as interested visito was an old Spaniard by name of Vincent Ferrer who had visited the Monument in 1861 when he was a boy of 11. He seemed to have a good memory and recalled several features. He was looking over the walls inside the cemetery, but seemed to be dissatisfied about something. Finally he went out on the west side of the wall, and found what he was looking for, namely, the ornamental daubs of slag and broken brick.

He also claimed there were several tanks that had been located east of the grounds, and the buildings, and seemed to be very much pleased at having had the opportunity of seeing the place again after so many years.

During the month the following publications were received from the Headquarters Office: Preliminary Report on the Ethnography of the Southwest; A Report on the Geology of the Southwestern United States; Material Culture of the Pima, Papago, and Western Apache; Chronology of Tumacacori National Monument. So far, I have looke over only the last named publication, and in my opinion it fills a real need. In order to get the information which is condensed in this little volume, it would be necessary to read many volumes written on the subject of Tumacacori Mission, and the Mission history in general. That, of course, would be well and good, but a condensed publication such as that mentioned serves a real purpose.

TUMACACORI (CONT.)

Weather continues hot, a a general thing. However, we have had some cloudy weather, and on the 12th we had a good shower of rain that climaxed small showers of several days before. We also had a real heavy rain on the 20th that must have totalled close to an inch. I would like to have an authentic record of the weather at this Monument, and especially of the rainfall. Do you think it feasible to have this place designated as an official station?

At the time of this writing a crew of men from the telephone company is running an a telephone line to the Custodian's residence. This will be a considerable improvement in the administration of this Monument. Heretofore, if we wished to telephone anyone, it was necessary to drive to Tubac or Nogales, and for anyone to get us involved a messenger fee. At the request of the Boss, I took some tentative measurements for running in electricity here from the Hi-line. If we could provide for some electrification at this place, that, too, would be a big improvement. It would enable us to run fans during the hot days, pump water, etc., as well as provide lights for the various buildings, which we now have more or less spasmodically from the little Westinghouse plant, augmented by Coleman lamps.

During the month, the Acting Custodian had the well and tank cleaned in the water system, as well as making several repairs. Visitors came rather irregularly, running from zero one day to 116 on the Fourth. Biggest Sunday total was 85; smallest, 39. All in all I have had an interesting and busy month.

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# WALNUT CANYON

By Paul Beaubien, Acting Custodian

1,982 registrations this month with most states represented. There were three parties from Canada, three from Mexico, two from Germany, two from Scotland, and one each from Manchoukuo, Wales, Russia, and the Canal Zone. Have had no one from Conn., Del., N.H., R.I., or S.C., in the last two months.

Among the visitors was an elderly lady who live at Walnut Canyon from 1904 to 1920. She said the buildings here were built in 1904 with old logs from an abandoned logging camp. The chicken yard had to be screened over the top to keep out the wild turkeys, while mountain lions were common in the canyon.

She did a thriving business in curios. Beads from the cliff dwellings often sold for a dollar apiece, while arrow heads sold from 25 cents to a dollar. Prices for skeletal remains ranged from 65 cents for a mummified hand to six dollars for a skull punctured by a bullet (??).

Of special interest were a few earthquakes, the most severe being in 1906 just after the "fire" in San Francisco. This was strong enough to shake

cupboards from the walls of the residence. Perhaps an earthquake would help explain why some tall pines are now leaning at an unorthodox angle.

John H. Diehl and Bob Rose arrived about mid-July with news that there was yet a chance of a C.C.C. camp near here. A few days later Andy Clark and crew arrived to take topography, so I'm all excited again.

Mr. Diehl returned later with Hugh Miller. Was certainly glad to see Hugh and hope he can make periodic trips in the future. Among other things they inspected the territory involved in the proposed addition to the Monument. Messrs. Monroe and Oldham of the Forest Service accompanied them.

While the Forest Service people were here I inquired about the mistletoe which occurs in some of the junipers. Was informed that it could become quite serious and kill the trees, so will end the report with a request for a visit from someone who knows their mistletoe.

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## CAPULIN

By Homer J. Farr, Custodian

It seems that July has rolled around before I had hardly finished the June Report.

Visitors have been very plentiful this month---quite a number of large schools have visited us. The High School group from Lufkin, Texas, was here composed of about a hundred. The Southwestern Teachers College from Canyon, Texas, and some other smaller parties also were our welcome visitors. This coming Sunday I am advised and requested to be at the Monument and escort the Epworth League Convention.

All in all, we shall have a little over 5,000 this month.

The Chairmen of the Chambers of Commerce of Raton, N.M., and Dalhart, Tex., have been boosting Capulin Mountain National Monument to the travelers of Highway 87 and have swelled the number of visitors considerably.

Compliments were paid the Custodian during the Convention of the Colorado-to-Gulf Highway Association this past week concerning condition of roads and trails on the Monument.

Weather all this month has been very cool,and pleasant---a number of local showers aided the wealth of flowers in bloom. The Custodian is in hot water trying to get some decent pictures of this Mountain.

The topographical lay of this Old Volcano is such that it is almost impossible to get a representative picture without an airplane, and the only heavier-than-air machine the Custodian has is an old Dodge, and she refuses to fly. Possibly some lone air scout will pass by some time and give us a lift. I have had this summer dozens and dozens of requests from

Chamber of Commerce heads to private M.D's from Denver to Dallas, requesting 5x7 glossy prints of this Volcano. These are expensive, and with no funds to provide, I have accommodated them only in part.

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# PIPE SPRING

By Leonard Heaton, Acting Custodian

I have had a busy month with travel and CCC men, so my report will be in two parts: first, that of the usual news from the Monument; and, second, that of CCC activities.

Our travel for the month is as follows:

| | | | | |
|---|---|---|---|---|
| U.S.N.P.S. | 13 | Calif. | 11 | Of this number, 33 camped, and 26 CCC men were stationed for one week or more. |
| U.S.N.F.S. | 1 | Nev. | 2 | |
| U.S. Army | 5 | D.C. | 2 | |
| Ariz. | 115 | CCC men | 54 | |
| Utah | 104 | Minn. | 4 | |
| N.Y. | 3 | | | |
| Ill. | 2 | Total | 304 | |

Plus local travel, my count is 626. This increase is due to the coming in of the CCC camp, men looking for work on the construction of the camp, and the freighting in of the material. The total travel is 930.

Among visitors this month were Mrs. Julander, grand-daughter of Mr. Winsor who built the fort; Mrs. Kuehl, Cowell, Carrol, and Leslie of the National Park Service; Messrs. Capton, Swift, Marshell, Peterson, and Root of the U.S. Army; and Lieut. Ed. Cantor who is stationed here in charge of the CCC Camp, Co. 3287, D.C. 44.

Another bit of news came in of the existence of a diary of Charles Lowell Walker, a stone mason working here at Pipe Springs in 1869 and 1870. I am going to get a copy of this diary if possible.

We had one camper say that in all of her travels this summer she had not been awakened by so may birds singing as here at Pipe Springs. Now I am wondering if we are going to drive away some of our birds by having the CCC camp here.

I want to tell you about that old porky that kept coming around last month. The other night I found the reason for him staying so close. Back on the hill about 250 feet among the broken rocks, some CCC boys and I found the home of Mr. and Mrs. Porcupine and several little Porcupines. This is the first den of the kind I have known on the Monument.

July 4, representatives of the Army and Division of Grazing came in to check on the campsite for the CCC's, and then July 12 at one a.m. ten trucks came in bringing 24 CCC boys and two officers. These were advance

PIPE SPRING (CONT.)

men, later cut to 12, and are being replaced by boys from Utah.

Lumber commenced coming July 17 for buildings, and by July 24 200 000 feet had been placed on the ground. Twenty three men started the carpentry work and today 10 more men were added. They have the foundations of nine buildings up to the floor. Foreman says in about three weeks this camp will be about finished. If they keep up the speed of yesterday and today, I think the camp will be ready for the eastern boys by the last of August.

As you know it was planned to have the camp in the southeastern corner of the Monument, but when Mr. Kiehl came in with Mr. Cowell, it was found that the camp and the campground would conflict, so the camp location was changed to the southwest corner, which will suit us better, although it will interfere some with the view out across the desert.

Lieut. Cantor is a very fine young man, and there will be no conflict between us as we have been working together very well, and his boys have not given is a bit of bother---in fact, they have been a help. If we can get a bunch of men like the first 12, I will have no worries from the CCC boys.

This will be the last report from me until the September one, as I leave here August 11 to camp in Kanab before our trip to Washington, DIC. About 20 boys from Kanab will go back. Will have my wife prepare some of the August report, and an acting custodian will function while I am away.

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# ENGINEERING

J.H. Diehl Report:

At Chaco Canyon National Monument, engineering activity for the month of July was centered on completion of the fence line survey, and topographic survey of about 22 acres of the Headquarters Area.

This work was completed July 17, and the survey party then moved to Walnut Canyon, and began the topographic survey of the propose headquarters area at this Monument.

At Chiricahua, a survey crew has been busy taking cross-sections of the highway preparatory to plans for flattening the slopes for stability and landscape appearance.

On ECW work at this Monument a survey crew has been busy establishing lines and grades for the various construction projects, and has also staked the proposed telephone line from the Monument Headquarters to Portal, Ariz.

At Bandelier, alignment stakes and grades for construction projects

J.H. DIEHL ENGINEERIN REPORT (CONT.)

ECW have been set, and alignment and cross-sections for the proposed headquarters residence road have been surveyed, preparatory to preparation of detail for this project.

The Park Engineer hasvvisited a number of other Monuments of this district for the purpose of looking into engineering features and boundary extensions.

Office work has been confined to map preparation and data recording.

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J.B. Hamilton Report

Aztec Ruins: I went to Aztec the 8th and 18th. The first time I came in response to Custodian Faris' telephone message that he had $5,400 new money to spend for paving the parking area and other work. When I arrived he wanted to start spending the next day. So did I, for that matter, but I had to explain that he first must have plans with a lot of important signatures on them. I telegraphed my chief to hurry the plans and came away leaving Johnwill sadder and wiser.

On the 18th I went again with Architect Richey to discuss the preliminary plans sent for discussion. As so often happens in the Park Service, the Architects' ideas of appearance did not match the Engineers' idea of permanency of construction. I suppose Johnwill is sadder and wiser yet.

Meanwhile the spending of his $5,400 waits the all important signatures indicating that everybody is, if not satisfied, at least willing to go ahead on an agreed basis.

Canyon de Chelly: I went over to Thunderbird Ranch on business connected with the construction of the sewer and water systems there three times this month. That means 36 hours of driving time or better.

On the 7th and 8th I went to see what sort of a start Foreman H.M. Brown was making and to see that naterials were coming as they should. Found Mr. Brown off to a good start and most naterials on hand or on the way.

In response to his telegram I went over on the 16th and set final grades for the sewer trench. As the sewer has to be laid on a very flat slope, more than ordinary care had to be used to get an exact grade and to build to it. I took over joint filler, oakum, and some tools left from the Mesa Verde sewer job. The work was progressing smoothly.

Just three days later a flood came out of the canyon mouth and washed 350 feet of trench and the septic tank excavation nearly full of muck. It also filled about 125 feet of carefully laid sewer tile and warped it off line and grade. The extra cost due to the flood is about $300 to $325.

# CASA GRANDE

The month of July was a quiet one---only 1,198 visitors in 343 cars from 38 states, the District of Columbia, and England. This is an increase of only 35 visitors over the same month in 1934.

Personnel vacancies were not filled during the month, and guiding was handled by Acting Ranger Woodrow Spires and members of the Headquarters staff.

July was relatively cool. Maximum temperature was 109 on the 16th and 26th; minimum was 56 on the 4th. Precipitation was limited to.601 inch on the 27th.

Prominent visitors included Dr. Byron Cummings of the University of Arizona, G.C. Bernard and Dr. W.D. Strong, of the Smithsonian Institution, Washington, D.C.

Assistant Director H.C. Bryant visited the Monument July 20.

We wish to acknowlege with appreciation the loan of a Hohokam pit house model after the type found at the Grewe Site a mile east of the Monument. The model was loaned to us by Grand Canyon National Park, and is installed in our museum where it is giving very good service.

A Comparative Pottery case was installed during the month using a fine cartograph made for the Monument by the Berkeley Educational Office.

Mesquite seeds have been obtained through the courtesy of the Boyce Thompson Southwestern Arboretum, and it is planned to plant the area between Ruins and residences to form a screen. This work will be done in September.

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# LANDSCAPING

Charles A. Richey Report

On July 3, I contacted Vernon Randeau of the Land Purchase Division of Mr. Maier's Office on the proposed White Sands National Monument addition. At this time possible development for this area was discussed.

During the month of July two field trips were made to Bandelier National Monument due to the amount of building construction in progress.

I am glad to inform you that the landscape and architectural features of the work are satisfactory and that the construction work is making good progress.

On July 11, Engineer Diehl, Custodian Jackson, Project Superintendent

Chase, Naturalist Rose, Landscape Architect Morse, and I made a review of possible projects for the Sixth Period Program, which I trust has come to your attention.

The same party reviewed the approved ECW Project No. 29, Class 203, Road Betterments in the Detached Section. This project is the betterment of the road through the detached section to the Los Alamos Ranch School. Work on this road would be a very large undertaking and it seems more or less agreed between the different parties that other possible locations should be considered and the route further studied before work should be started on this project.

El Rito de los Frijoles is very low and the pipe line which collects water from the upper end of this creek is proving inadequate during this season.

On July 18, a field trip was made to Aztec Ruins National Monument where the recently allotted Minor Roads and Trails Project (Paving Parking Area, $6,000.00) was reviewed by Custodian Faris. The information covering this trip was taken up with the office by letter with a copy sent to you.

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# NATURALIST DIVISION

Robert H. Rose, Park Naturalist

July 1955 makes history in the Naturalist Division for during the month the appointment of a new Junior Park Naturalist to the Headquarters Staff was conformed. This position has been filled by the promotional transfer of Louis R. Caywood, Ranger at Casa Grande National Monument for the past year. While we have been short on personnel during the month due to delays in getting the Casa Grande Custodian and Ranger positions filled, the Junior Naturalist position just filled is a real milestone and already Caywood is out on emergency and relief assignment in the field. Such work will be the duty of one Junior Naturalist for full time for the next year or two.

Staff

The headquarters staff of this division consisted during the month of the Park Naturalist, Junior Naturalist Lale King and of Junior Naturalist Louis Caywood, whose appointment became effective about the middle of the month.

The Park Naturalist was at Headquarters from July 1 to 8, inclusive, during which time the following work received attention: (1) preparation of the June report of the Naturalist Division; (2) assistance on the general Southwestern Monuments report; (3) some relief work on public contacts; and (4) preparation of the report on the inspection of the proposed Kofa Mountains National Monument area.

On July 9 the Park Naturalist left headquarters on a field trip in company with Park Engineer John Diehl. Monuments included were Bandelier, Chaco Canyon, El Morro, Canyon de Chelly, Walnut Canyon, Wupatki, Montezuma Castle, and Tonto. Return to Headquarters was made on the 18th. The following matters were given attention at some of the monuments included in this trip: (1) organization of lists of references needed at these Monuments; (2) looking into problems relating to water development; and (3) interviewing prospective applicants for temporary ranger positions.

With the exception of some relief on public contacts work, time between July 20 and the 27th, inclusive, was occupied in the preparation of the inspection report on the proposed Organ Pipe National Monument area. This report has been rough drafted and revised several times and now awaits receipt of certain maps and pictures before it is complete.

Junior Naturalist Dale King has been at Headquarters during the entire month. A brief account of his activities will be found toward the end of this report.

Junior Naturalist Louis Caywood was on duty at Headquarters until July 15. Leaving the morning of the 15th, he met Assistant Director Bryant at Douglas from where by car they went to Chiricahua National Monument. Spending two days at Chiricahua they then came to headquarters via Tumacacori and Tucson arriving the evening of the 18th. On the 19th a field trip from headquarters was arranged which included Boyce Thompson Southwestern Arboretum, the Gila Pueblo and Tonto Cliff Dwellings. On the 20th, Dr. Bryant continued his southwestern trip by accompanying Caywood to Canyon de Chelly. Spending a day at de Chelly, they proceeded to Grand Canyon by way of the Hopi villages. At the Canyon Dr. Bryant remained to continue his journey west by rail while Caywood returned to de Chelly for an assignment of about one month.

General Personnel

Several temporary ranger positions have been filled at Monuments where summer travel is heaviest. In order to introduce new names to the Southwestern Monuments folk generally, the new temporary rangers will be listed here:

Lewis T. McKinney, Chaco Canyon National Monument. He has had wide experience in many government positions requiring application of skill in practical lines and has proven ability in public contacts and other ranger work. He will be of great assistance to Custodian Carroll Miller at that busy Monument.

James D. Harritt is now at Canyon de Chelly as temporary ranger. With his past experience in Archeology and general ability he is handling his work like an old hand and helps relieve the

emergency on lack of ranger assistance at de Chelly.

J.W. Hendron comes into the Service as temporary ranger at Bandelier National Monument. Hendron has had experience in studies and field work relative to the Rio Grande region in particular. He is stepping right into a full sized job and is giving Custodian Jackson capable assistance during a very busy season at Bandelier.

E.W. Lewis has now been serving as temporary ranger at Aztec for the past several weeks. He is applying himself to his job with energy and enthusiasm in his new position.

Erik Reed is filling one of those unique ranger assignments in our district as travelling ranger in the Yucca House---Hovenweep district. Posting against vandalism, patching gates and fences, enlisting community aid in protection of ruins in that district and giving detailed reports on conditions of ruins, roads, etc., are among his duties. Observations on travel are also being made. A glimpse of Mr. Reed's report elsewhere will show that he is getting the proper angle on this important assignment.

The temporary rangers listed above are new in our organization. We cannot overestimate the importance of their duties which consist principally of contacting our visitors and giving them and interesting and understandable story of the principal features of interest in their particular Monuments. We extend a warm welcome to our new temporary men. Our headquarters members of the Naturalist Division are anxious to meet the new men and to discuss public contacts problems with them and be of assistance wherever possible.

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JUNIOR NATURALIST KING REPORT

Ordered from Berkeley Office: 25 botanical presses; one small display case.

Mailed to Field: 7 reference books; 33 Biological Survey Reports; 55 Field Division of Education publications; Natural History File to Tonto; Bird banding files to Canyon de Chelly, Wupatki, and Navajo; office supplies to Tonto and Erik Reed.

Office Work:
Cut stencils for: July 15 Broadcast (19 pages)
July Monthly Report (74 pages)
Cut stencils and mimeographed: 3,000 Bird banding file cards; 1,000 Bandelier rules folders; 38 Prospecti for July Report; 300 library cards.
Assembled and organized vacation and relief data
Wrote 47 letters

Museum Work:

Obtained Hohokam pit house model from Grand Canyon National Park
Installed Comparative Pottery Case at Casa Grande, with help of Louis Caywood
Stained Moosberg Cremation Burial case
Transferred Casa Grande bird banding records to permanent file cards
" " " Natural History " " " " "
Treated two cases against termites
Ordered, received, checked laboratory chemicals
Transferred biological specimens to new jars and alcohol

Spent one day on previously described trip with Dr. Bryant.

Guided remainder of time: 1,892 minutes; about four 8-hour days.

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# CLOSING

Chief, I am not handing out soft soap when I say I think this is the best report these boys have ever built. I have said that several times in the last year and I meant it every time. That is as it should be, of course, but I am a little surprised at the number of times it has happened lately. It can't always be that new and more exciting things happen each month; some fellows are bound to have an off month when nothing happens, bad weather causes a slump in visitors, disappointments turn up on badly wanted personnel or projects, yet it seems to me these men are turning out better and better reports that give us a truer idea of what is happening in their part of the district.

Dale and I had an argument this morning about the danger of getting the Southwestern Monuments Report too long. One of us held that it would get so bulky that its very size would scare folks into skipping it and reading something else that looked easier; that one famous reporter wrote a description of the flood in less than 600 words; that what we wanted was short reports with a punch; that we ought to leave them asking for more, and so on. The other one argued: put it all in as long as there isn't duplication and it is of interest; the condensed report at the lead-off will take care of anyone who is in a hurry and looking only for high points; nobody is expected to read the whole thing from cover to cover; the fields of interest are wide and varied, let each reader browse where he finds good feeding; the whole thing is brought together here for the future, as well as for the present, and some of this which seems to be of no interest now will be of peculiar interest in future years. Who are we to decide what to throw out? Fifty years from now some minor detail which is too common for us to notice will constitute the high light of the month's report to the interested reader of those times.

Like a lot of our arguments, this one was not settled. Its various angles will be dragged out and overhauled from time to time and gradually

CLOSING (CONT.)

we shall work out the answer.

In the meantime, it pleases me that we are not going stale on report making, but almost from month to month we are turning out better and better material.

Cordially,

Frank Pinkley

Superintendent

## CONCERNING THE SEAL OF THE SOUTHWESTERN MONUMENTS

Perhaps you newcomers to the Monuments have noticed the seal which adorns the Cover of our Monthly Reports. The story of its origin was printed in the February Report, but it might well be repeated here so that you may be familiar with its history.

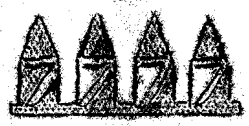
It was hatched about nine o'clock on the night of February 9, 1935, by J.H. Tovrea, Hugh Miller, and the Boss who were holding a Taurian session in the East Room of the Headquarters Building. A rough draft was struck out that night by Tov and that went through the mill the next day and about everyone on the place had a say about it. The net result is standing on its merits.

Among the Southwestern Monuments the geologic units are represented by the mountain in the background; the prehistoric units by the ruin in the left middle ground; the historic units by the church in the foreground; and the botanic units by the cactus near the center.

Behind and over all rises the sun of our destiny: on its way up and nothing in the world can stop us so long as we hold our Esprit de Corps.

And, just to show that we are serious, but not too serious, we put the rattler in the immediate foreground to show that we are good fighters, gentlemen who do not strike without warning, but when we do strike we mean business, and, finally, that it takes the wisdom of a serpent to operate this far-flung group of the most interesting units in the National Park system on the money we get!

# THE SUPPLEMENT TO THE MONTHLY REPORT FOR THE SOUTHWESTERN MONUMENTS



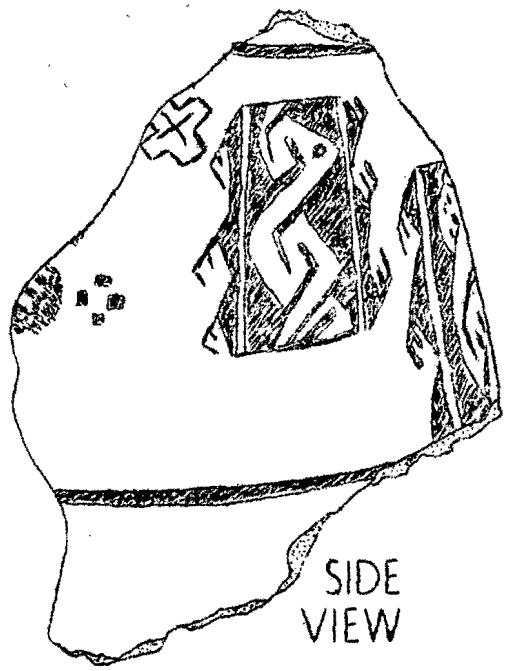
WHERE WE ARE SERIOUS
-BUT NOT TOO SERIOUS



SOUTHWESTERN REGIONAL OFFICE
NATIONAL PARK SERVICE
LIBRARY

# RED ON BUFF FIGURINE

By
Dale S. King




A fragmentary human figurine of pottery, sketches of which appear with this note, was found in January, 1935, by our good friend, Dr. E.C. Gipe. The specimen was discovered in the trash mound south of Compound A of Casa Grande National Monument---it had washed out of the side of a test trench cut by the Gila Pueblo in 1927.

Tentatively identified, it is of the type known as Sacaton Red on Buff.

Although only a portion of the left side of the figure was found, the fact is immediately apparent that it represents a human figure, probably seated, and possibly with legs crossed. Hands were clasped over the somewhat protruding abdomen. The figurine may represent a pregnant woman.

The figure was evidently clothed. A necklace holds suspended a gorget, which, strangely enough, is not symmetrical---a volute is apparent on the right side. The necklace also had a pendant in the back. The left arm is well modeled and four rectangular dots on the wrist indicate a bracelet. On the left pectoral region is a cross enclosed by a single framing line.

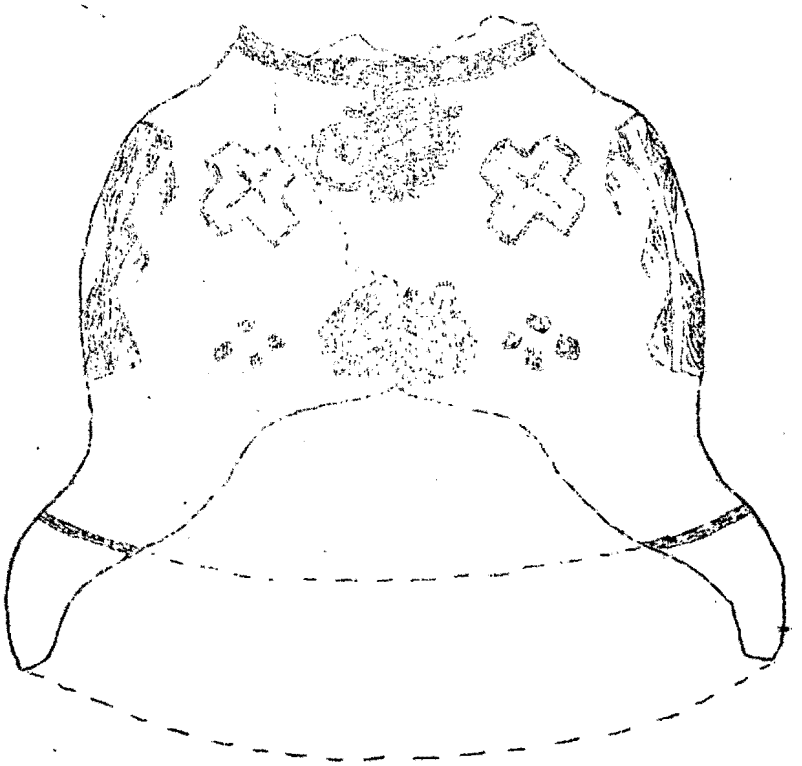
On the left upper arm is a design well enough reproduced in the sketches to require no further description. Note, however, that the design is asymmetrical---a dot appears near the upper right hand triangle, and the lower right hand triangle is broken to include a diagonal line. Two similar designs appear on the back, but do not include the dot. The lower part of the figures is missing.

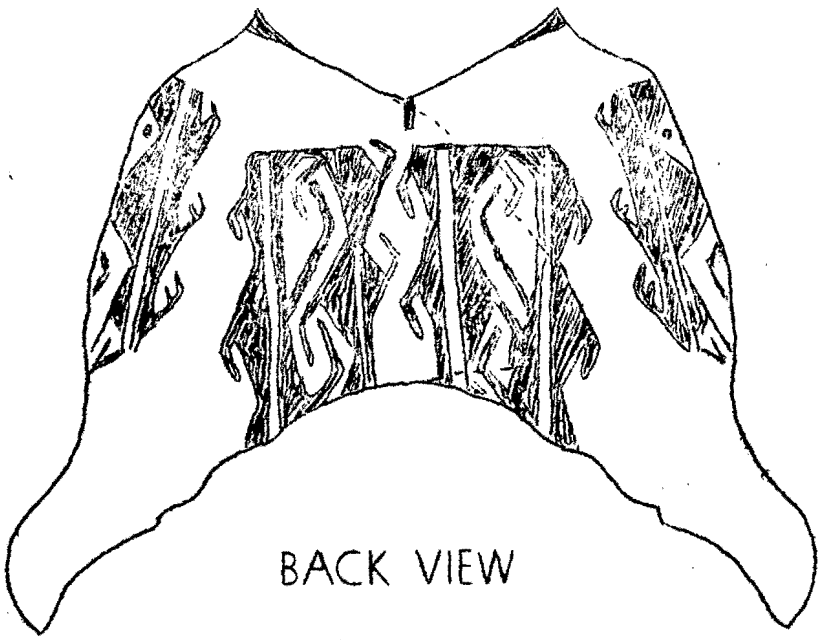
A line near the bottom of the figurine seems to indicate a skirt.

Sketches are actual size. The missing half of the specimen has been hypothetically duplicated as if the right side were the same as the left. Dotted lines show the extent of the original fragment. Thus, everything to the right of the dotted line in the Front View is original, and likewise with everything to the left of the dotted line in the Back View. No attempt at restoration was made in the Side View sketch.

Interior is somewhat smoke smudged and finished roughly. The inside neck portion shows a mark as if the clay were molded on a flat piece of wood or some similar object. Walls average 3/8" in thickness.

FRONT VIEW





BACK VIEW

UNITED STATES
DEPARTMENT OF THE INTERIOR
National Park Service
Washington

103346

July 1, 1935

MEMORANDUM for all Field Officers:

The following personal statement concerning the use of poison against vertebrate animal life, prepared by Dr. Joseph Grinnell of the University of California, is worthy of consideration. The statement, self-explanatory, is offered as a logical, rational appraisal of practices which are generally more subject to prejudice and creed than fact. Since the national park policy regarding the use of poison is already well defined, Dr. Grinnell's statement is quoted for your information:

> "After some years of watching the course of events with respect to the fortunes of our native wild animal life, of observing human behavior in connection therewith, and of reflecting upon the meaning of facts thus gathered, especially upon what they would seem to indicate for the future, I have come to certain conclusions in regard to man's proper treatment of animal life. While these conclusions are not held as absolutely final, they are offered as a down-to-date statement of my convictions, wholly justified, I think, on the basis of my personal knowledge and my individual powers of understanding at this present time.
>
> "I believe it is wrong, economically, scientifically, esthetically and on humanitarian grounds, to use poison of any kind, against birds of any species whatsoever, anywhere. This conviction is held in the belief that it is the only one consistent with the greatest good to the greatest number of our people---overwhelmingly in the interests of the majority of our citizens over a long-time period. The aggregate value of this class of animals far exceed the sum total of harm done. Reduction of damage by birds to crops locally is possible by methods other than the poison method.
>
> "I believe that control measures (other than by the use of thallium or similar;y dangerous poisons) against need to be, and should be, applied effectively within thickly settled territory and on cultivated lands, as may be required in the interests of public health and of agriculture; but
>
> "I believe it is wrong, in the widest economic interests, to poison rodents or any other native vertebrate animal life on uncultivated, that is, unfarmed lands. Especially, rodents which burrow serve as natural cultivators of the soil. This service is needed continually on our western watersheds in order

"to maintain the plant cover essential to water storage and to protection against erosion.

"Finally, I believe it is economically wrong to use poison against any so-called predatory animals anywhere. The occasional 'killers' among these animals can be done away with effectively and with more safety to other, valuable wild life, by employing other well-known and effective means. Carnivorous mammals regulate the numbers of rodents on the land, and their annual increase temperately drawn upon furnishes a valuable out put of fur.

"In the above proscriptions as to the use of poison, I make exception, be it noted, of the times and places when contagious disease is an actual and immediate menace to human life or to domesticated animal life, on quite the same principle that the forester practices backfiring to save our forests from the further sweep of devastating conflagration."

(Sgd) Hillory A. Tolson
Acting Associate Director

# CHIRICAHUA NOTES

By Charles E. Powell

On the little trip mentioned in the Chiricahua Report, Mr. F.H. Hands showed us a mounted bird called a Grooved-bill Ani which he had collected near here, and that is another thing I don't believe yet. Not that I doubt Mr. Hand's word, but I am rather inclined to believe that "there ain't no such bird." Imagine a bird which looks like a blackbird, only larger, with an enormous grooved beak and you have my impression of what I saw. I rub my eyes and wonder if I was dreaming. This bird was found in the Chiricahuas in October, 1928, and will leter be seen at the University of Arizona. Dr. Bryant asked me to mention this in my report.

Also at his request I noted that Mr. Hands reports the killing of a jaguar on what is now the Monument, in January, 1912. None have been found here since that time, although the Lee Brothers, nationally known hunters of predatory animals, frequently report cougars or mountain lions. This morning a white-tailed deer, heavy with faun, crossed the road in front of the car, in Bonita Canyon.

Caywood told me to write for some books, and gave me several pointers on the study of wild life. Gathered some plant specimens on the trip, and learned how to remove a spare tire from a Ford V-8. This was once when the Ranger had a better time than the visitors. I will never forget the pleasure of rolling down into Cave Creek, watching the deer scurry away as we passed, listening to Dr. Bryant explaining about trees, plants, and birds, and the bit of song he was singing about the "golden rippling sunshine." Sorry that he could not stay longer.

We have been sending specimens of our vegetation, etc., to the

University for identification. Let me quote Dr. Thornber's letter:

"No. 5 is Meibomia, but I can hardly believe that the flower that you have enclosed is a flower of this species. This flower to me is entirely too large, and I will be glad to have you check up on this matter very closely."

It is true that the flower mentioned is unbelievably large, but we are glad that it is, and that this beautiful blossom chooses to grow in the Chiricahuas. We have sent a perfect specimen to Dr. Thornber---root, plant, flower, and seed---and we hope to have the name on a label later.

Here is another quotation: " No. 9 I will hold. It is the specimen you sent me before that I have not yet identified, but now I am sure I will be able to identify it without difficulty, and I will write you about this a little later." And then in long hand, the Dean writes "It is Verbascum virgatum slatus."

Is it any wonder that I find these studies fascinating? I believe that Chiricahua will astonish any scientist who will come here to study.

Lest it be thought that Dr. Thornber should have been able to identify such plants more readily, I wish to emphasize the fact that plants here have many unusual characteristics, and that the good Doctor is now on a vacation trip to California, and is away from his library. He helps me out as a diversion, and he would have spent a part of his vacation here but for an automobile accident which put both Mrs. Thornber and him in the hospital.

As an afterthought, I want to ask how I can convince Dr. Fred Gibson of the Boyce Thompson Arboretum that Saguaro National Monument has taller cacti, more of them, larger cristate growths, cacti with more branches, and more varieties than any place else on earth, when I am over here in the Chiricahuas? Just wait, and we will yet set a mark for him to shoot at.

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# DUMB BUDDY

Here's one that W. H. Smith reports from Gran Quivira:

"They pulled one on me the other day. I had a car of Mexicans who could not speak English very well, and I can't use the Spanish language. We were looking at the Mission and I had told these people about three times that it was built in 1650.

"After a while a young man spoke up and said, 'Jees Christi, long time he been here. I been here 15 years ago, and he here then.' I just about gave up after a crack like that, and told them to look around."

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# BIRDS AT NAVAJO

By Milton Wetherill

June 18 to July 20, 1935:

Turkey vulture---Cathartes aura septentrionolis
Western Red-tail---Buteo borealis calurus
Sharp-shinned Hawk---Accipiter velox
Desert Sparrow Hawk---Falco sparverius phalaena
Western Mourning Dove---Zenaidura macroura marginella
White-throated Swift---Aeronautes saxatalis
Broad-tailed Humming Bird---Selasphorus platycercus
Costa Humming Bird---Calypte Costae
Red-shafted Flicker---Calaptes cafer collaris
White-breasted Woodpecker---Dryobates villosus lencothorectis
Say Phoebe---Sayornis saya
Northern Violet-green Swallow---Tachycineta thalassina
Long-crested Jay---Cyanocitta stelleri diademata
Woodhouse Jay---Aphelocoma californica woodhousei
American Raven---Corvus corax sinuatus
Pinyon Jay---Cyanocephalus cyanocephalus
Mountain chickadee---Penthestes gambelii
Gray Titmouse---Bxeolophus inornatus griseus
Lead-colored Bush Tit---Psaltriparus plumbeus
Rocky Mountain Nuthatch---Sitta carolinensis nelsoni
Canyon Wren---Catherpes mexicanus conspersus
Rock Wren---Salpinctes obsoletus
Western Robin---Turdus migratorius propinquus
Western Gnatcatcher---Polioptila caerulea obscura
Western Tangger---Piranga ludoviciana
Rocky Mountain Black-headed Grosbeak---Hedymeles melanocephalus papago
Brewer Blackbird---Euphagus cyanocephalus
Spurred Towhee---Pipilo maculatus montanus

Also seen, June 19 to July 20:

Hopi Chipmunk---Eutamias quadrivittatus hopiensis
Rowley White-footed Mouse---Peromyscus boylei rowleyi
Sonora White Footed Mouse---Peromyscus maniculatus sonoriensis

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# WHITE SANDS ECOLOGY

"An Ecological Reconnaissance in the White Sands, New Mexico" is the title of an article by Fred W. Emerson in Ecology. Vol. XVI, No. 2, April, 1935. It may be possible for those interested to obtain reprints from Mr. Emerson at New Mexico Normal University, Las Vegas, New Mexico.

His summary is quoted below:

1. Studies were made of the vegetation of the White Sands in spring

and summer of 1934.

2. Plants seem to be in the process of migrating from outside sources into the dunes with the possible exceptions of two endemics that may have originated within the area. Some species have entered only a short distance while others have migrated several miles.

3. No seedlings establish themselves except in the flats, between the moving dunes.

4. In the flats soil water is near the surface, the water table being between 2 and 5 feet deep with moist sand reaching almost to the surface.

5. Roots must absorb water from a saturated solution of calcium sulphate.

6. Even in the most luxuriant stands of plants there is a very slight concentration of nitrates and nitrites, thus raising the question of methods of nitrogen assimilation.

7. Seven species have the power to grow upward rapidly enough to survive encroaching sand. All of these produce adventitious roots when covered. At least 55 species are limited to the flats because they can not elongate when covered.

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# TREASURE HUNTING AT GRAN QUIVIRA

By the Boss

In the many years the Gran Quivira Mission has been under my supervision I have dealt with several people who were seeking buried treasure there.

The tales they told showed an interesting lack of historical knowledge of the place, but I always tried to listen to their arguments as to the ceryainty of the buried bullion and the reasons why they should be allowed to dig it up and take it away simply because they knew where it was, with a grave face.

I suppose I have talked with 30 of these trasure seeking parties around Tumacacori and Gran Quivira. There is a fixed impression in each one's mind that the treasure belongs to him who finds it regardless of the ownership of the property upon which it is found. They grant the power of the United States Government to take the bullion away from them, but they do not consider it a right of the Government to do so. From this it follows that they will almost invariably offer to split with the Government in what they find ff they are allowed to dig without inter-

ference. They never admit the ownership of the Government by virtue of the fact that it owns the land upon which the treasure may be found. They themselves claim ownership by virtue of the fact that they know where to find it, but, since the Government is very powerful and may cause them a lot of trouble, they are willing to propitiate it with an offering of 10% in some cases and ranging up to 50% in others, of the amount found as a sort of bribe to grease the ways and save trouble, although some of them quite frankly begrudge such expenditure.

I have been amused many times at the confusion I can cause in their minds by telling them that the Government isn't interested in finding buried treasure, and wouldn't run an exploratory trench if they presented their precious map to us for that very purpose. They just can't imagine such a situation and are completely baffled.

The other evening at a session out in our back yard someone suggested that we ought to record some of this treasure lore before it gets too far into the past. Partly for this reason and partly because if I get to talking about it I may raise some other stories among the members of our force which should also be recorded, I thought I might talk a little about the Gran Quivira treasure this month.

Several years ago we were running a small job of repair work at Gran Quivira which involved opening some new ground and repairing some walls. We were working some 10 or 12 men and the work was proceeding nicely. One day a long, lean, hungry looking man turned up on the job, and I thought he was looking for work. He came over and fell into conversation easily but showed no signs of asking for a job.

Thinking he might be a visitor, I then asked him if he wanted me to show him around the ruins. He then told me he had been over the ruins before he came around to where we were working, and that what he was really up there from southern New Mexico for was to locate the buried treasure.

Interesting, I said, but we didn't think there was any buried treasure there and we couldn't let him run random trenches looking for it and if he found it he couldn't take it away because it would belong to the Government. He was quite cast down by this because he said he had already located it and it was down only three or four feet, and it would not be a 20-minute job to dig it out.

He then offered to prove to me that he knew the spot by showing me how his instrument worked on it. We went around through the immense house mounds to a small plaza which had a slight depression at one point.

He brought his instrument out of one pocket and it proved to be a small bottle, cylindrical, with a capacity of about two ounces about half full of mercury, covered tightly with buckskin so one could not see

the glass of the bottle nor the mercury within it. Through the cork of the bottle a piece of fishing twine had been run and the cork had then been covered with wax.

He took a common five cent piece out of his pocket and put it in the palm of his hand, put the upper end of the fishing cord against it, holding it there with one finger, wrapped the cord two or three times around his hand, and then, spreading his feet wide apart, took a solid stance and told me to watch the instrument which hung like a plumb bob at the end of the cord a few inches above the ground.

In a few seconds, probably 20 or 30, the bob began moving back and forth in a fairly straight line. He called my attention to the fact that this line projected ahead of where we were standing would cross the light depression in the plaza.

He then moved 50 or 60 feet to our right and repeated the experiment. Again the bob swung back and forth and again the projected line crossed the shallow depression. Several times was this repeated with the same result, the projected line of the swinging bob always crossed the center of the depression.

We then went up into the depression, and, taking a shorter stretch of the line, he squatted down, putting his elbows on his knees, and we waited. This time the bob swung in a circle instead of a line and he said this was proof that he was over the treasure. From the speed of the swing he deduced that it was not very deep and from the size of the circle he deduced that it was a pretty good size amount of metal.

When I suggested that he let me take a try at it he said that the instrument would not work for everybody---that there was a personal magnetism which went through the money in his palm from his body down to the cord to the bob, and that was what caused the thing to work. If he suspected the treasure to be gold he would use a gold piece in his hand, and the bob would work for gold. If he suspected the treasure to be silver he used a silver piece and the bob would look for silver. In this case he rather figured the Padres had buried the altar furniture, such as candle sticks, crucifixes, etc., and he was working for silver with the results as outlined above.

I didn't point out to him that the five cent piece with which he was sending his personal magnetism down the string did not contain any silver, because lots of people do not know that and he was evidently one of them and would not have believed me. If his magnetic theory was right, he had located a batch of hidden nickel.

The depression, which had appealed to him so strongly as the hiding place of the treasure, was the quite common indication of a kiva, a cylindrical, semi-subterranean, ceremonial room, which after two and a

half centuries of abandonment had filled to the characteristic funnel-shaped depression which can be found times without number over our district among the prehistoric ruins.

Since it was part of our job to remove this debris, and examine the kiva to see what dondition its walls were in, I told him that it was a kiva, that there wasn't any treasure in it, that if he still thought he was right and the treasure was buried not over three feet, he could remove the loose debris as deeply as it went but must stop when he struck a floor.

He accepted the challenge, dug about two feet, quit cold and turned in his pick and shovel before he found floor, treasure, or anything else. The next day he geared up his old Model T and pulled back into southern New Mexico making me promise that if we did find any treasure when we opened that kiva to let him know.

And so he went out of my life, at least up to the present, and all the treasure that is buried there is still there, for we never found any when we opened the kiva.

The psychology of this case interests me yet. The man was sincere, else he wouldn't have come up there halfway across the state on the expedition at the expense of 20 to 30 dollars, which, quite evidently, he could ill afford to spend. He believed thoroughly in his instrument so far as I could determine in talking with him.

Why, then, did he quit digging before he struck the floor I told him he would strike? Did he begin to have doubts, and, for fear he might prove his instrument wrong, abandon the search so he could still have the comfortable thought that the treasure was really there, but, since he couldn't have it anyway, it might as well remain there?

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# DERIVATION OF MONUMENT NAMES

Compiled by Robert L. Cole

CANYON DE CHELLY (NATIONAL MONUMENT)

A canyon carved by a small creek rising in the Tunicah Mountains almost exactly on the Arizona-New Mexico boundary line. A Navajo word "Tschegi" or "de sche-ay-e," "among the cliffs," "ghosts or evil spirits," Hodge. Not in any dictionary but so interpreted by Indians. Most of the year this is a dry wash but rises rapidly on occasion and is often impassable. Heads at Sonsella Buttes near the state line. Flows northwest and joins Canyon de Muerto (Canyon of Death) to form Chin Le Creek.

Chin Lee is Navajo name for a place where water emerges from a canyon's mouth. "The orthography of Canyon de Chelly (pronounced "de

Shay") was obtained from Senor Donaciano Vigil, Secretary of the Province of New Spain, who states that it is a word of Indian origin, probably a corruption by the Spanish of the Navajo term or word "Tse-yi", the Rock Canyon." Gregory.

Proclaimed a National Monument in 1933 and includes all lands in Del Muerto, De Chelly, and Monument Canyons.

CASA GRANDE (NATIONAL MONUMENT)

Spanish words for "large or great house." Also includes several groups of ruins. Located near the Gila River about two miles from Coolidge, Arizona. The Pima and Papago name for these ruins is "Vah-ah-Kei", the "Old House."

Proclaimed a National Monument in 1918.

CHIRICAHUA (NATIONAL MONUMENT)

Named after the Chiricahua Indians (Apaches) who once ranged over this region. The Chiricahua Apaches were an important division of the Apache, so called for their former home in mountains of that name in southeastern Arizona. The name Chiricahua means "a great mountain." Barnes. The Monument was reserved for its spectacular rock formations and scenic beauty. Is also known as the Wonderland of Rocks. Proclaimed a National Monument in 1924.

MONTEZUMA CASTLE (NATIONAL MONUMENT)

The name "Montezuma Castle" was given to this excellently preserved prehistoric ruin by early visitors, who erroneously supposed that it must have once been occupied by Aztec Indians, of whom Montezuma was a famous leader. Is an entire misnomer, inasmuch as Montezuma most certainly never knew anything about the place, and it is a dwelling house rather than a castle. Located on Dry Beaver Creek about four miles north of Camp Verde, Arizona. The name of "Montezuma" is familiar to Indians of this region and has been used in many instances.

Proclaimed a national Monument in 1906.

NAVAJO (NATIONAL MONUMENT)

Hodge says that "The word Navajo is possibly the corruption of Wichita Indians' name for themselves. The Navajos are an important Athapascan tribe. First to mention them by name was Zarati-Salmeron

about 1629." Others believe the origin of the name may be the Tewa word for the tribe meaning "a place of large plantings," referring to the vast cornfields of the Navajo. This may again have come from the Spanish word "navajo", meaning "a large piece of level ground."

The spelling of the word is not well defined. Government proclamations spell it "Navajo", while some authorities write it "Navaho." The former is most common, however. The Monument is located on the Navajo Indian Reservation and is in three sections including Kiet Siel, Be ta ta kin and Inscription House Ruins, Betatakin is a Navajo word meaning "houses in the rock shelves", or "side hill house." Proclaimed a National Monument in 1909.

SUNSET CRATER (NATIONAL MONUMENT)

So called because of its coloring, from the red cinders which give the peak a glow like a sunset. A volcanic cone which rises about 800 feet from a bed of lava and cinders. Located east of the San Francisco Mountains and about 18 miles from Flagstaff. Proclaimed a National Monument in 1930.

TONTO (NATIONAL MONUMENT)

Named after the Tonto Apaches. Tonto is Spanish for "fool." Seems to be some argument as to whether the name was appropriate. Fine cliff dwellings in Tonto Basin near Roosevelt, Arizona. Proclaimed a National Monument in 1907.

TUMACACORI (NATIONAL MONUMENT)

A Mission whose founding dates back to the latter part of the 17th century. Sometimes called San Jose, according to Kino.

"Papago 'Chu-uma Kakul.' The Spaniards always turned the Papago 'ch' to 'T'. For example: Papago 'Chuk-shon.' The Spaniards made it 'Tucson.' Also 'Tubac' for 'Chuyac', etc. 'Chuuma' meaning a white stone; 'Kakuli' meaning bending over; broadly, 'Tumacacori', 'Caliche Bluffs.'" Father Oblasser. Proclaimed a National Monument in 1908.

WUPATKI (NATIONAL MONUMENT)

Name means "Long House" in Hopi. Named by J.D. Clark of Flagstaff. Located on the west side of the Little Colorado River and the area contains many other prehistoric Hopi ruins as well as the Wupatki Ruin.

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# MEXICAN CHURCH ARCHITECTURE

By J. Howard Tovrea

Mexico is a land of churches. Every town and village, no matter how small, is clustered around a magnificent church which would be a landmark in any of our large cities. To say that Mexico has thousands of churches is no exaggeration and the fact that most of them were built in the fifteenth and sixteenth centuries makes them of especial interest to the Historian and Architectural student. The architecture of some of these buildings ranks with the finest in the world and it was for the purpose of studying these churches that we made a trip through Mexico last month.

Our trip was confined to stop-overs at Mazatlan, Guadalajara, Mexico City, Cuernavaca, and Taxco. Mexico City and Guadalajara being respectively the two largest cities in the Republic, they also contain the most noteworthy churches both as to architecture and historical interest.

This report has been written to record my impressions of Mexico and its ecclesiastical architecture not as an authority on the subject but as an interested student. If this writing prompts anyone to visit Mexico, and helps them to see the best examples of church architecture, then it will have achieved its object.

Inasmuch as our time was limited, we tried to see as much as possible rather than to make detailed studies in a limited field. Therefore, this report will be general and not detailed. "We" means Polly and I.

Let us skip Mazatlan where the churches are insignifácant as well as closed by order of the Governor. Guadalajara is 1773 kilometres south of the border town of Nogales, Arizona, and is 5,200 feet above sea level. Leaving Mazatlan which is on the western sea coast our train takes us through the wild, tropical Nayarit Mountains and on to the Barrancas.

Scenery offered by this picturesque region ranks with the finest in the world. We cross awesome gorges spanned by high steel bridges. In 16 miles we go through 16 tunnels, two of which are more than three miles long. We travel over 15 miles of road laid on ties made of precious ebony.

As we skirt lofty, rugged mountains we pass through quaint little Indian villages which were founded by the Conquistadores early in the 15th century and which are still practically the same as they were then. In the center of these villages rises a lofty church---the ornate splendor of which is accentuated by the simplicity of the native buildings.

Strangely, the crude Indian huts are romantically attractive with

their broken roof lines and their uniform architectural motif. They are built of stone and adobe and every roof is covered with red tile even down to the lowly barns and outhouses. These natives set out to build a house with no plans and no idea of the ultimate result of their labors yet the result is really beautiful in its wild setting of tropical vegetation.

Architects sweat blood over plans and specifications, dream of murdering contractors, swear at clients, and the result of their labor is almost as good as the real thing. The natives achieve the broken roof lines of their buildings by not knowing how they are going to build the roof when they get there. As a result, they have to make all sorts of tricky projections and what-nots in order to get the building covered up. I suppose education would ruin them. Their success can probably be attributed to plain ignorance.

We would like to stop at these little villages and study their ancient churches, but it would mean a camping trip as there are no hotels and the water is questionable.

We arrive in Guadalajara that evening rather pop-eyed from trying to see so much in one day. We have a hard time convincing the hotel clerk that we are not rich Americans and do not want the Presidential Suite at 27 Pesos per day. He reluctantly offers us an ordinary room and bath at seven Pesos which we take. In Mexico anyone carrying a suitcase and wearing a necktie must be rich. Good natured bartering is an accepted practice and the traveler soon learns that unless he is rich he had best do a little bargaining.

We arise early the next morning to visit Guadalajara's forty odd churches. We hail an araña, which is a horse-drawn cab.

"Do you know where all of the churches in Guadalajara are?", I ask.

"Yes, Sir."

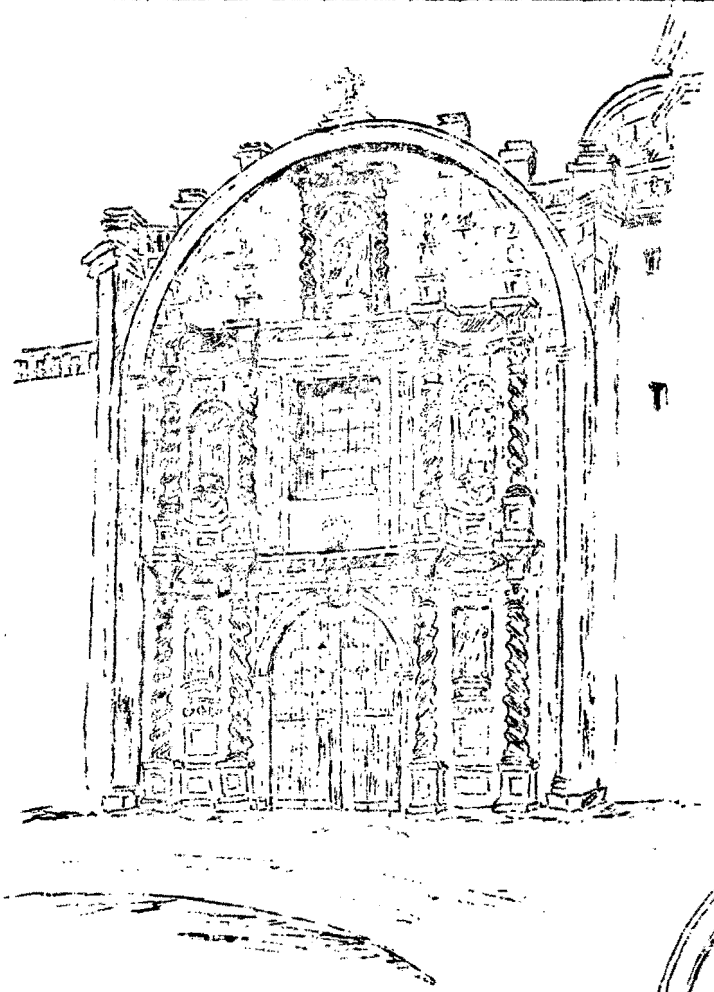
"How much do you charge by the hour?"

"Two Pesos," is the prompt reply.

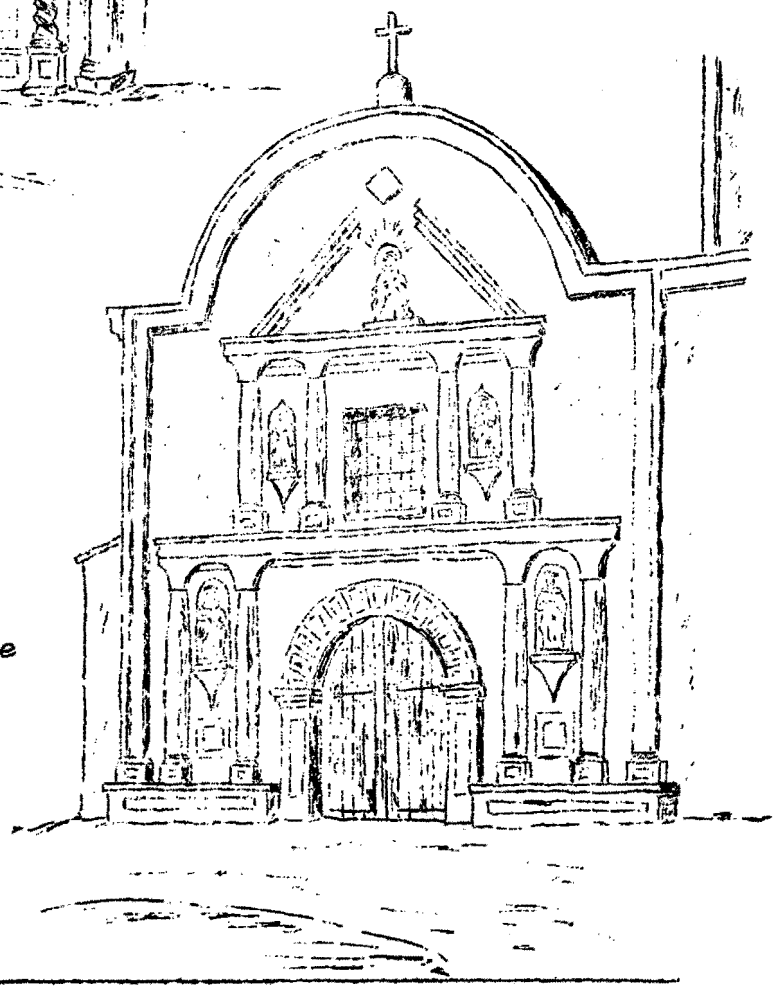
I look pained and say, "Two Pesos is too much---I will give you one Peso."

He in turn looks pained and sadly reflects on the matter. "Bueno---one Peso."

First we go th the old convent Church of Santa Monica, the facade of which is one of the architectural sights of Guadalajara. The main entrance is highly ornamented in elaborate Plateresque and the intricately carved



The Church of San Francisco, Guadalajara, Mex. Fine example of early Spanish craftsmanship. Baroque.



Mission San Jose de Tumacacori, Arizona, U. S. A. As it might have looked when it was built, 1800-1822, The facade is now in a ruinous condition. Note resemblance in composition of the two churches.

J. H. Toures

designs on the columns are truly amazing. At one corner of the building in a niche is a large weather-beaten stone statue of San Cristobal, a work of the 17th century, which is indicated by the double-headed eagle appearing in two places. The interior is uninteresting, but a study of the facade is certainly worth the visit.

The Church of San Francisco, of which I have made a sketch, is one of the quaint old landmarks and was of particular interest to me because of a resemblance in composition to our Mission San Jose de Tumacacori. Though the facade is Baroque and the column arrangement is a bit different, it has the same openings, statue niches, arched parapet, and single bell tower as does Tumacacori. Perhaps the resemblance was more emphasized in my mind because I was looking for churches which might resemble Tumacacori and found no other. The age of San Francisco is beginning to show itself by its need of repair.

The Santuario de Nuestro Senora de Guadelupe was one of the most interesting of all the churches we visited in that it was not only a beautiful structure, but was also a distinctive type of architecture in itself.

The first impression is the heavy mass effect of the building which is of cut sandstone masonry discolored by age to soft blending yellows, grays and browns. On each side of the main facade are two Carmelite belfries, each containing three arched openings and three bells. The portal itself is flanked by two unusual buttresses each composed of three semi-columns which blend into each other and add greatly to the massiveness of the facade. The tops of these buttresses are cut off sharply as they near the top of the wall and are surmounted by a heavy overhanging cornice.

A courtyard paved with flagstone surrounds the church. Cut stone ornaments relieve the stark simplicity of its walls.

The cruciform interior is highly decorative and we are rather stunned to see a maze of intricate design over every square inch of wall surface. To the right of the entrance is a small domed chapel bathed in purple light which enters through a leaded glass window above. The effect is inspiring.

The astounding contrast between the simple exterior and the amazing ornateness of the interior leaves us rather breathless. Polly says overdecorated. I say splendid in the effect that it was probably designed to create. Disregarding this difference of opinion we both agree that it is a church we will never forget. The main structure dates from about 1550.

A Santuario differs from a Parochial church in that it enshrines some alleged miracle-working object and as such it is held in higher esteem. It is also a bit more splendid in ornament than the ordinary

Parroquia.

Let's skip about 25 other churches as our space is limited and the buildings would almost have to be seen to note their slight differences.

As the sun is setting we arrive at the huge Cathedral which flanks the Plaza Mayor as do most of the cathedrals of Mexico. It was begun in 1571 and consecrated in 1618. Twice severe earthquakes destroyed the facade and threw down the towers. The various reconstructions produced sad results, for what was meant to be a Gothic pile by the original builders is now an unique though somewhat confusing blend of many orders.

It might be well to note here that the Mexicans have a mild mania for pouncing on a perfectly sound building, tearing out the existing architectural ornaments, and substituting new ones. Some beautiful Churrigueresque work has been lost forever in this manner.

Coming back to the Cathedral, we find that two pyramidal towers flank the building and rise 200 feet above the street level. We enter the immense nave which is divided from the wide aisles by ten massive columns.

There is a notable absence of the Churrigueresque and Baroque which characterizes interiors of most Mexican churches. The Doric column capitals support graceful pointed arches which in turn carry the triple-vaulted ceiling.

Now we enter a hall to the right of the main altar. Our object is to view the most precious possession of the Cathedral, Bartolome Esteban Murillo's masterpiece "Assumption of the Virgin." It is futile to attempt to describe this great painting. One hust wants to look and look and wonder at the tender, wistful expression of the Virgin's face. Truly God must have guided Murillo's hand. This picture, a gift of the King of Spain, is unquestionably authentic. Fabulous sums have been offered for it, among which was $40,000 by Napoleon III of France after he found out that it could not be stolen. Many attempts have been made since to steal this ever-guarded treasure.

We ascend the tower. The circular stone stairway winds up as we feel our way in pitch darkness along the damp walls. Breathless we reach the top. The view is magnificent. We see the huge bell, La Campanita del Correo, which called the Indians to mass from the most distant hills 30 miles away, but it is now silent, as are all the church bells of Guadalajara by order of the Governor.

We are tired---it has been a big day. We return to the hotel and retire early.

The next day we motor to the Indian village of Zapopan to see the old

church which is a well preserved example of 17th century work. The facade is the best example of the Plateresque which we will see in Mexico. The Mudejar dome is covered with polychromatic tiles. The cruciform interior is notable for its fine marble altar in the apse.

This evening we leave Guadlajara for Mexico City which is the oldest city in North America. It is truly a beautiful city with wide paved streets and lovely parks and gardens. It is situated in a valley surrounded with lofty cloud-covered mountains. To the southeast and rising majestically above these clouds and mountains are the volcanos Popocatepetl and Iztaccihuatl, the former semi-active and rising 17,782 feet above sea level.

The city is an education to the student of architecture and history, but it is not within the scope of this report to cover even part of the fine old buildings nor to dwell on their intriguing historical backgrounds.

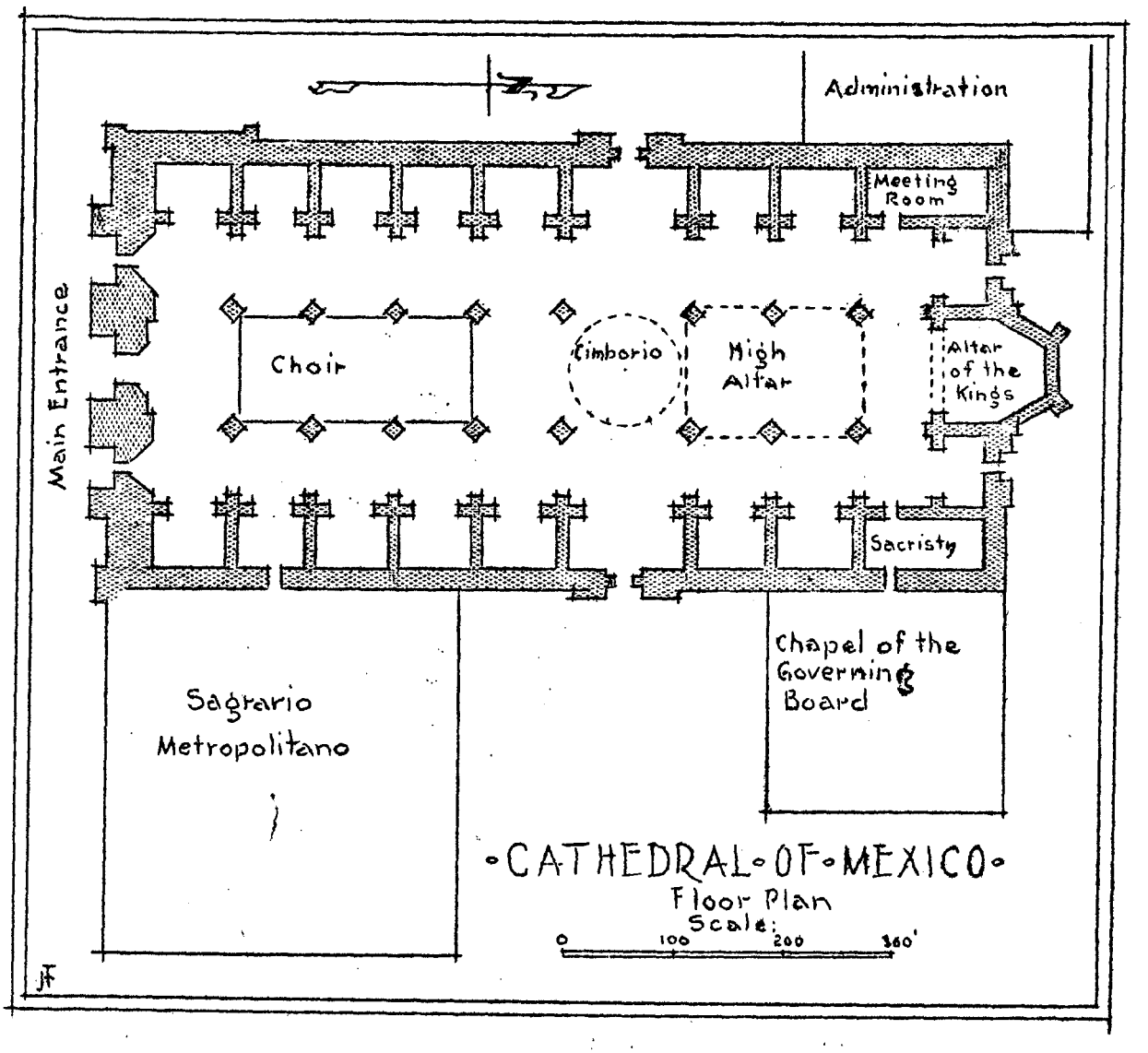
Let us hasten to the Cathedral which is said to be the largest structure of its kind on the continent. Historians say that foundations of this massive structure are composed almost entirelyvof sculptured Indian images which once formed the body of the great Aztec Teocalli that stood near. "The zealous but oftentimes bigoted friars who ruthlessly destroyed the Indian manuscripts and idols, professing to believe them works of the Devil, lost no time in replacing them with their own divinities in wood or plaster, and these, with singular inconsistency, they worshipped with even greater fanaticism."

The Cathedral was started in 1573 and completed in 1667. The towers were not completed until 1791. Baxter writes that the facade with its heavy buttresses and odd bell-shaped tower domes is a characteristic example of the Spanish Renaissance. The towers rise 203 feet above the level of the atrium which is six steps above the street level. High in the East Tower a family of bell-ringers have a true penthouse apartment.

Referring to the floor plan, let us examine the interior.

Our first impression is that the view of the spacious nave is badly broken up by the obtrusive though beautiful Choir. Seven small chapels open on to each of the two side aisles and the central arches form a Latin Cross.

The central or high altar is a massive though rather tasteless affair. The old one which was repleced was said to be a beautiful work in the Churrigueresque. Directly north of the high altar in the apse is the Altar of the Kings, so called, because it is a replica of a chapel in the Seville Cathedral where some of the Spanish Kings are buried. This is certainly the most beautiful altar we have seen in Mexico. It is done in the Churriguer-esque style and fairly makes us dizzy so resplendent is its design.




The Sacristy to the northeast is notable for its rib vaulted ceiling and its large canvas paintings which give the effect of murals. If we continue through the east doorway to the Chapel of the Governing Board, we may see the small though priceless painting, "The Virgin of Bethlehem," by Murillo. It is interesting to know that this small bit of canvas could easily bring $20,000 if put on the open market. The painting is always hidden during revolutionary times in some secret recess in the thick walls.

The first chapel south of the Sacristy is one of the finest in the Church. It also contains one of the oldest and most valued objects in the Cathedral---a life-sized figure of Christ presented to the old church soon after the conquest by Emperor Charles V of Spain.

The interior of the building is 387 feet long by 177 feet wide. The highest interior point at the Cimborio is 179 feet.

Joining the front of the Cathedral to the east is an extremely interesting chapel, the Sagrario Metropolitano, which was added on to the Cathedral in the middle of the 18th century. It is one of the finest examples of Churrigueresque church exteriors in existence. The Churrigueresque is well described by Sylvester Baxter in his "Spanish Colonial Architecture in Mexico" as being "pillars and pilasters replete with decoration, all panels are decorated, lines are infinitesimally broken, and the sculpture becomes an integral part of the structure, serving as decorative members." Altar retablos worked in wood sometimes offer fine examples of this intricate architectural style. The background of the main altar at San Xavier is a mild attempt at the Churrigueresque.

I must mention the National Museum of Mexico which is close to the Cathedral and part of the Palacio Nacional. We spent the greater part of one morning examining the exhibits in this building and even then wished we could devote more time to it. It perhaps possesses more genuine antiques and relics of primitive America than any other Museum in the world. It also contains an art gallery.

We were particularly interested in the Archeological section and the section devoted to Mexican history. In the Historical section we viewed armor and implements used by the Conquistadores, relics of the reign of Emperor Maximilian and Empress Carlotta who did so much to beautify Mexico.

The tragic execution of this unfortunate prince of the House of Hapsburg recalls his last words as he stood proudly in front of an adobe wall at Queretaro facing a squad of soldiers. It was the dawn of June 19, 1867. "I die in a just cause, the independence and liberty of Mexico. I forgive all and pray that all may forgive me. May my blood flow for the good of my adopted country. Viva Mexico." So died a brave man.

Let us now journey northeast over the now dry lake bed of the Lago de Texcoco to the ancient church and convent of San Agustin de Acolman. This is one of the fast disappearing structures erected by the Spaniards soon after the conquest. It was begun by the Agustin Friars in 1539 and finished in 1560.

It is a massive building resembling a fortress. The facade is Plateresque which is strangely contrasting to the medieval battlements of the parapet walls. The nave is rectangular with the original high altar still in place. The convent joins the church proper to the south and is in a ruinous condition.

This church and convent have been made a national monument by the Mexican government which is doing a most excellent job of stabilization and partial restoration not only on this building but on many others. Mexico knows the value of her ancient and historical monuments and is preserving them for posterity. When you go to Mexico do not miss Acolman.

We leave Mexico City at six a.m. bound for Cuernavaca and Taxco. We are soon climbing out of the valley of the Anahuac which spreads out before us in a beautiful panorama. The sea of floating clouds is pierced by the early morning sun and rising high above all else is the mighty snow-capped Popocatepetl and Iztaccihuatl. We are 10,000 feet high and a half mile above the floor of the valley.

Cuernavaca was assaulted and captured by Cortez and his men in April, 1521, and Charles V included the city in the 30 which he gave to the Conqueror. Cortez later returned to Cuernavaca where "he erected a stately palace (still standing and used as the City Hall) and henceforth made the city his favorite residence."

We visit the palace of Cortez where we view a very interesting mural by Diego Rivera depicting the history of the Conquest. We then go to the Cathedral which is one of the oldest and quaintest structures in the Republic. It was founded June 2, 1529, and was for a time the most important Franciscan temple in the New World.

"It is a typical example of the austere Early Franciscan Style with its modicum of adornment and battlements." It is one of the few remaining churches where Cortez worshipped in person.

A very interesting massive flying buttress springs out from the side of the building facing the atrium which adds to the support of the dome over the cimborio. The main entrance of the Cathedral is at the side of the building and not the front. We found quite a number of churches with this type of entrance.

Inside we find confessionals which bear the marks of centuries and other sturdy reminders of the great days which followed the Conquest. One can almost see "singular gatherings of mailed warriors, cowled monks, shaven-pated friars, and haughty Spanish Dons." It is interesting to reflect that history was made here 25 years before Shakespeare was born and a hundred years before the Pilgrims sighted Plymouth Rock.

It might be well to note that though this great Cathedral was erected with free Indian labor, within a few decades it took three and a half centuries to finish the apex of the bell tower. The money which was probably wrung from the simple Indians to complete this tower would have no doubt built the Cathedral over ten times. This type of ecclesiastical graft probably accounts for the unfinished towers of our missions Tumacacori and San Xavier. This theory of the reason for the unfinished towers is not original with me but I state this instance to support it.

We visit the beautiful Borda Gardens. The Frenchman La Borda spent some three million Pesos here and indeed left an enchanting spot. At this time our guide began to show signs of being dumb, which is something he probably had a hard time concealing for any length of time. This trip was

one of those arranged tours which one is always warned against but which is invariably taken at some time or other. Rather than miss something worth seeing, Polly organized our party into one of exploration and we investigated every corner ofthe wonderful garden, in the meantime showing the guide beautiful spots which he did not know existed. For the rest of the trip we relied on our guide book.

We hasten on to the little town of Taxco. On the way our illustrious guide points to a field of grain and proudly advises us that we are now seeing a field of sugar cane. This statement is the last straw---Polly gets the giggles---I get worried for fear the guide will make another statement which will send us all into convulsions.

A winding road takes us up the side of the rugged Guerrero Mountains where long before Columbus was born Taxco was a flourishing mining town. So quaint are the picturesque, tile covered houses of the Taxquenos lining the narrow winding cobble- stoned streets that the Mexican Government is preserving the entire town as a national Monument and whosoever builds a new house must plan it to conform with the existing style.

La Borda made his immense fortune here in the Taxco mines and as a gesture of gratitude built the famous Taxco Church which is said to have cost between five and eight million Pesos. Work was started on the structure in 1758. It is not a very large church but is known as "the most complete monument to ecclesiastical art that exists in the Western Hemisphere."

If we want to be real critical we should say that a rather unpleasant effect is produced in the facade by the fact that the walls of the two towers are cut in half by a heavy projecting cornice. This gives the effect that the lower portion of the towers are narrower than the upper and makes the facade look top heavy, although it adds to the apparent height of the towers, which was probably the hoped-for effect.

There is not the mass effect that characterizes Spanish Colonial architecture. Elaborate cut stone ornament of the facade is Rococo while the retablos of the interior are Churrigueresque. The twin towers are handsomely ornamented with statues and carved designs.

The interior can best be described as giving a rich but tasteful appearance. The pilasters lining the nave are of a lovely dull pink cast stone. Imagine our horror on finding that they had started to work painting on this beautiful cast stone a hideous representation of marble, which will make the now simple interior look like a cheap theater set. Fortuneately, we arrived in time to see the real beauty of the building.

As we leave the church, Polly suddenly decides we should all climb to the top of the bell tower, much to the guide's consternation. He says it cannot be done as the door is locked, whereupon we find us a small boy who

in turn miraculously finds a key and up we go, leaving our disgruntled guide pouting below.

The view of the village is entrancing and we linger at the top just looking. We tip our small boy and descend the circular stone stairway. At the bottom we find the door blocked by an austere looking native who solemnly asks for a propena or tip.

What for?, I ask. We receive a haughty look---why he is the one who gave the key to the small boy to open the door! Goodness, anyone should know that! I hasten to rectify our error by giving him 30 centavos. He looks rather disdainfully at the meager sum, shrugs his shoulders, and majestically opens the door. We hasten out for fear someone else will find us who has had something to do with the now famous key.

We hate to leave Taxco---we would like to stay here a week or even a year, but even though we carry a suitcase and wear a necktie we are not ricos americanos and tomorrow night we must leave for home.

Our last day in the city we spend in Chapultepec Park. As we wander through this gorgeous woodland so did Montezuma and Cortez four hundred years ago. The huge park is restful with its lakes, trees, and flower-lined paths. A fitting place to spend our last day in Mexico.

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# FARIS PUTS AZTEC ON MAP

The above headline appeared in the Aztec Independent Review of July 19 over the article which is reprinted below. We think it is a darn nice orchid for Johnwill:

"Johnwill Faris, Custodian of Aztec Ruins National Monument, announces this week that funds for the paving of the park at the entrance to the Ruins will soon be available and the new project will soon be under way.

"Mr. Faris has been Custodian of the Aztec Ruins for the past six years and under his administration the work started several years ago by the Hon. Earl Morris has been carried on in the most successful manner.

"In addition to taking a personal interest in making the National Monument more attractive to visitors, Mr. Faris has been a constant booster not only for the Aztec Ruins but other Monuments and Parks throughout the Southwest and the result of his never tiring efforts is that the number of visitors to the Ruins is increasing each year. And that ain't all---we have never heard a word of complaint by a tourist of the treatment received while at the Aztec Ruins.

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# CORRESPONDENCE AND FILES

## MR. BRILL'S VISIT

Mr. Charles R. Brill, Chief, Division of Mails and Files, of the Washington office, spent July 3, 4, and 5 in the Southwestern Monuments for the purpose of harmonizing our methods of handling mail, correspondence, and files with the practice of the larger offices. It is suspected that most custodians regard office work as a confounded nuisance. Since, however, all of us do write letters, a brief statement of the ground covered by Mr. Brill will have direct interest to field officers.

### Mail Count

In the Washington office all incoming and outgoing mail is counted daily. Incoming and outgoing telegrams are also counted. The purpose of this count, Mr. Brill explains, is to furnish a yard stick by which the amount of office work can be measured. A letter, with its inclosure, is one piece of mail. Several separate letters inclosed in the same envelope are counted as so many several pieces of mail. A report in its entirety is counted as one piece. For example, when copies of half a dozen allotment ledger sheets are mailed to a custodian at the end of the month, the lot is counted as one piece of outgoing mail. It is admitted that there are inequalities in this count. Our combined final estimates, representing weeks of work, go out as one piece. This injustice is offset by the fact that a copy of mimeographed instructions requiring only inclosure may also be counted as one piece.

A count covering mail handled at the Southwestern Monuments Headquarters was started July 5. In the 20 working days to the date of this writing, 3,121 pieces of mail have been handled at headquarters - an average of 156 pieces daily.

### One Subject

There is a saying around offices that paper never forgets. Which is true. But if you can't find the paper when you want it, you are still in a bad fix. The files are the memory of every office of any size. Even in an office which handles 150 pieces of mail a day, correspondents must get out the files - the "previous correspondence" - in order to give every matter which comes up properly intelligent consideration. Thus, we must have an efficient filing system. Efficient administration is impossible without it. The Park Service has a standardized decimal filing system under which papers are filed subjectively. If a letter treats of more than one subject and is - as it must be - filed under only one subject, it is lost so far as the other subjects are concerned. There are methods of cross reference which are devised to bring such a

letter to the attention of any person interested in the other subjects considered in it, but cross referencing seriously slows down the filing process and is unsatisfactory at best. There is, moreover, constant danger that the need for cross references will be overlooked by the filing clerk. Thus the following rule followed in the Washington office and previously laid down by this office is fundamentally important:

Don't treat more than one subject in a letter.

If, for example, you need to write us about the consolidated gasoline contract and about repair work on a trail, write two letters - one about each subject. In writing about any kind of numbered papers, vouchers, purchase orders, bills of lading, etc., write a separate letter for each such paper. Don't write about more than one purchase order in the same letter, for example, because all the papers having to do with a given purchase order are attached to it clear on down to the audited voucher.

Address the Superintendent or The Director

Various persons prepare and sign mail for the Director, but it is a strict rule of official correspondence that replies to such letters shall be addressed simply to "The Director, National Park Service" regardless of the fact that Mr. Demaray, or Mr. Tolson, or Doctor Bryant, or some one else, wrote the letter to which you are replying. If you wish to insure that Mr. Tolson, for example, will see your letter, you can write in "For the attention of Mr. Tolson." Usually, however, we accomplish the same result by incorporating his name in the first sentence, as, for example, "Reference is made to Mr. Tolson's letter of May 25," or "Mr. Tolson's letter of May 25 requested information, etc." The same condition obtains in the headquarters office at Coolidge and the same rule should be applied. Even though Mr. Rose, or Mr. King, or Mr. Diehl should have signed the letter to which you are replying, you should address the superintendent, who will refer it to the proper person.

If there were no such rule, a large body of correspondence could develop which the superintendent might never see, though it treated matters with which he ought to be familiar.

Suspense

Suspense is as important in a filing system as it is in a movie. A "suspense" system in filing is simply a method of making sure that no correspondence, report, or other matter requiring attention will be neglected. When we write you for certain information, we put a "suspense" on the copy of the letter. If you fail to answer, the "suspense" ticket comes up in a couple of weeks to remind us to get after you. Custodians would do well to maintain some sort of suspense system of their own. One of the "Every Day" letter files does the work very well. If you write a letter asking for certain information to which you should have a reply by the 25th of the month, put a brief memo in the folder for the 25th.

File the correspondence where you would ordinarily file it. Then, if each day you have a look at the suspense folder for that day, you will come to this memo on the 25th. This will remind you to pull the file and if you haven't received a reply in the mean time you can follow it up. This method is convenient also for keeping track of the periodical reports - any matter, in fact, which should receive attention on a specific date. Most of you already have "Every Day" file folders.

While Mr. Brill touched upon many other points, those discussed above are most pertinent from the standpoint of field personnel. If it is true that an army travels on its belly, it is equally true that an office travels on its papers. You can help us greatly by confining your letters to one subject, addressing the superintendent, and maintaining some sort of "suspense" or tickler system to keep you from forgetting things to which your attention should be given.

H.M.M.

P. S.

Bob Rose rises impertinently to state that he thinks the popular impression in the field is that an office travels on the seat of its pants.

**********

# RUMINATIONS

Chief, If we knew all there was to the making of Monthly Reports, we could probably turn the job over to the office boy who could fill our place around here and then we could go on trying out some of the other experiments we always have on the pan. But this report business is interesting and the more we play with it the more interesting it becomes. We hold many Taurian sessions over it and it turns up constantly in the days work. "We ought to get that in the Monthly Report" is a common expression around the Office.

You have probably noted the change in the format in the last two or three issues and this month we are changing the cover papers to a bit better quality, as we find from the copies the boys send in to us for binding at the close of a six month's period that the cover paper we have been using doesn't stand up to the kind of handling their copies receive.

I don't know if you have noticed a change in the Supplement material or not, but we intended to change it a little and have gone about as far in that direction as we intend to, at least for the present. We are taking some of our gentle spoofing out of the Supplement and running it in the Broadcast, which is so named principally because that is what it isn't; a much more personal circular which we get out about every so often for our own information and pleasure and whose mailing list is confined to the Southwestern Monuments.

This Broadcast is arousing a lot of interest and promises well to

help bridge the miles between the members of our organization. The hope is that eventually we can work up some discussions of our problems and get the personnel to doing about 85% of the writing so that here in the office about all we will have to do will be to stick it together and circulate it.

I mention all this just to show you that we are not asleep down here and if you have noted any change in the Supplement the above explanation will tell you it is not an accident. The danger I foresee is that the Supplement may be taken too seriously. For instance, we had another library over in New Jersey write in the other day and ask to the put on the mailing list, which is a thing to be looked into. Our ideal for the Report and Supplement is to make it a cross section of the life and problems of our work here in the Southwest; it is a lot of shop talk by some specialists who like their work but are not too awfully serious about it. I've heard that we have been provided by the Great Architect with a hundred and sixteen muscles with which to laugh. Since we spend so much time on our jobs down here it looks like he must have intended for us to use those muscles during working hours, too; at least we are testing out the theory a little, being, as we say on the Supplement Cover Sheet, "serious, but not too serious."

Cordially,

Tom Boss

# SOUTHWESTERN MONUMENTS

# MONTHLY REPORT

## AUGUST 1935




DEPARTMENT OF THE INTERIOR

NATIONAL PARK

SERVICE

SOUTHWEST REGIONAL OFFICE
NATIONAL PARK SERVICE
LIBRARY

# SOUTHWESTERN MONUMENTS
# AUGUST REPORT
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# SOUTHWESTERN MONUMENTS
# PERSONNEL

HEADQUARTERS Southwestern Monuments, Coolidge, Arizona: Frank Pinkley, Superintendent, Hugh M. Miller, Acting Assistant Superintendent. John H. Diehl, Associate Engineer. Robert H. Rose, Assistant Park Naturalist. Dale S. King and Louis R. Caywood, Junior Park Naturalists. Robert L. Cole, ECW Clerk. Eric Reed, Roving Ranger. Luis Gastellum, Temporary Clerk-Stenographer.

GENERAL FIELD MEN: Charles A. Richey and Harry Langley, Resident Landscape Architects. J.B.Hamilton, Associate Engineer. Andrew Clark, Topographer. J. H. Tovrea, Chief Engineering Aide. A. B. Pinkley, Howard Williams, Walter Smith, C. E. London, Carl Schmidt, Rodmen.

FIELD STATIONS:

1. Arches---Moab, Utah. J. M. Turnbow, Custodian.
2. Aztec Ruins---Aztec, New Mexico. Johnwill Faris, Custodian. E. W. Lewis, Temporary Ranger.
3. Bandelier---Box 669, Santa Fe, New Mexico. Earl Jackson, Custodian. Jerome W. Hendron, Temporary Ranger.
4. Canyon de Chelly---Chin Lee, Arizona. Robert R. Budlong, Custodian. J. Douglas Harritt, Temporary Ranger.
5. Capulin Mountain---Capulin, New Mexico. Homer J. Farr, Custodian.
6. Casa Grande Ruins---Coolidge, Arizona. Charlie R. Steen, Acting Custodian.
7. Chaco Canyon---Crowpoint, New Mexico. Thomas C. Miller, Custodian. Lewis T. McKinney, Temporary Ranger.
8. Chiricahua---Willcox, Arizona.
9. El Morro---Ramah, New Mexico. E. Z. Vogt, Custodian. Alfred Peterson, Temporary Ranger.
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. Milton Wetherill, Acting Ranger.
16. Pipe Spring---Moccasin, Arizona. Leonard Heaton, Acting Custodian.
17. Rainbow Bridge---Rainbow Lodge, Arizona. No Custodian.
18. Saguaro---Tucson, Arizona. No Custodian.
19. Sunset Crater---Flagstaff, Arizona. J. W. Brewer, In Charge.
20. Tonto---Roosevelt, Arizona. Woodrow Spires, Acting Custodian.
21. Tumacacori---Box 2225, Tucson, Arizona. George L. Boundey, Custodian, Martin Evanstad, Park Ranger.
22. Walnut Canyon---Flagstaff, Arizona. Paul Beaubien, Acting Custodian.
23. White Sands---Alamogordo, New Mexico. Tom Charles, Custodian.
24. Wupatki---Flagstaff, Arizona. J. W. Brewer, Acting Custodian.
25. Yucca House---Cortez, Colorado. No Custodian.

THE

# SUPPLEMENT

TO THE

MONTHLY REPORT

FOR

THE

SOUTHWESTERN

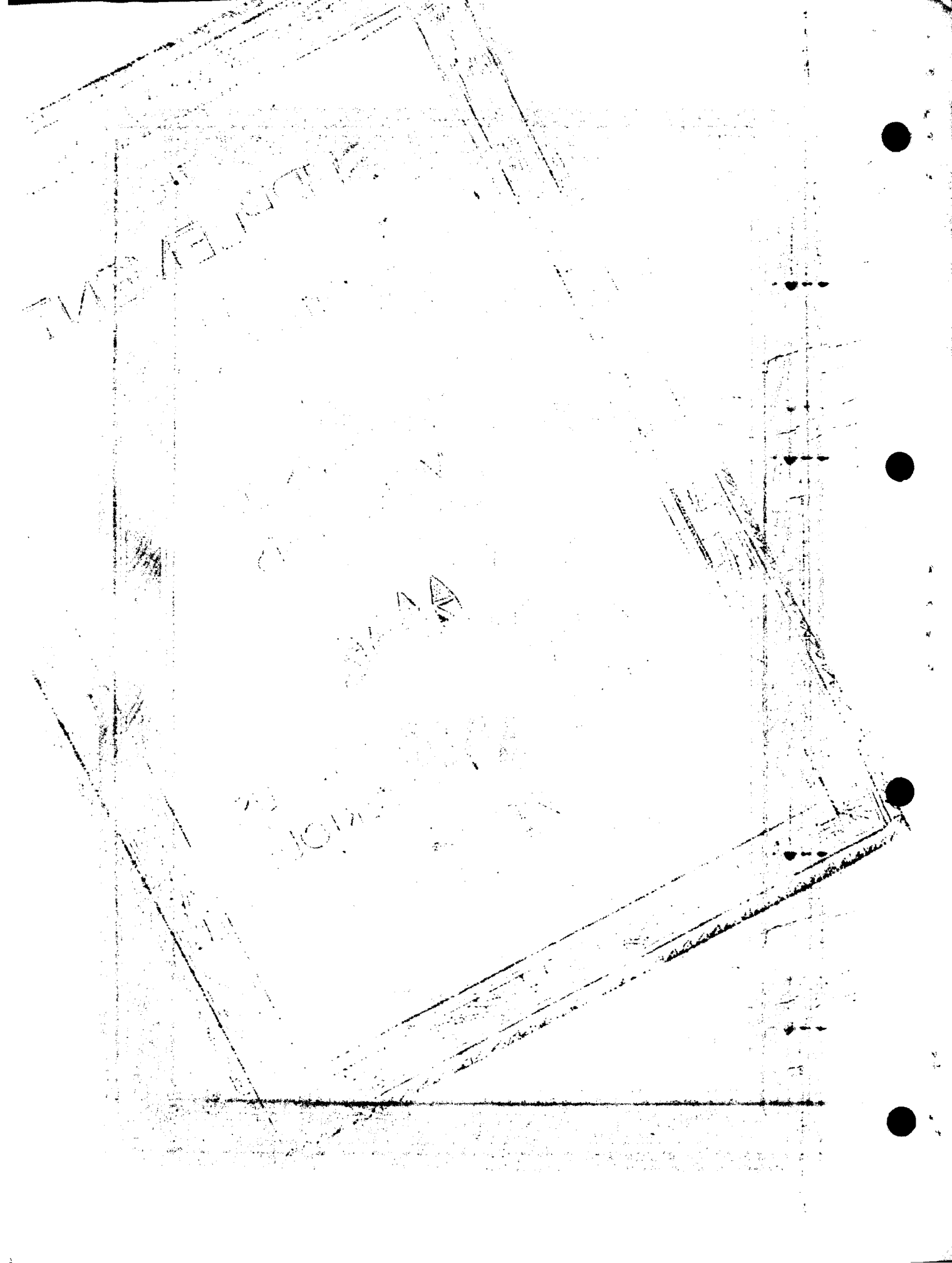
MONUMENTS



WHERE WE ARE SERIOUS

-BUT NOT TOO SERIOUS





# WUPATKI PETROGLYPHS

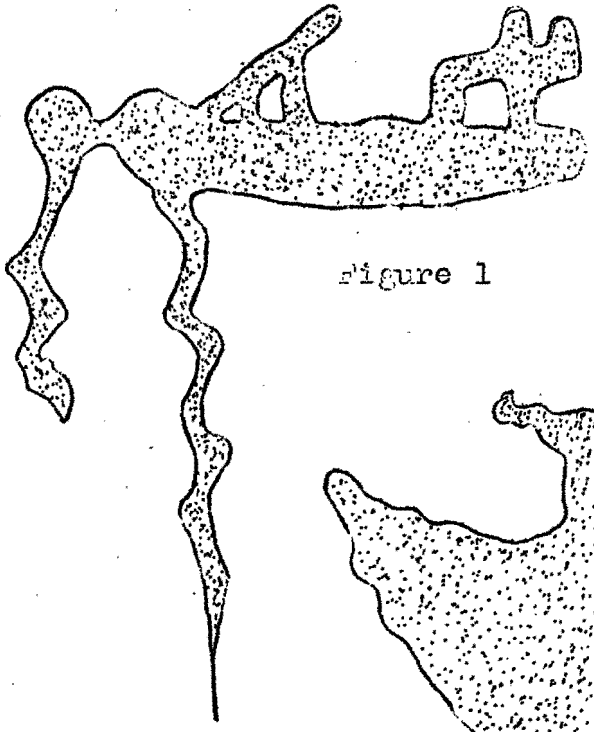


Figure 1



Figure 2

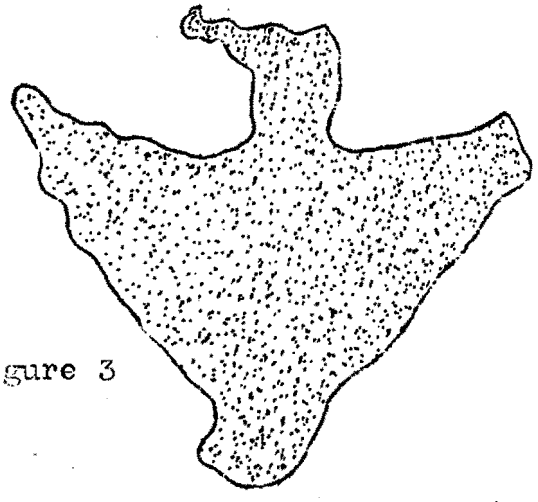


Figure 3

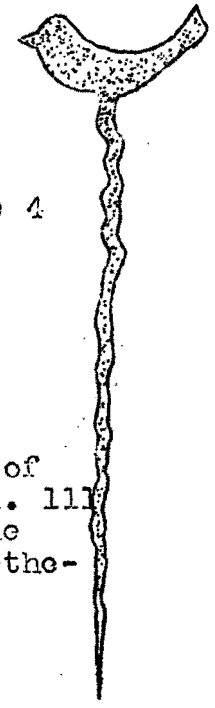


Figure 4

Figures 1 and 2 are probably variations of the humpbacked flute player "Chu'lu'laneh" (Zuni) found in widely scattered sections of the southwest, and as a design element on pottery in localities. (Bull. 111, B.A.E.).
Figure 4: A similar design is pecked into Picture Rock near Tuba City. (American Anthropologist. Vol. 33, No.1) Another likeness is found north of house A in the Village of the Great Kivas on the Zuni Reservation. (Bull. 111 B.A.E.) These four figures are worked into the east side of the "crack" intrance to Crack-in-the-Rock ruin, NA 537. (Bull. 104, B.A.E.)

# WUPATKI PETROGLYPHS

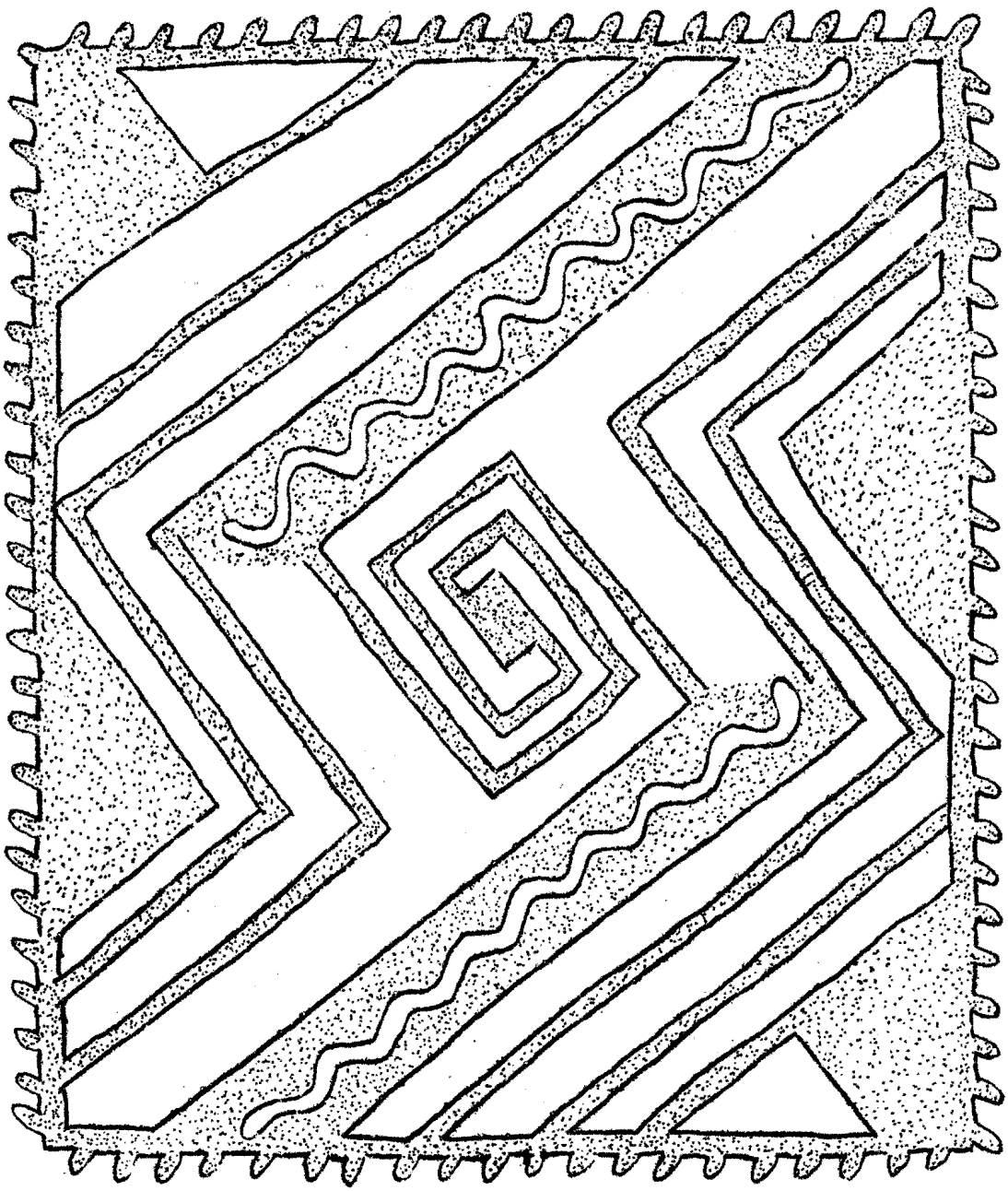


Figure 5: This elaborate petroglyph occurs on the east face of a cliff upon which Crack-in-the-Rock ruin stands. The design is so well preserved it gives the appearance of having been done recently. However it was obviously executed from the now fallen roof of one of the basal rooms.

# WUPATKI PETROGLYPHS



Figure 6 (left): The coiled snake (?). This occurs in several places on the Monument with varying diameters and numbers of rings. It also occurs in the Village of the Great Kivas.

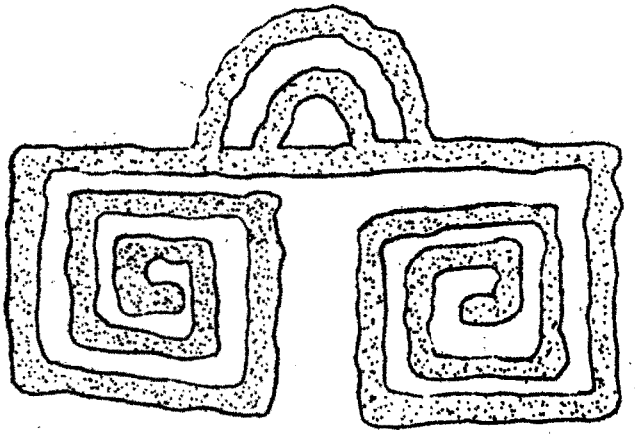


Figure 7: Looks somewhat like a combination of Figures 6 and 8.

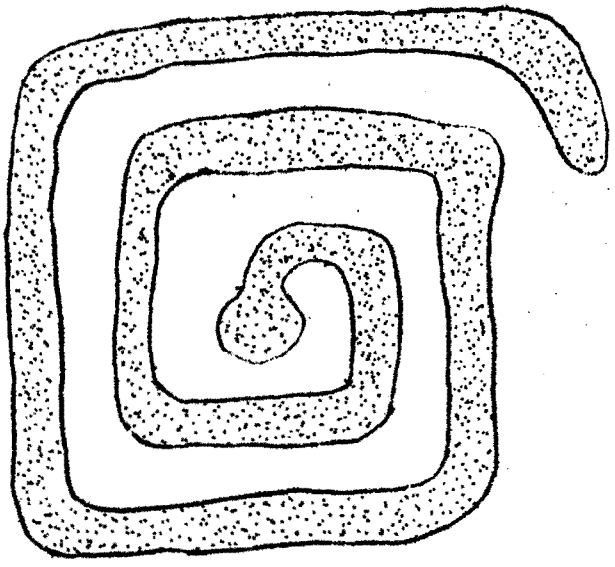


Figure 8 (left): A conventionalized form of the coiled snake.

If these are symbols of prehistoric clans might Figure 7 be the result of clans of 6 and 8 grading into each other?

# WUPATKI PETROGLYPHS

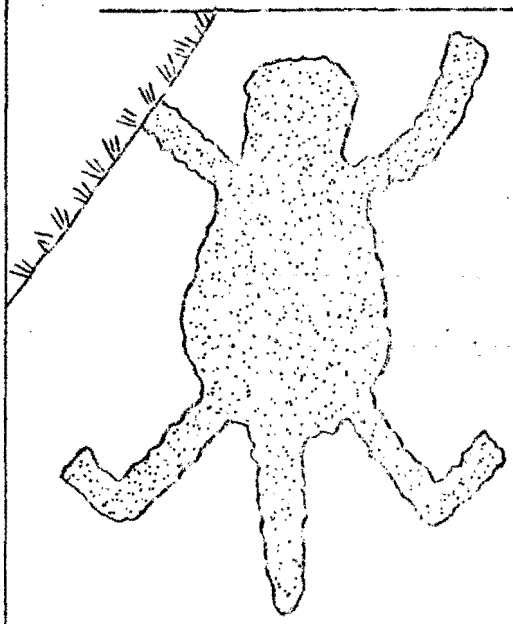


Figure 9

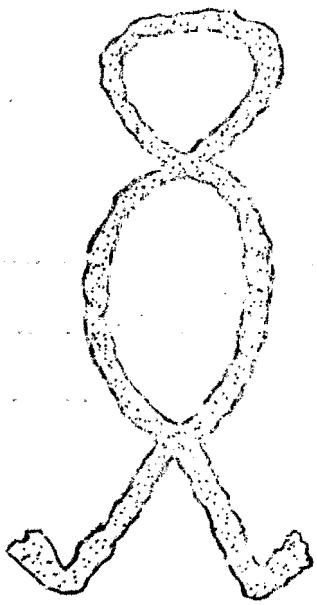


Figure 10

Figures 9 and 11 are similar to symbols used by the Lizard Clan (Hopi); a symbol similar to Figure 11 is also used by the Snake Clan of the Hopis. (American Anthropologist, Vol. 33, No. 1)

These petroglyphs can be seen from trails at Wupatki.

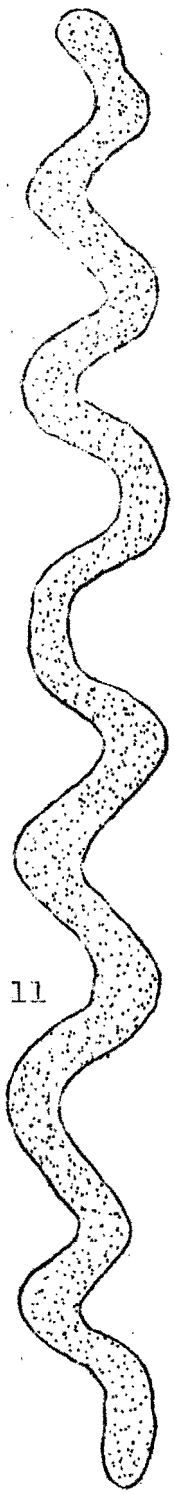
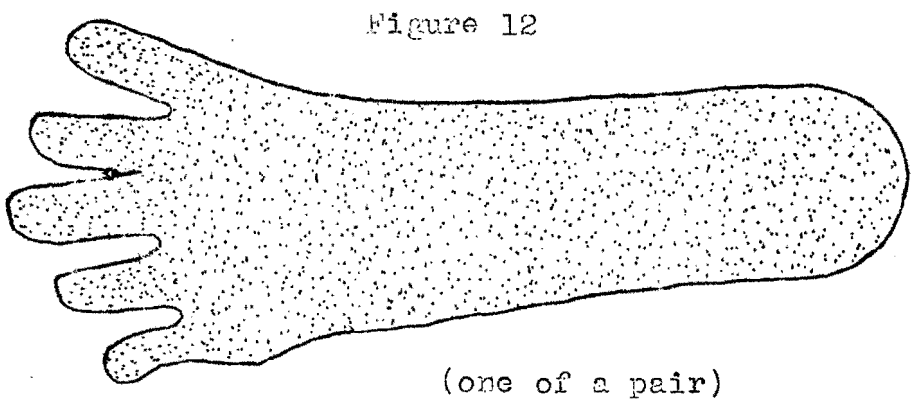


Figure 11

Figure 12



(one of a pair)

# NAVAJO SAND PAINTING - DE CHELLY

By Betty Budlong

It was on the morning of July 5 that I started up into Canyon de Chelly on horseback with a party of three from Pittsburgh, armed with an invitation from Cozy to meet him at a hogan a little beyond the forks of the two canyons and witness a sing with sand paintings.

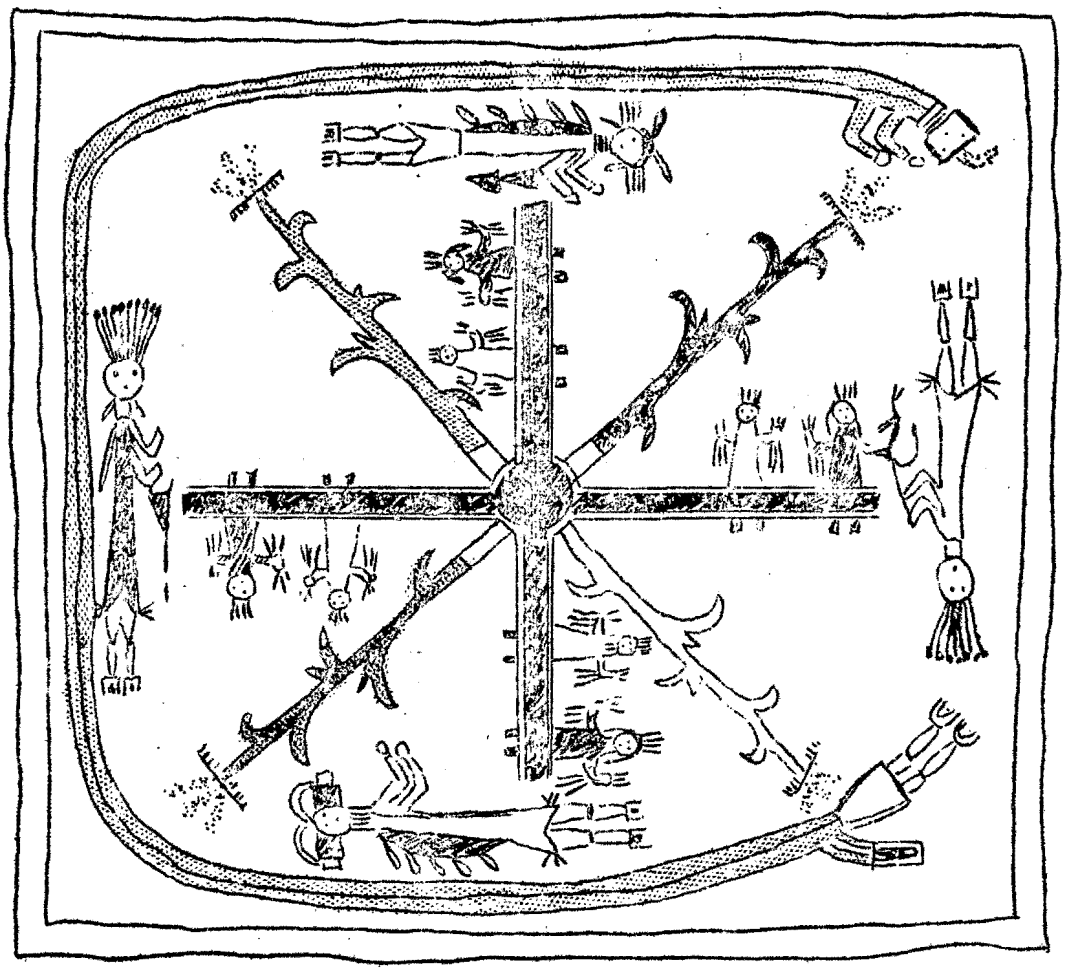
The day was warm, so we rode at a leisurely pace, halting at noon in the shade of some cottonwoods for a bite of lunch. As we were in the act of burying the remains of our hasty meal, Cozy, accompanied by Mrs. McSparron and two guests, drove around a bend in the canyon and called to us that the ceremony was to start at one-thirty. So we mounted quickly and cantered through the deep sand for a distance of half a mile.

The hogan stood on a little rise of land about one hundred feet from the wash. We tied our horses to a fence and walked up to a small shelter where Cozy and his party were sitting in conversation with several Navajos. Indian women eyed us curiously, and I began to suffer a few qualms---fearful that we might be excluded, ultimately, as witnesses to what bid fair to be a very unusual ceremoney. The three young people from Pittsburgh were as anxious as I, and when Cozy finally emerged with the others and beckoned surreptitiously to us, we all heaved great sighs of relief!

An old quilt was hung at the door of the hogan to keep the wind from disturbing the completed sand painting, and there were shouts of indignation when a dog wandered too near this opening. The signal was given at last, and one by one we filed in.

The remains of a fire stood directly in front of the door way, and we were cautioned not to step on this, since the charcoal derived from the burned out coals had been used in the making of the sand painting. The sand painting, a glorious work of art, the many colors for which had been made by crushing colored rocks, covered the entire floor of the hogan, allowing us just room enough to squat crosslegged on the edge. Feathers on sticks were planted at intervals around the painting. The medicine man sat opposite the door; he was a wrinkled old fellow with a kindly, dark face, and in one hand he held a gourd on a stick. It was interesting to note that he wore wide, flowered trousers. These were adopted by the Navajo from the Spanish, and are now no longer used.

It took us a few moments to get settled, since most of the available space was occupied by Navajo men and women. When all was quiet, the medicine man began his chant, shaking the gourd vigorously, and accompanied, in low monotones, by a young Navajo brave who sat just behind him. Simultaneously, we head a wild cry from outside---"Wah-wah-wah-wah-wah-wah-wahooooooooo!"--the quilt was pulled aside and the



"Silne'ole" sandpainting design from the Night Chant. Actual colors: red, yellow, green, black, orange, white, on tan ground. (After blanket figured in Amsden's "Navajo Weaving").

Coyote entered. He was quite tall and slender, and the entire upper part of his body, his arms and legs, were covered with a substance resembling white clay. A strip of velveteen cloth was wrapped around his waist to form a short skirt, and to this was tied the tail of a fox. Long colored streamers fell from one shoulder, and a Yei-bei-chi mask covered his face. He placed his hands on the east, south, west and north sections of the sand painting in turn and then picked up a feather which was lying beside a small, clay dish. This vessel contained a clear fluid into which he dipped the feather and, with short, quick movements of the wrist, he sprinkled the sand painting; the drops of fluid sparkled brilliantly in the light that streamed through the opening in the roof of the hogan.

When he had repeated this several times and had laid the feather down, a very pretty Navajo girl, of about eighteen, stood up and walked out into the center of the sand painting. She wore only a full, dull

skirt, the upper part of her body and her legs being bare. With the help of the coyote she sant down so that the east half of the painting stretched between her and the door, extended her legs straight out in front of her, and allowed her hands to lie limply in her lap; she wore no ornaments of any sort. Her manner was extremely listless, and we later learned that she suffers from epilepsy, and this sing was being held as a curative measure.

When she was ready, the Coyote picked up the shallow dish from which he had sprinkled the sand painting and, with the same wild cry of the coyote, brought it to her lips and she drank from it. This he repeated three times.

Then followed the evocation of the evil spirits which are believed to make the girl ill. The Coyote placed his hands, palms down, on a section of the sand painting, being careful not to touch the figures themselves. His hands were now covered with the "good medicine," and he grasped her right leg, beginning with the foot, and pressed it at intervals, emitting the cry; his voice mounted in crescendo, until he reached the thigh, when he flung his arms high above his head. This he did in turn to her left leg, both arms, her chest, and lastly her head, each time placing his hands on the sand painting before touching her, and always reaching a made crescendo as he flung his arms high. He touched her head after each contact with the other parts of her body, since the evil spirit presumably leaves the body by way of the head.

An Indian, who I learned was an uncle of the girl, occasionally directed the Coyote to place his hands in various sections of the sand painting, pointing, and speaking to him in low tones. This he did because it was the first time this particular Indian had taken the part of the Coyote, and the uncle had seen the ceremony before. As a final invective directed against the evil spirit, the Coyote took the girl's head between his hands and called loudly, first in one ear and then in the other. He then dipped his hand in a little three-cornered bowl that was partially sunk in the very center of the sand painting, and daubed the girl with a black fluid on every exposed part of her body, even her hair. She did look badly in need of a bath, when, this concluded, she moved again to her place on the sidelines.

The Coyote left the hogan and the medicine man arose. He began a chant, very similar to the one he had sung throughout the ceremony, and, with a coyote's claw, he erased the sand painting. A fine dust arose and filled the hogan with a golden haze as he ran the claw swiftly down each perfectly executed figure, and then knocked over the standing feathers. It was all done with amazing speed, since the song he sang and the erasure of the sand painting had to "come out even," and he was coughing and panting a little when he finished and sat down. I am free to confess that it was a great blow to watch the exquisite work of art being reduced to ordinary sand particles. Scarcely a trace

of the colors was left. Immediately, several young Navajos brought in a blanket and placed the sand in it, and carried it out of the hogan. Later I learned that they returned it to the spot from which it had been gathered.

As we moved out of the hogan, I glanced at the faces of my companions, and was not surprised to note expressions of awe and incredulity stamped on their features. There had been something so beautifully simple and faithful, yet utterly pagan, about the entire ceremony. These people believed without a shadow of doubt that the girl would be greatly benefited by this weird rite.

The next day, a new sand painting was made, and the same ceremony was performed, and on the day following, two Yei-bei-chi dancers danced in front of the girl's hogan. The medicine man's fee for these ceremonies was fifty dollars, which amount was paid him by the girl's parents. Other sings have been held over the girl in the past, in the hope of curing her, and if she continues ill, other sings undoubtedly will be held for her in the future.

We stood outside the hogan for a few minutes, thankful for the peaceful setting in which we found ourselves---the canyon walls rising majestically around us, and a wonderful calm pervading our whole, small world. The medicine man thanked us for attending the sing, and his face broke into a thousand little wrinkles as he smiled at us.

Cozy told us then that we had seen a very rare ceremony, one which many of the Navajos themselves have never witnessed.

Still with the feeling that we had recently returned from a world of unreality, the three and I mounted our horses and rode thoughtfully back to Chin Lee.

**********

# INDIAN HOLY WEEK AT TUMACACORI

By Luis Gastellum

For a number of years I witnessed Indian celebrations in the Tumacacori Mission. Besides the scenes that I actually saw, I have acquired data for this article from those who sponsored these festivals in order to have a thorough understanding as to the reasons for holding these festivals and the reasons for holding them in Holy Week.

In the year 1929 the last of one of the most celebrated festivals of Indian customs was held in the Tumacacori Mission. The discontinuance of these festivals was brought about by the death of one of the last of the Opata Indians in the valley who carried the customs and traditions of

his ancestors. This Opata Indian was reported to be over a hundred years old. He seemed to have a great deal of faith in the Tumacacori Mission and seldom passed a day that he didn't visit the Mission.

For many years, possibly dating back for hundreds of years, the Indians held their annual Holy Week imitation of the assassination and resurrection of Christ, according to their belief. In later years, however, these festivals were carried on by Mexican people in the valley through the sponsorship of the old Opata Indian above mentioned. For many years, according to data gathered from people of Tubac, these celebrations were held both in the old Tubac Church and the Tumacacori Mission, but since the erection of the new church at Tubac, people were no longer allowed to use the church for their masqued festivals. Present day Catholics are strictly against these Indian customs and will not allow them to be held in active Catholic churches.

The Holy Week festivals began on Monday morning, as one of the army of men representing the rebels of Judas disguised. He was appointed by the Indian who sponsored the festivals and acted as First Captain of the men who would later be disguised. No one but he was allowed to disguise the first day. To distinguish him from the rest of the men, he wore a mask with a high headgear. He reamed the country as an announcement of the forthcoming celebration.

On the second day, Tuesday, a second man, appointed by the First Captain was disguised. He was dressed somewhat like the first and acted as Second Captain. They both roamed the entire vicinity by themselves until Wednesday evening when anybody could disguise.

By Thursday evening, there were usually as many as forty to fifty men disguised. After they were once disguised, they were not allowed to withdraw until the closing of the festivities at the end of the week.

Many took great pride in their dress and took weeks to prepare their dress and masks, while others dressed as ragged as they possibly could. Their masks were made of canvas cloth, card board, and sometimes of furns or skins of wild animals. To disguise their voice they used bamboo whistles---a piece of thin skin membrane between to small pieces of bamboo. They tried to cover every piece of their skin, for any little scar might have identified them.

Early each morning they left the Mission with a lunch basket to beg for food. Everyone was supposed to give them something, but the rules were that they were not supposed to eat anything until they returned to the Mission. While in the Mission, they could eat, run, wrestle, or do anything contrary to Catholic beliefs. While they were out collecting food, they always carried switches with them and did not hesitate in the least to use them on anyone who attempted to remove their masks.

On Thursday evening at three o'clock the masqued men got together and went through the imaginary assassination of Jesus. After these ceremonies, a statue of Jesus, representing the immortal Saint, was placed on the altar of the Mission and guarded by three or four of the disguised men, shifting every four hours, to see that none of the true Christians, who were ever on duty, tried to steal the statue from them.

The statue was usually stolen, for this was one of the features of the celebration. Organized parties of four or five men, who were not not disguised and who represented the true Christians, would try to steal the statue and hide it within a short distance of the Mission.

While on duty the disguised men were free to use their switches on the men who tried to steal the statue, but the offenders were supposed to use nothing but their hands and profit by getting the guardians off guard. After once getting possession of the statue they usually got away with it, for they were so organized that they could pass the statue around until someone could get away with it. Even when only one man attempted to do the trick, he was usually successful. If the statue of Jesus was not found within twelve hours, by those who were on guard at the time it was stolen, they were punished by being tied for a number of hours and beaten by the Captains.

On Saturday morning before eight o'clock the imitation of the resurrection of Jesus took place. The resurrection of Christ caused all the supporters of Judas to change their minds against him, and they promised that henceforth they would believe in the Lord and support him. But before the Catholics would accept them as true Christians, they had to ask forgiveness, receive punishment for the wrong they had done during the sacred days, and be baptized.

In the meantime the Tumacacori Mission front yard was prepared for the ceremonies which took place in forgiving the offenders of Christ. A ragged-dressed, man-like object was used to represent Judas. It was placed on a big cross directly in front of the entrance to the Mission. Arches of green willow and cottonwood branches were placed around the yard of the Mission, where people would later march through.

On Saturday morning all, or most of the people of the community, attended the ceremonies. The ceremonies began with the burning of Judas. After Judas was cremated, praying ceremonies in the yard of the Mission through the arches of green willow and cottonwood followed. Children between the ages of eight and twelve, dressed in black and w white and carrying lighted candles and a cross, lead the parade. Women and men who led the praying and singing ceremonies followed. The disguised men and the rest of the participants followed behind. After concluding this program, the disguised men were beaten.

# CONDENSED REPORT

Coolidge, Arizona
August 1, 1935

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

Dear Mr. Director:

The Condensed Report for Southwestern Monuments for August, 1935:

TRAVEL:

| | August, 1935 | August, 1934 | August, 1933 |
|---|---|---|---|
| Aztec Ruins | 2,250 | 2,184 | 1,821 |
| Bandelier | 2,475 | 2,125 | 959 |
| Capulin Mountain | ----- | 7,000 | 1,800 |
| Casa Grande | 1,376 | 1,376 | 1,036 |
| Chaco Canyon | 1,031 | 1,014 | 1,262 |
| Canyon de Chelly | 135 | ----- | ----- |
| Chiricahua | 958 | 1,102 | ----- |
| El Morro | 333 | 605 | 579 |
| Gran Quivira | 385 | 365 | 523 |
| Montezuma Castle | 1,910 | 1,654 | 1,843 |
| Natural Bridges | 120 | 50 | ----- |
| Navajo | 140 | 83 | ----- |
| Pipe Spring | 256 | 250 | 285 |
| Sunset Crater | 1,216 | ----- | ----- |
| Tonto | 360 | ----- | ----- |
| Tumacacori | 906 | 641 | 689 |
| Walnut Canyon | 2,047 | 1,910 | ----- |
| White Sands | 7,013 | ----- | 3,000 |
| Wupatki | 290 | 190 | ----- |
| Yucca House | 14 | ----- | ----- |
| Actual Reported Registration | 23,215 | 20,549 | 13,797 |

The 14 Monuments which reported both in 1934 and 1935 showed an increase from 13,549 to 14,477---928 visitors, or 6.4%.

The 10 monuments which reported both in 1933 and 1935 showed an increase from 11,977 to 17,935---5,938 visitors, or 33.1%. This is a rather remarkable increase.

Thus, it would appear that August, 1935, as a travel month was 6.4% better than the same month in 1934; 33.% better than the same month in 1933.

WEATHER

August in the Southwest is usually a month of showers, and this time she almost overdid herself. Practically all Monuments report more showers than usual---resulting in damage to roads at De Chelly, El Morro, Bandelier, Tonto, and Montezuma Castle, and considerable flood damage at Pipe Spring.

Hindrance to visitor traffic was more than compensated for by improvement in range and agricultural conditions. It is interesting to note that rain at Gran Quivira broke the bad drouth, at Wupatki packed the cinder roads.

Southern parts of New Mexico and Arizona have been experiencing cooler weather and more rain than usual.

FIELD TRIPS

Assistant Superintendent Miller visited Bandelier on official business late in the month.

Park Naturalist Rose visited Chiricahua August 6-8; made educational studies, and gave two lectures to the CCC camp there.

Junior Naturalist Caywood was in the field the whole month--at Canyon de Chelly until August 22, then to Aztec Ruins on relief duty.

ENGINEERING ACTIVITIES

Park Engineer Diehl spent most of the month in the field, visiting most of the northern Monuments August 6 to 27, inclusive. The survey crew at Walnut Canyon made topographic studies of the Headquarters Area, and followed the boundary line of the proposed addition. Office work consisted of plotting cross sections of the Bonita Highway, Chiricahua National Monument.

E.C.W. ACTIVITIES

BANDELIER

1. Roofing, wiring, and plumbing completed on Headquarters comfort station.
2. Finished 175 additional feet of highway guard rail.
3. Fireplaces in campground completed, and some faulty ones replaced.
4. Walls to flashing height of utility warehouse completed.
5. Progress on tent caterpillar control, old trail obliteration, timber cutting and rock quarrying.

CHIRICAHUA

1. Water system almost complete---10,000 gallon reservoir and trench for 4-inch pipe line in headquarters area dug. Pool for wildlife completed in spring area.
2. Headquarters comfort station ready for plumbing and fixtures.
3. 2,000 feet of old road obliteration.
4. Dips and fireplace construction as well as road grading pregressing well in campground. Cleanup started.
5. 2,500 feet finished on Echo Trail, the latest part through hard going.
6. Sara Deming Trail started.
7. Forest Service Ranger cabin at Rustler Park 40% complete; work started on cabin at Fly Peak.

PERSONNEL

1. Charlie R. Steen, who has served capably as Temporary Ranger and Trail Foreman, alternately, at Tonto National Monument for the past year, was appointed Park Ranger at Casa Grande National Monument August 1. Charlie comes to us with an excellent record at Tonto, and his high position on the Civil Service eligible list made his selection indubitably a wise one.

2. Temporary Ranger Charles E. Powell left Chiricahua early in the month to assume Army duties under his Reserve Commission.

3. Temporary Ranger E. W. Lewis of Aztec Ruins left on August 20 for a teaching position in Texas.

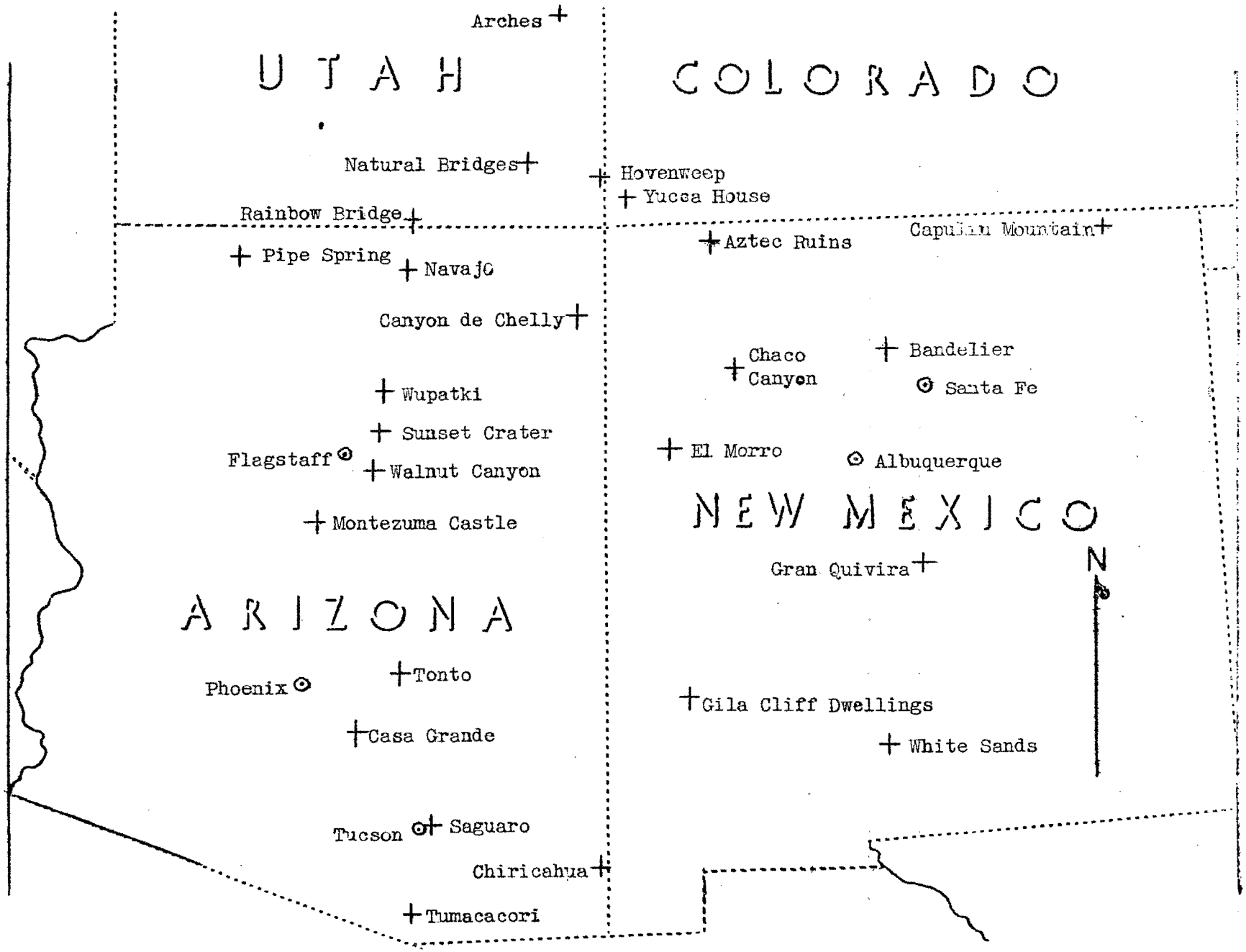
4. Temporary Ranger Erik Reed, who has been turning in some fine reports as traveling Ranger in the "Four Corners" region, resigned late in the month. He received an ECW appointment as Assistant Archeologist in the State Park Division, headquartering at Goliad, Texas. Although Mr. Reed was on the traveling job only a short time, his work demonstrated that such a position fills a real need in our organization.

5. Woodrow Spires, who has served as ranger and guide at Casa Grande intermittently for the past two years, was appointed trail foreman at Tonto National Monument the first of the month. His presence there, while working on trails, will assure the Monument protection at least until the first of the next fiscal year.

VISITING PARK SERVICE OFFICIALS

Resident Landscape Architect Richey visited Headquarters for three days late in the month on matters relative to New Mexico Monuments. Landscape Architect Kuehl dropped in at Headquarters for a part of a day on Arizona Monument business.

Cordially, FRANK PINKLEY, Sup't.


Arches
UTAH
COLORADO
Natural Bridges
Hovenweep
Yucca House
Rainbow Bridge
Aztec Ruins
Capulin Mountain
Pipe Spring
Navajo
Canyon de Chelly
Chaco Canyon
Bandelier
Santa Fe
Wupatki
Sunset Crater
Flagstaff
Walnut Canyon
El Morro
Albuquerque
Montezuma Castle
NEW MEXICO
Gran Quivira
N
ARIZONA
Phoenix
Tonto
Gila Cliff Dwellings
Casa Grande
White Sands
Tucson
Saguaro
Chiricahua
Tumacacori

# REPORTS FROM MEN IN THE FIELD

## MONUMENT POSSIBILITIES

By Erik Reed, Roving Ranger

1. Lake Canyon, Utah.

On the property of W. W. Reed, nineteen miles by road from Dover Creek, Colorado, in a southwesterly direction, at the head of Lake Canyon, a tributary of Montezuma Creek, there is an unusually large site in rather poor condition. It is an open site, a pueblo extending over two low ridges, very much eroded and somewhat potted, with no walls standing above ground--merely piles of rock.

Mr. Reed has corresponded with the American Museum of Natural History, the Peabody Museum, and the Field Museum on the subject of excavation of the site. Paul Martin has visited it and John O. Brew plans to visit it this summer.

Pothunting in the site is prevented as far as possible by Mr. Reed. It is by no means completely gutted although a little digging has been done in it.

The road into the site is quite good except in wet weather.

It seems clear to me that the Lake Canyon site is a potential national monument if and when excavated. It is unusual in its extent, which is indeed striking. If after it has been excavated, which it is quite likely to be, sometime, it presents features of interest in addition to mere hugeness and would be a good show place, it certainly should be reconsidered.

Incidentally, there are numerous small sites in the immediate vicinity--one in the back yard of Mr. Wilson, the nearest resident to the site, from which he has recovered several very interesting pieces of pottery. On the first large ridge just west of the draws around which the big site is located there are a number of small open sites. Small cliff dwellings, none of great extent or special interest, are reported to exist in Lake Canyon, in Squaw Canyon (the next east), and Monument Canyon (the next west). Some of these could be included in the monument, if one were created, to advantage.

Several years ago five government men spent five days here, apparently surveying the ruins and considering it for a National Monument. Although it was then on government land they for some reason turned it down.

2. Alkali Ridge, Utah.

The traveling ranger visited a number of sites on Alkali Ridge, southeast of Monticello, Utah, on August 11, in company with Mr. Ralph Frost of Monticello, an amateur in archeology of considerable potentialities, and Mr. Hoagland of Alkali Ridge. We visited several sites of various types, including some of the ones excavated by J. O. Brew; by no means all the sites on the ridge, of which there are over a hundred certainly. Also, there are small cliff dwellings in Dodge Canyon, Long Canyon, Devils Canyon, and Alkali Canyon (which run into Montezuma).

From what I saw, and from what I was told of the sites we did not go to, I judge that there is no single site here that really should be a national monument, although several possible reserve monuments. Many of the sites in this vicinity would probably turn out to be of unusual interest archeologically, and there is perhaps an unusual concentration of sites. But there is nothing, so far as I know, sufficiently unusual to demand special attention; there is relatively little pothunting hereabouts; there is little or nothing that would especially attract lay visitors. Brew's largest and most important site, the extensive BM3 surface building, is badly washed already and would be most difficult to preserve.

Certain of the sites below the ridge, several miles south, as described by Mr. Frost are of considerable size and interest.

3. The Lowry Ruin, Colorado.

The Lowry site, a large pueblo situated on a high mesa point in the Montezuma drainage, precisely 10 miles by road from Ackmen, Colorado, was excellently though incompletely excavated recently by Dr. Paul Martin. It is in very good condition, partly because of the preservation work--cement capping, etc.--done by Dr. Martin.

This site is large, easily accessible, in good condition, it has been competently excavated, and it presents a number of interesting features. The last applies especially to the great kiva--although it doesn't quite come up to the Aztec standard perhaps. It is on government land; although not in a spectacularly scenic sitting at all, it is in attractive country.

The work necessary in cleaning out the rooms and completing measures for preservation would not come to a great deal. Dr. Martin might be quite willing to part with some of the artifacts as a permanent loan or long-term loan to a museum at the site.

Your correspondent feels that both for the purpose of preservation of a large and interesting pueblo and from the viewpoint of a tourist attraction the Lowry Ruin is a suitable candidate for the

status of a national monument.

4. Barker Arroyo, New Mexico.

While helping Deric Nusbaum in potsherd gathering on the La Plata just before being taken on for this present job, I saw one site, or group of sites, rather, that would be a pretty good national monument.

On the point above the junction of Barker Arroyo and the La Plata River, nine miles above the confluence of the La Plata and the San Juan, in San Juan County, New Mexico, there are four huge buildings close together and one oversize kiva, considerably pothunted but still in passable condition in general. One of the pueblos has been nearly all cleared; the others have been merely potholed a little; the great kiva is untouched. The site evidently underwent the same sort of history as Aztec--built by Chaco folk, later occupied by Mesa Verde culture. The site surely totals larger than Aztec.

Possibly this place is too close to being a duplicate of Aztec to be worth making a national monument. But it should be somehow protected from further vandalism; it would be of interest to casual visitors and is not at all difficult of access. It is on privately owned land, I believe.

By the way, while in this section, why aren't at least some of the cliff dwellings in Johnson Canyon and Lion Canyon under National Park Service protection? The simplest way would, I suppose, be to include them in Mesa Verde National Park.

5. General remarks on the McElmo and Montezuma drainages:

There are innumerable small sites in many, probably most, of the canyons which extend out from McElmo Creek and Montezuma Creek and on the intervening mesas. There is no reason to pick any of these more than others for protection and preservation, and they would not be outstanding attractions to lay visitors. Few are of especial importance archeologically, even. However, there must be a few sites here and there of particular importance from one point of view or the other. Goodman Canyon, Goodman Lake, Moki Lake, West Rock Creek Canyon, in the northern drainage of the McElmo; Cross Canyon, Ruin Canyon, Cajon Canyon, in the eastern drainage of Montezuma Creek, should be examined with reference to possible reserve monuments. I mention these in case I don't get around to them while roving.

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# CANYON DE CHELLY

By Robert R. Budlong, Custodian

Total number of visitors to this National Monument for the month of August, 1935, was 135. Twenty-seven of these drove to the rim only; 50 descended the White House Trail; 34 drove within the canyons by car, and 24 rode horseback to Antelope House.

Visitors arrived in 43 cars, as follows: Arizona 14, New Mexico 7; California 6, New York 4, U.S. 4, Colorado 1, District of Columbia 1, Iowa 1, Massachusetts 1, Minnesota 1, New Jersey 1, Ohio 1, and Texas 1. We had two visitors from England, one from Mexico, and one from Siam.

Maximum temperature during this month was 94 degrees, on August 11. Minimum was 49, on the 18th. Total rainfall, .42 inch, of which .23 fell on August 15.

This has been a rainy month, and muddy roads and threatening skies probably have frightened away many visitors who otherwise might have visited this Monument. The canyons have been impassable for cars equipped with narrow tires. Those visitors who drove within the canyons drove either in the car of the concessionaire, which has eight-inch "airwheels", or in other cars similarly equipped. The new pickup stationed at this Monument has been unable to negotiate the canyons, since it is equipped with the usual narrow tires.

Mrs. Harold L. Ickes visited this Monument August 19. Mrs. William Denman, of San Francisco, was a visitor on July 24 and August 21.

Byron Cummings, Curator of the Arizona State Museum, and head of the Department of Archaeology of the University of Arizona, visited this Monument August 9, with a party of 26 graduate students. We greatly enjoyed their visit, and were sorry they could not stay longer. Mr. and Mrs. TenBroeck Williamson, of the Laboratory of Anthropology, and guests, visited here August 10, and rode horseback in the canyons.

Associate Engineer J. B. Hamilton has been in a number of times during the month, to inspect the progress on the PWA projects here. Engineer Jack Diehl drove through here August 22, on his way to Gallup, New Mexico, in a hurry, as he was last time. Come back and stay longer!

Junior Park Naturalist Louis Caywood and Winnie Caywood arrived here July 26, and are just leaving for Gallup as I write this report. We greatly enjoyed their visit with us, and regret they can't stay here longer. I know they enjoyed seeing a real Monument. In fact, I believe they are strongly contemplating spending their vacation here in the near future.

Public Works projects here--construction of water and sewer systems for the proposed Custodian's residence--will probably be completed by the

end of this month. The septic tank and sewer lines were completed August 16. Manhole installation is 75% complete, the water line 80% complete. The excavation for the water reservoir has been finished, and the cement for the reservoir will be poured within the next few days.

The Honorary Custodian Without Pay made a trip to Headquarters with Mrs. Dick Lovald (formerly Gay Rogers) during the month. They left Gallup, New Mexico, August 2, and returned to Gallup August 15. I am still hearing the details of that trip. They first drove to Montezuma Castle, where they spent the night with the school of Fishes, and where they sat up half the night talking over old times and new. The next day they drove to Coolidge, where they spent a most enjoyable week as guests of The Boss. They had only planned to remain there three days, but were made so welcome they couldn't break away for a week.

After visiting the Grand Canyon on the return trip they drove through the Hopi country, witnessed part of a Katchina Dance, and encountered some wet weather. Twenty miles outside of Keams Canyon their car became hopelessly stuck in a mudhole, and then the heavens opened and the rains descended. Apparently they were right in the center of the second deluge.

The whole slope on which they had been driving turned into a solid sheet of flowing water, and water flowed around and through the car until they weren't sure it would remain where it was. So everything was transferred into the front seat, and the car abandoned. The two victims hiked up the "road" (then under water) until they found another car, but that one was also hopelessly stuck, so they returned to their own car and slept in it until about one o'clock in the morning. Then they had to build a fire in order to thaw out, and I never have been able to find how they managed to locate any dry wood.

About daylight an Indian armed with a shovel helped them to extricate the car, and they drove back to Keams Canyon, and on to Gallup, where I met them just as they arrived. Never have I seen anyone more thoroughly covered with mud than was my better nine-tenths! But both of them had a fine trip, and I must confess I listened to the accounts of it with something approaching envy.

During the H.C.W.P's absence I attended a big "squaw" dance. It was held over a period of three days, August 8, 9, and 10. The first was at Black Mountain, the second about five miles from Chin Lee, and the third about two miles from Thunderbird Ranch.

The night of the 10th, Louis and Winnie Caywood, Doug Harritt and I drove to the dance, and remained until about 1:30 a.m. There were hundreds of Indians present, and we greatly enjoyed the spectacle. (Louie shakes a mean hoof, Boss). Louis was roped-in for one dance, but both Doug and I escaped.

About midnight we partook of a midnight supper given by Mr. Garcia of the Canyon de Chelly Trading Post, and just when I was eating a devilled-ham-and-green-chile sandwich, and congratulating myself that I hadn't been dragged into the dance, someone grabbed me by the shoulder, and I turned around to behold a most attractive young Navajo girl of about ten years of age, holding me firmly by the shirt, and insisting that I enter the dance. I tried to talk around and through the sandwich and explain that I was enjoying supper, but she insisted, and I finally had to pay off in the approved fashion. I think it was a frame-up, but we all enjoyed it.

But I had to bolt that green chile in too much of a hurry, and still regret it.

If the weather permits, we expect to attend the Snake Dance in the Hopi country, and the last day of the Ceremonial in Gallup.

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# AZTEC RUINS

By Johnwill Faris, Custodian

August was a mighty interesting month and we have enjoyed every day of it.

Visitors for the month total 2,250 which will compare with any August in the history of the Monument. The year 1930 shows a few more in number, but I know can not compare with this August in many ways.

The Custodian made one official trip off the Monument, going to Chaco the sixth. The school at Chaco made us a visit a Sunday or so before, so we returned the call. I tried to find a day when Cal was away but found him right on the job.

Engineer Williams was with the students and made a very effective silent appeal for the Dodge truck, which he needed, but it took another week or two for me to break down completely.

Early in August this office was in receipt of a letter stating that former Director Albright would stop with us a few minutes at noon August 12. Since Mr. Albright as Director was instrumental in obtaining money for our new museum and administration building, we felt it might be quite a treat to honor him with a dinner in the lobby of the building. After being assured he would be here at noon August 12, invitations were sent out to some 90 business men of the Basin. With all the help of the entire community noon August 12, we served 84 people in the lobby of the new building. Ninety-four plates in all were served, each with fried chicken, mashed potatoes, gravy, all the fixings and ice cream and cake. All the food was cooked down at the residence and hauled up in the old Dodge.

We were especially honored not only with Mr. Albright's presence but also with that of Associate Director Demaray and wife, Architect Baker and wife, Superintendent Leavitt and wife, of Mesa Verde, Chuck Richey, and Kenny Saunders both from the Park. We were glad to have these folks with us and had not even dreamed of such a possibility. We only trust that they enjoyed the affair as much as our Monument enjoyed their company. We thank Mr. Demaray for his talk and assure him it was appreciated by the entire Basin.

Cal Miller and wife was another Park Service couple and Mrs. Miller just stepped right out of the Ford and into the kitchen. It was certainly a big help, since feeding 84 at a time is a mighty big order for a little Monument. We have been complimented repeatedly on the affair and wish to thank the entire Basin for its support in our attempt to show our appreciation for what the Washington Office and others have done for us.

Shortly following the dinner we were showered with several arrivals from the Department of Forestry. Mr. Coffman, chief, Mr. and Mrs. Wirt and Mr. Cook all dropped in on us on the 14th. It was a little late when Coffman and Cook arrived, but they got to see a little of our Monument, and we are planning on having our CCC boys plant a regular forest this winter, that we might have visits oftener from these boys. This was the second time Mr. and Mrs. Wirt have been in and we are looking forward already to their return.

Thursday, August 15, Aztec Ruins National Monument added another service to its visiting public, in the form of last minute news flashes. This means getting the news every morning on the seven o'clock broadcast noting the important features and putting them (not over three or four0 on letter-head size paper and posting in a place easily and quickly seen. Many visitors have expressed themselves as being especially appreciative of this point since they, in traveling have no way to get late papers, and often do not get to hear any of the news. This service is posted the first thing each morning, and has been especially valuable on the recent Rogers-Post tragedy.

Late afternoon of the 15th Frederic Webb Hodge, Director of the Southwest Museum, with a party of six stopped with us. Four of them put cots on our new porch (the weather looked like rain at any minute), and three of the girls, wishing more atmosphere, spread their cots in three of the little rooms around the Great Kiva. About two A.M. they felt sure the Gods in defiance of women partaking so freely of the Kiva, had caused the early spirits to return and protest, but upon investigation found the ancient spirit just a friendly old house cat, investigating this strange occurrence.

The next day it was my pleasure to accompany the party and learn first-hand many of the customs and habits of the early people as gained

by Dr. Hodge in his research. They left us for Chaco and we know found Cal and Mrs. Miller splendid hosts. We sincerely trust that the girls did not defy the Gods further and try sleeping in the Kivas at Chaco. Cal's house cats might turn out to be rattlesnakes. Anyway on my visit there, several were encountered.

I suspect, however, that Cal had them penned up and primed for my visit, that I might think them tough out there. I particularly suspect this upon hearing that when Mrs. Demaray wanted to see one Cal had to take here over and show her the one he killed the day I was over there. And while I am talking about cal and Chaco, he and Williams stopped in with us the 16th and as a result we were forced to forfeit our seniority on the Leather Medal for a Bailing Wire expert. We lost the Dodge but realize that they need it worse out there than we might here. We can at least hire a truck in an emergency and I don't know where they could out there. We shall hold Cal responsible for any complaints about our entrance road. The old truck was sure handy for hauling all the food, dishes, tables, etc., for the dinner.

No doubt we have to accept the bitter along with the sweet, and after listing all the nice things, on to some a little less pleasant. We are most sorry to have lost E. W. Lewis as guide, but he had signed a contract to teach this winter, and had to leave us the night of the 20th. We enjoyed his services very much and thank him publicly for the splendid manner in which he carried out the duties assigned to him. Oscar Tatman was placed in the ranger position and will hold it down until such time as a permanent ranger can be approved. We want to thank all concerned also for the permanent ranger that was recently approved for Aztec. With such a position we can now attend to many things that we have of necessity had to pass by heretofore.

Plans for our parking area and trails have not been received as yet, but we know that Chuck and Jim are working on them and it will be only a short time until we will be working on both features.

We were somewhat surprised but pleased to have Mr. Haury and Mr. Sayles of Gila Pueblo drop in on us for a short visit. We would have been pleased to have them stay with us longer and hope that they may get back soon.

The Great Kiva comes in for its first regular night session this month, when on the night of August 20 the Presidents of both the Colorado and New Mexico Rebekah Assemblys were in Aztec and a meeting was held in the Kiva and lunch served afterwards in the lobby of the Administration building. We are glad to be of service to the various orders and invite them to meet at our Monument when ever they see fit. The kind feeling that results from these various meeting out here are certainly worth all the trouble and bother that they might bring about.

AZTEC RUINS (CONTINUED).

I wish, Boss, that you and the boys could see this place at night with all the lights on. It is simply beautiful.

I realize, Boss, that this is running into a report that is some longer than was assigned to me, but August has been so full of thrills for us that I just had to write you all about it. If you cut any this month do not just cut the nice things we say about you, like you have in a report or two in the past.

In checking back over some of our old reports we find, Boss, that in 1930 and 1932 we had official visitors from the Washington Office, and even with their being here and our mentioning it in the report, our 1930 report contained just ten lines, and for 1931 we had the grand total of three and one-half lines for our monthly report. Quite a contrast, isn't it?

We are in receipt of a very nice letter from Associate Director Demaray thinking us for the luncheon. They are certainly most welcome and we were honored that they found time to attend. I feel that the little affair did more to cement the goodwill of the entire Basin and interest them in our Parks and Monuments than anything in the six years that I have been here.

While the dinner was given to honor Former Director Albright he has insisted on paying all the costs connected with it; and while we protested vigorously to his doing so, he was firm and all we can do is thank him not only for the honor of serving as host but also for what it has meant to our Ruins.

Well, Boss, after all there is a limit to anyone's endurance and with that in mind I will ring off, not only with the report but all duty for a week which I plan on spending in California. I have no idea as yet who is to relieve me, but I am certain that any of the boys will carry on in a splendid manner and with Oscar to help them I feel positive that service at Aztec will not suffer one bit.

Closing one of the most pleasant months that it has been my pleasure to serve, I am very truly yours....

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# WHITE SANDS

By Tom Charles, Custodian

Our crowds are still increasing. From June 20 until July 20 we had an increase of 47% over the previous month in registered visitors. This month we have had an increase of 74.6% over last month's registration. This increase takes into account only the registered group in which there is no element of doubt or guess work.

A material part of this increase, no doubt, comes from the fine article by Dr. Carl P. Russell in the August issue of the National Geographic. Dozens of cars have come into the Monument recently with one member of the party carrying that issue of the Geographic and referring to it frequently.

Then, too, for the past few months the New Mexico State Tourist Bureau has been putting out some wonderful publicity, bearing down especially on "The One National Park and the Eight National Monuments which Call you to Cool New Mexico." This publicity has run in the newspapers of Kansas, Oklahoma and east Texas and in the high class magazines of the east. It seems likely that it has had something to do with the fact that Kansas visitors jumped from 5 to 38, Oklahoma from 86 to 180, and Texas from 479 to 1099. In the eastern states Missouri went from 17 to 35, New York 5 to 15, Kentucky 0 to 11, Tennessee 4 to 14. In fact about the only state that did not show an increased attendance in August was California which dropped from 41 to 38, but it was significant that the Tourist Bureau did not advertise in California.

Our registration is purely voluntary. There is a box at the end of the road with a sign on it to "Please Register." Probably a third of the visitors do not drive out that far and about half of those who pass the box do not stop. On the basis of 40% registration we had 5160 day light visitors this month. Of those 2.64% were from Alamogordo and 12.51% from El Paso. Points in eastern Texas furnished nearly 50% of the total.

Our night visitors are mostly local and as a rule do not register. On the night of the full moon we had 216. The night before there were five different parties with something like 175 people. I see no reason to change our last month estimate of an average of 60 visitors every night or 1800 for the month.

This makes a total of 7013 for the month ending August 20 as against 4755 the previous month.

Our boasted freedom from insect life in the Heart of the Sands had a wallop this month. It has been our contention that there could be no insect life in such a large area with no food. And I think it is generally conceded that insects do not live on 100% gypsum. One morning this week when Charlie was working at the Turn-around a flock of sage gnats settled down upon him. The air was full of them, the boards and tools were covered with them. They got in his ears, eyes, mouth and nose. There were 10-to-1 more gnats than Tom Boles has bats. They stung like Black Widow spiders and smelled like "sixty". Gnats in droves like this are not uncommon at the edge of the Sands but this is their first recorded venture out to the Turn-around. In the course of a short time they went as they came, unannounced. The only explanation that we can offer is, like a sister state's inclement weather,

this is very unusual.

Recently we completed a fine new four-stall equipment shed which has been greatly needed and this week we are completing the first of two temporary toilets. These toilets are to be located at the Turn-Around.

Purchase of the Artesian Well area at the entrance to the White Sands is still pending. John Happer, Washington, D. C., has been sent here as project manager, under the direction of the sub-marginal department. In view of the fact that this proposed purchase has been approved by every one of the inspectors of each of the departments interested, it looks like we may expect its acquisition soon. The area includes 1280 acres at the entrance to the Monument, with a good 8-room house, an artesian well of warm water from a depth of 1000 feet and a 200-acre lake which is said to be ideal as a resting place for migratory birds.

We had a number of visitors extraordinary this month. Miss Mary White, Regional Director of the Girl Scouts of the southwest brought two different groups of girls, of about 20 each, from Camp Mary White in the Lincoln Forest and spent the night in White Sands. The girls were from almost every state in the central division.

Jack Diehl was here this month; Horace M. Albright, former Director, and Tom Cramer, manager of the U S Potash Company at Carlsbad, spent a day with us. This was Mr. Albright's first visit since his inspection trip before the area was made a monument. He is now working on a plan to have southern New Mexico featured in a radio program over a national hookup, once a week. The stories will cover the frontier days of this section. The local Chamber of Commerce has promised Mr. Albright all the "color" that is needed in the program. While here, Mr. Albright visited his former Chief, Secretary A. B. Fall, at Three Rivers. He found Mr. Fall unable to leave his chair but still intensely interested in the development of National Parks and Monuments.

This week we caught two white lizards out in the White Sands. We were in about the same fix as when we found a goat out there; we had something we didn't know what to do with. Of course, we thought of sending you one, but someone said it would be like sending you a canary to feed. In a little hick town like ours we always take every unusual find to the newspaper office so someone suggested that we send a white lizard to Miss Isabel Story then some friend of the Wildlife Division thought they should go to George Wright. In the meantime, a bunch of New Jersey school ma'ams visited the Monument and as one of them teaches a class in "Nature Study" they showed extreme interest in these lizards.

Since they left we have been unable to find but one, but that is enough for the Assistant Custodian is getting tired of killing flies

for it morning, noon and night. We have decided to do a little advertising in this column, if we may, and see what we are offered. This lizard is about an inch long exclusive of a tail equally long. At first it was almost snow white except for three little black "service stripes" running parallel with his ribs on each side. He is strong, quick of eye and fleet of foot and we have noted that when we put him in a glass jar and set it on a green blotter for a day he takes on a tiny tint of green by night. That is evidence that he will fit into your surroundings, and we will sell him cheap, subject, of course, to regulation.

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## GRAN QUIVIRA

By W. H. Smith, Custodian

I will endeavor to submit my monthly report. There has been but little of interest the last month---everything has been exceptionally quiet here. I find my register to show 387 visitors entering the monument in 100 vehicles. This is a slight increase above the registration last August, and a considerable drop from last month. There are ten states represented on the register this month including New Mexico but of out-of-the state travel, Oklahoma has given the best run.

On August 9, John H. Diehl came by for a short visit. While here he went over the grounds and inspected the sewer line work and the septic tank that were completed a short time before he came in as Associate Engineer.

On date of August 11, we had a Mrs. Morgan who is one of the Indian teachers at the Indian school at Santa Fe and a few of her students. There were six in the party and each of them were of different tribes. It was rather interesting to hear them talk of this mode of living compared to the ancient mode of their own tribe, as knowledge has been handed down to them by their ancesters.

On the same date there were three doctors from El Paso, Texas, here who were much interested in this place and especially in the skeletons that we had taken up here. They looked at the one we have on display and were comparing it to some they had seen in a collection of the amcient Aztec of Central America. They examined this one minutely and gave a talk on the ones they had seen in the Aztec collection and it was very interesting and entertaining.

I hear that there is a pretty good chance of us getting the road between here and Mountain Air fixed up in pretty good shape. They are trying to get WPA project to cap and gravel it to Gran Quivira and three miles east from here. There is a good chance that this will go over and if it does we will expect things to pick up here considerably.

The drouth finally broke here. We had a good rain on August 3 and also another on the night of August 18. Grass and other vegetation is surely growing fast. There will not be much crop here this time as the rain came so late that practically all crops had died, but I think that grass will have time to mature and if it does that will be a great help for the stockmen of this country.

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# TUMACACORI

By George L. Boundey, Custodian

Visitors for August, 906.

Owing to a number of Dude Ranches in this vicinity, we have quite a number of visitors who come on horseback, muleback, and burroback and once in a while we have visitors who have come by plane but when a man and his wife from Tucson delivered a tractor to one of the local ranchers, it struck me that was the first time I had ever had visitors come by tractor.

August seems to have been a sort of a home-coming month to quite a number of the real old timers in this vicinity. We have had visitors from three of the five oldest families in Nogales and six others who visited the Mission in the very early eighties.

They all seemed to agree that the five oldest families were the Brickwoods, Capt. Mix, J. M. Soto, Ramon Vasquez and the Peck family. The Brickwoods ran a saloon and hotel directly on what turned out to be the International Boundary Line. I have a large photograph showing their building with the stone boundary marker on the front porch of the building. A cigar counter farther out on the porch was in Mexico while the building itself was in the United States. The old timers say this was very convenient in getting in and passing out goods of the two countries without the formality of a tax.

Mr. and Mrs. Peck were running a small restaurant at Nogales and a little later bought a ranch up Peck's canyon a short distamce below the Mission. It was in this canyon in 1887 that the whole Peck family with the exception of Mr. Peck were killed by one of Geronimo's bands just prior to Geronimo's capture in the Sierra Madres a little later in the same year.

Jim Breen was the contractor for the Tombstone-Calabasas railroad in 1882 and Nath Burgoon and John Glisson were formerly miners at Harshaw prior to 1884.

I think the most interesting visitor of all was an old prospector and miner from this vicinity, Mr. Colin Timmons. He was the partner of

Bucky O'Neal, one of the much loved Arizona Characters who was killed in the Spanish American War while charging San Juan Hill with Theodore Roosevelt.

It was this Mr. Timmons who built the Bright Angel Trail in the Grand Canyon; this trail they later turned over to Coconino County.

Last Friday night we had the heaviest rain we have had during the six years I have been stationed at Tumacacori. It rained so hard some of the water ran down the stairs of the bell tower and formed a pool on the floor of the Baptistry. It was evidently from a new direction for it beat in thru the east door in the Sacristy and left another pool there. Three small leaks in the roof of the Nave can easily be caught up when we put the roof dressing on the main roof. When Engineer Jack Diehl makes his rounds as he proposes to do in the near future we will take up a number of repairs which should be made before the winter weather sets in.

Among our visitors this month was Fred Winn, Supervisor of the Coronado National Forest. We are always glad to have Mr. Winn visit us as he always has so much of interest to tell us. With Mr. Winn was a gentleman who has evidently given quite a bit of study to early Arizona History, especially that pertaining to the Mormons. Tubac was once a Mormon town. I believe it would be well for us to collect as much information as possible from these people who pass our way as many of the old settlers will soon be gone and the information may be lost.

I always enjoy visits from the Tombstone people, they are not only filled with interesting facts about this country but they are enthusiastic over the Mission and the work that has been done here. Mr. A. H. Gardner and a party of his townsmen visited us last week. Mr. Gardner is the Manager of the Tombstone Chamber of Commerce and also editor of the Tombstone Epitaph. Many visitors come this way thru the efforts of Mr. Gardner and Tombstone people and we always try to have visitors southward bound to take the Patagonia route by way of Tombstone.

There are very few native families in this vicinity that are not receiving help from the Government. Their little patches of ground were formerly carefully cultivated, but the past two years this work has nearly ceased and they say the reason is that those with gardens receive less food from the charities. This giving of a dole is a real problem.

Our Santa Cruz river which is dry sand much of the year is a raging torrent in the rainy season. We went over to the river early the other morning to watch the flood waters loaded with trees, sand, and much refuse from the ranches up river.

While we were watching, a group of five cows and two young calves started to cross the river and they rolled about by the waters, sometimes under and sometimes above the water; everyone of them finally made the other shore, but, of course, it was a long distance from where they entered the river and where they finally left it. I once saw a whole herd lost in this way.

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# EL MORRO RANGER

By Alfred Peterson, Ranger

Just got through with my first party of visitors this morning and missed the mail man. I know this ought to be in the mail, but I may make it yet by taking it to Ramah myself. Besides I want to visit with the Winton's who are camping at the Vogt's,--if it does not rain too much. Since the Custodian is home, I suppose he will report and that Vogtie will make good his statement that he was going to let his father write his own report.

This has been about the poorest summer month for visitors that I have experienced at El Morro due to road conditions. I wrote you some time ago about road conditions at the first of this month and the resultant lack of visitors.

Visitors to date number about 333, and about 45 people who came for water. These visitors came from twenty different states. Other Augusts have run as high as 600 or more visitors.

On August 10, former director of the National Park Service, Horace M. Albright visited El Morro after sleeping in a Packard bogged down in an old lake bottom on a so-called road the night before. That was to the south of the Monument. Mr. Albright wrote in the register "Many fine improvements since 1930. Monument is in excellent hands." On that same day, late in the afternoon, Mrs. Anna W. Ickes, wife of the Secretary of the Interior, washere with some friends, and we had some fun recalling her trip here last year during which we all got drenched in rain when visiting the ruins on top of the mesa.

Several parties of campers, as much as 11 to a party, have stopped at El Morro, and I have on several occasions turned the tool shed over to them to keep out of the rain. On August 20, I had Dr. Wyman of Boston University and two Navajo Indians sleeping on the floor of my cabin, while the tool shed was the refuge of three ladies, two artists from Taos and one from New York. Dr. Wyman has his summer headquarters at Coolidge, New Mexico, and is doing research in ethno-botany.

One rainy afternoon some visitor left the register box open until about 9:30 P.M. when some Seventh Day Adventist missionaries, who were

camping in the Nine Pine Cove, closed it. For the following three days I had the book all apart in my cabin trying to dry it without it buckling all out of shape.

It has been my opinion since my first season here that a stone or log shelter should be built for the register box. This could be large enough for a couple of benches---except for the objection that it would probably be littered with remains of lunches. Some people deliberately avoid registering and say so; and many of these are the desirable type. One lady said she ordinarily shunned registers, but in this case she wanted to register with the Conquistadores.

I have previously reported about the hard rains the first few days of August and the trouble with contaminated water. This matter has been somewhat remedied by raising the siphon pipe nearer the surface, and now the water has lost the offensive odor. However, I have come to the conclusion that this contamination is caused largely by the waterway built last year just south of the cove. A large volume of water which formerly flowed from the rock and down the old arroyo now is directed by this flume into the cove reservoir. Along with the water goes many frogs and other undesirable objects. Not until this new water-way was constructed did I see frogs in the reservoir, but now they are numerous, and I have seen dead ones in the water. Once they get inside the dam, they cannot get out again. But then it is just about like any other pool. I now carry my drinking water from the landing field about 4.4 miles according to my speedometer. That is somewhat better than bringing it from Ramah. Just this minute Chet Lowry, a former civil engineer and now a homesteader, drove in with a team from 25 miles away to get four or five barrels of water. Conditions could be much worse.

On the 22nd another hard rain, with some hail, and the cove reservoir came within 15" of running over. The valves have been open now for nearly two days slowly lowering the water level. Fortunately, so far we have not had three of those hard rains come in rapid succession, or it would be just too bad for the "flower garden" which has taken possession of the old arroyo area.

Humming birds, which came in force the first week in July last year, arrived during the last few days of July this year. And they seem to be more numerous than ever, perhaps because of the profuse growth of the Rocky Mountain Bee Plant, their favorite plant hereabouts.

During the month work has been done on roads and trails which has improved them, although there is still some work to be done.

The rains have certainly improved grazing conditions, and several bands of sheep have been feeding in the neighborhood for several days past. While the visitors have not been numerous because of roads and weather conditions, all my visitors are of the right sort to make a

ranger's work a pleasure. They are people who have braved the cruder conditions of the back country because they are interested in the worthwhile things in life.

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# EL MORRO CUSTODIAN

By Evon Z. Vogt, Custodian

Greatest Shock

Your custodian is back from a 17,000 mile scouting trip made for the mining department of an eastern firm whose president is an old, old friend.

Tho I have travelled the lonely roads to the most remote mines in Sonora, Mexico, crossed the hot furnace surface of Death Valley, California, penetrated the deserts of Nevada, driven down thru deep woods of California's Sierras, rimmed thru the untrodden reaches of Utah, and crept my Plymouth safely over Arizona's worst paths, the fact still strikes me upon my return to El Morro and my ranch home, that no where that I have been able to discover are there worse roads.

Only here, does one become stuck in mud, endanger his life on skiddy wet bridges, clay covered and no guard rails, unannounced curves, arroyos, high centers, spring breaking cuts across the road---all resulting in heart-breaking thoughts about our great country, its remarkable progress, its exemplary program of re-employment centered on road improvement.

"It is to laugh," as the French say.

The trouble is there is no one to blame for the drop in our visitors, running close to 50% over last years registration. If there were one, single, government, county or state department upon which the responsibility of such terrible roads could be laid I'd be for seizing a spiked baseball bat in an attempt to wake that head up so that this little region, so famed for its beauty, its historic and archaeological interest, its climate mellowed by shady groves which grow in abundant groves of pinon, juniper, oak and pine, would have the road improvement which it deserves. All other portions of the United States are getting road improvement not to mention the efforts made by our dusky neighbor, Mexico.

With the Park Service, the Forest Service, the Indian Service, Soil Erosion Control, Biological Survey, Bureau of Animal Industry, Aviation Division, Department of Commerce, and others, all trying to do business over these roads which now have become impassable goat trails, it would seem that there should be enough leadership somewhere to fuse the interests into a united effort of road betterment which would permit ranchers and farmers to market their produce, visitors to get in and government men to do their chores without such heavy car up-keep expense.

A few distinguished visitors came our way. There was Mrs. Harold Ickes who made her annual pilgrimage with a much-interested party, Mr. John Collier accompanied by Dr. Aberle, his Pueblo Indian Commissioner, wounded their bodies by the bumps of travel, feeling hardly relieved by the reward of seeing our Monument.

Horace M. Albright accompanied by his partner Mr. Cramer of Carlsbad in an effort to follow Coronado's trail spent the night in a mudhole, in a doubled-up effort to sleep in his car. But this disappointment on the part of the former Park Director worked to the benefit of a ranch youth who broke his arm, and who Mr. Albright after shovelling out his car, took to the Gallup hospital for treatment.

Dr. and Mrs. Will Winton of Texas Christian University are here again but in place of camping at the Monument are guests of the Vogt family.

Dr. Paul H. Nesbitt, accompanied by one of his pupils from the Logan Museum of Beloit College, also "paso por aqui". Mr. Nesbitt's visit is a result of my campaign to protect the Look-Out Ruin located 3 miles north of El Morro Against a white sand-stone escarpment. Some digging there, stealthily conducted last winter, resulted in an effort to get some university interested in excavation and preservation of this important prehistoric city. Harvard, Princeton, University of Chicago, and Beloit were appealed to but only Beloit sent a man, Mr. Nesbitt, who is enthusiastic over what he thinks is one of the outstanding ruins of the southwest and is imbued with a welcome determination to "do something about it."

Your custodian will help Mr. Nesbitt with land titles, permits, etc., to the fullest extent.

Condition of Monument

After so long an absence I took pains to check over the old Spanish inscriptions, the pictographs, the American emigrant names left on the rock.

All are in good shape, with no damage.

The great need here, however---and its the chief one, even transcending the road conditions---is that Dr. Martius of Stanford, who has perfected the preservative which prevents weathering, should come here yet this fall and cover not only the inscriptions, but the Indian and American carvings. I can detect a wearing away of historical values. Letters and dates are showing deterioration and this must be stopped.

Trails are now in good repair tho washing of winter, spring and summer rains made new drainage and fill-up work necessary. This, as well as some erosion control work, was done by my son, Evon, who has

been pinch-hitting for me all summer, and Paul Davis, his high school mate, who is an industrious worker.

The major restoration work we did under C. W. A. and F. E. R. A. in the big fill in front of the historic cove is holding nicely. Grama grass, Russian thistle, yellow sweet clover, and a great variety of weeds and wild flowers have combined in fine co-operation to keep the soil from washing away. In a few years more this area will give us no further concern.

One of the major erosion control dams in the Nine Pine Tree Cove arroyo is washing and caving so badly that I have decided that an effort must be made to stop and hold the dirt. So tomorrow we are starting on two days intensive work with a truck and two hands to haul all the "mal pais" rock we can to chuck into the washed-out holes and to build up with stone, dirt and brush in such a way, that flood waters will leap over the top of the dam into the rock breakway in place of carving a course around and under the bank.

Ranger Alfred Peterson will be here until the middle of next month and will be assisted until school starts in Gallup by my son.

This part of the state is full of many visitors enroute to the Hopi Snake dance and staying around to see the Inter-Tribal Indian Ceremonial. Many are eager to visit El Morro and Zuni but few venture to travel the heavy roads. I have talked with some in Gallup but when they see my spade, axe, and tow chain, lashed to the front bumper of my car, they readily deduct the thought that I do not carry such war-like impedimentia just for fun. Their desire to see our Monument is quickly diverted to places where travel is more pleasant.

I am sure, tho, that one old traveller of this region will come. That is Dr. Frederick W. Hodge, old friend and valued counselor, whom I met at the Mixed Clan Rain Dance at Zuni with two cars of friends from Pasadena, California.

Hodge who knew Cushing, Bandelier, Dummis, Fewkes and all that galaxy of old timers is in fine health, with the same sharp eyes, friendly manner, and wide fund of information on Indians, history, and life which make him one of the most interesting persons I have ever met.

We are all looking forward to his visit which is promised for tomorrow.

While in Santa Fe we encountered the pleasant Mrs. Chuck Richey and Mrs. Jim Hamilton who were temporary Park Service widows at La Fonda.

By way of 20th marriage anniversary celebration we took our four children to the head waters of the Upper Pecos across the range from

Santa Fe in the Sangre de Cristo Mountains. Here we spent our honeymoon on snow clad peaks in 1915. So this year, now that our children are all at home in the saddle, we took time to ride to timberline thru carpets of wild flowers and green grass three feet high, to the tops of peaks from which the entire glorious panarama of the state's highest mountains were unfolded to our view. It was a grand experience. We made the 500-mile round trip, camping out and cooking our meals on camp fires, and sleeping in our bed rolls on an expense of $50, including the hire of 6 horses.

Dr. Winton just said that the northern Monuments where he visited this summer are getting 10 visitors to our one---all owing to roads. He wants to know where Devils Tower National Monument got the money to built that wonderful approach road and why the same thing cannot be done here for El Morro.

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# CHACO CANYON

By Thomas C. Miller, Custodian

General

Ausut has been a very satisfactory month---with all the visitors we could handle efficiently. The weather has been ideal with enough rain to keep it from getting too hot, but not enough to stop travel very long at any one time.

Approach roads have been rough but passable all the month with very little maintenance.

Travel

1031 people arrived in 279, automobiles coming from 26 states, the District of Columbia, England, France, Germany, Nova Scotia, Philippine Islands.

Overnight campers: 212. Ranger and Museum Service was rendered to these people by Ranger McKinney and the Custodian. This service includes guided trips through the ruins of Pueblo Bonito, Chetro Ketl and Rinconada.

Weather

Maximum 95 on the 10th. Minimum 48 on the 16th. Precipitation 1.32 inches was recorded for the month.

Special Visitors:

Engineer Sumner of the State Highway Commission arrived and departed on August 16. Dr. Fred W. Allen, Professor of Biology at the University of New Mexico, arrived August 1, and departed on the 4th. The purpose of Dr. Allen's visit was to make a study of the distribution of the human blood groups among the Navajo's of the Chaco. However, the

Chaco Navajos could not see the importance of these blood test where they had to furnish the blood, so the actual work was postponed.

Custodian Johnwill Faris, Aztec Ruins, arrived and departed on the 6th. Mr. Faris telephoned me that he would like to borrow one of our rattlesnakes to show to his visitors in that Monument. At his request the snake was captured and ready when Mr. Faris arrived, but when Johnwill saw the snake, which was one of the nicest snakes on the Monument, he was afraid of it. So Johnwill returned to Aztec sadder but wiser.

Dean Cummings of the University of Arizona and 27 of his associates and Students arrived on the 6th and departed on the 7th. Dr. G. Plathner, Halle, Germany, arrived on the 9th and departed on the 10th.

On August 12 and 13 this Monument was honored by a visit from the Director's Office consisting of Associate Director and Mrs. A. E. Demaray, former Director Horace M. Albright, Ranger Bob Albright, Mesa Verde, Superintendent and Mrs. E. P. Leavitt, Mesa Verde National Park, Mr. and Mrs. Howard W. Baker, Rocky Mountain National Park, Mr. Charles A. Richey, Resident Landscape Architect and Mr. T. M. Cramer, Resident Manager of the U. S. Potash Company, Carlsbad, New Mexico.

This party was treated to a steak fry prepared by Ranger and Mrs. McKinney and Mrs. Miller.

Chief Forester John D. Coffman, Washington, D. C., and Assistant Chief Forester Cook, Berkeley, California, arrived and departed on the 14th. Mrs. C. R. Markley and party from Mesa Verde arrived on the 14th and departed on the 16th.

Dr. W. F. Hodge and party from the Southwest Museum, Los Angeles, California, arrived on the 17th and departed on the 18th. Mr. E. B. Sayles and Dr. E. W. Haury, Gila Pueblo, Globe, Arizona, arrived on the 19th and departed on the 20th.

The Archaeological Field School of the Texas Technological College, Lubbock, Texas, headed by Dr. W. C. Holden with 28 students arrived on the 19th and departed on the 21th.

Mr. A. E. Limbough of the Cook and Ransom Construction Company, Ottawa, Kansas, arrived on the 21th and departed on the 22nd. Mr. Limbough informed me that he expected to start construction on the Monument Boundary fence within the next week.

Excavations

The University of New Mexico completed their work in the Chaco for this season and departed for Santa Fe on August 9. Attached to this report you will find a report taken from the field notes of Margaret S. Woods who was in charge of the dig at Talus Unit No. 1, Chetro Ketl. (See Supplement.)

Accidents

Mrs. Louise E. Young, 630 North Martin Avenue, Tucson, Arizona, sprained her ankle August 11 while walking through the ruins of Chetro Ketl. This was our first accident of the season, but the extent of the injury was not serious. First Aid was rendered and Mrs. Young left the Monument a booster for the Service. Boss, this will remind us that we do need trails through the best ruins in the United States.

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# WALNUT CANYON

By Paul Beaubien, Acting Custodian

2047 names on the register for August. This is the first time I could report more than 2000, although an old report stated more than 2500 registered one July a few years ago.

Wish I could write that the 2047 left satisfied with the Service, but it is impossible to contact them all---especially with two trails into canyon three-fourths of a mile apart. Then, a few arrive by 7 A.M. while some come after sundown. To guide a party takes one full hour by the shortest trail while quite often there are more than 20 parties a day.

Have found that most of the "first-time" visitors have been directed here by rangers in other Monuments or Parks. The small "miss-worded" signs at the entrance roads are often missed by people who know of their existance instead of helping to draw new customers. I believe adequate signs would draw many more visitors.

While speaking of signs I wish the Monument boundary was properly marked. Deer season will soon be here and there are a few bucks left, Have had reports of turkey on south side of canyon. About the only protection that could be given them would be boundary signs.

Have had lots of rain this month. The roads have been worked some by the county and oil in better shape now than at the end of the dry season.

Assistant Wildlife Technician Russel Grater spent some time here during the month. I believe he is sending a report to you so won't speak of his finds.

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# WUPATKI

By James Brewer, Acting Custodian

Travel

159 visitors registered at Wupatki Pueblo, 206 at the Citadel. 75 names are duplicated, leaving a total of 290 visitors to this Monument

for the month of August, 1935. (August 1934, 190 visitors).

Weather

Generally cloudy; July 25 to August 1 two showers and one cloudburst netting 1.35 inches rainfall. August 1 to 25 six showers netting .65 of an inch. High temperature 98 degrees on the 11th and 12th, low 60 degrees on the 1st and 16th.

Roads

The road between Wupatki Pueblo and highway 89 is in better shape now than I have ever see it. On July 31 a cloudburst amounting to 1.52 inches of rainfall landed between the Pueblo and Doney Crater washing parts of the road out. It was necessary to fill some of the larger washouts with stone, cover with cinders and run the grader over the whole.

Mr. and Mrs. Ross Montgomery of Los Angeles asked, "Where are the CCC boys camped who have been working on the road?"

The cinder road between Wupatki and Sunset Crater is passable in either direction.

News-worthy Visitors

July 26, Assistant Superintendent, Hugh W. Miller and Engineer Jack Diehl. (We missed seeing these two because after collecting the travel figures from the Citadel and Sunset Crater we often stay overnight in Flagstaff and shop the following morning).

Mr. L. F. Brady, Curator of Geology, Museum of Northern Arizona, was here on the 29th studying the Moenkopi formation.

On the 31st the field expedition of the Museum of Northern Arizona visited Wupatki.

Dr. and Mrs. Colton and Miss Bartlett brought out a picnic lunch on the 7th. Sallie (Custodian for the day) showed Dr. Colton Clyde's new road that gives access to a mesa heretofore inaccessible by car.

Mr. and Mrs. Eddie McKee brought Dr. and Mrs. Ries to the Monument on the 11th. I gave Eddie a fine specimen of live rattlesnake I had taken two days before.

Mr. H. G. Franse (Fred Harvey) of the Grand Canyon, here on the 25th, said that Wukoki and some surrounding sections had recently been transferred to the Government. Whether for Park Service or Indian Service he did not say.

Water Report

Bob Rose and Jack Diehl suggested that I measure the output of the

various springs near the Monument. Using a one-gallon can I clocked each spring 4 times and averaged the number of second required to fill the can at each spring.

Result:

| | |
|---|---|
| Heiser Spring (major) - - - - - - - - | 1,004.65 gallons per day |
| Heiser Spring (minor) - - - - - - - - | 421.30 gallons per day |
| Coyote Spring - - - - - - - - - - - - | 1,032.43 gallons per day |
| Wupatki Spring- - - - - - - - - - - - | 514.28 gallons per day |

Heiser Spring is 1½ miles south of Wupatki pueblo and Coyote Spring is one mile farther. There are also two undeveloped springs, the flow of which I can not estimate.

Quail

In the fall of 1933 the Arizona State Game Department supplied Dr. A. J. Mackey, of Flagstaff, with 24 Arizona Scaled quail (Callipepla squamata pallida). Mr. L. L. Hargrave and I banded and released them at Heiser Spring, where they were observed only once shortly after their release and for two weeks their tracks diminished until none were seen.

There is no record of their reappearance until August 1, or 2, when they were seen by a sheep man, who is now camped at Heiser Spring. On August 7 he told me he had been seeing 5 to 8 adults, with broods of from 5 to 16 (The group of 16 was herded by two hens).

Knowing that quail trapping requires a specially built cage I improvised one and placed it, baited, at the camp on August 11. The first catch was made on August 13. Passing the camp I stopped and released one hen and two immature. I did not have my banding kit with me and did not want to keep the birds confined until I could get it, because the hen's head was already featherless and scratched from butting the cage.

The hen was not banded but may have been one of two that escaped without a band when we released the group, or may have been the offspring of one of the original stock.

With the good rains we've been having I expect this will be a good year for the quail and hope they become well established.

New Arrivals

On the 20th "Chief" Ansel F. Hall's truck arrived with a fine new specimen case. (A close inspection failed to produce the key with which the case should be locked.) I seized this opportunity to express the samples Dale requested sent to Mr. Hall's office---Moenkopi sandstone, Kaibab limestone, basalt rock, and cinders, to be used as color guides in the production of the models of the Monument. All were loaded

on the empty truck and headed for Berkeley.

From Headquarters came Bailey's "Birds of New Mexico" and "The Hawks of North America." From the National Geographic Society, in response to my request, came a complimentary copy of "Dating Pueblo Bonito and Other Ruins of the Southwest" by Dr. A. E. Douglas. From Mr. and Mrs. C. A. Pierce came "Evidence of Early Man in North America" by Edgar B. Howard, Museum of the University of Pennsylvania.

Recent Departures

On the evening of the 18th I drove the borrowed V-8 and the tools to the Grand Canyon. This completes the transfer of E.C.W. equipment from Wupatki to the Grand Canyon.

Restoration

On the 19th Dr. Colton sent three Hopis out to repair Room 35. This was the room with the corner supported on Planks and a pine post. We jacked up the roof, removed the temporary timber, and tore down the unsupported wall (not original). Replacing the timber with a great stone lentil, we rebuilt the entire corner walls to the former roof level. We then sawed off the protruding beams and replaced the roof. The restoration harmonizes nicely with the original and does away with the dangerous and unsightly situation left by C.W.A.

Important

The I-beam that was rushed to Wupatki too late for C.W.A. installation is still idle. The leaning wall (east wall of Room 41) needs this support badly. This is the tallest and one of the most impressive walls of the pueblo and should be supported as soon as possible. I intend to call this to the attention of Jack Diehl on his next trip to Wupatki.

Residence

Room 63 adjoins Room 36 (Custodian's residence) on the south. By stretching the reconstructed window in the south wall of Room 36 into a door and partially restoring the south and west walls of Room 63 we have added a room to the residence! This eliminates the necessity of building a new residence (pro tem).

Etc.

I feel very much as though I have lost my right arm. Sallie has gone to the Snake Dance with Miss Frances Gilmor and has been gone these last five days. You will remember Miss Gilmor as Mrs. Wetherill's collaborator on "Traders to the Navajo." I will remember Miss Gilmor as "Traitor to the Park Service" because she has taken away our Custodian-without-pay. Sallie has always typed the report for me and eliminated my bad puns, such as appear above, but while the "cats away the mice will" exhibit their male superiority---or something.

# SUNSET CRATER

By James Brewer, In Charge

If I remember correctly the 1935 Annual Report estimated 4000 visitors as the travel figure for this Monument. I believe this is underestimated because 1216 visitors have registered this month alone. I would also be interested to know what percentage of visitors do not register. Do you have any such statistics, or must I hide out at the Crater some time and compare the registered number with the actual attendance?

Early this month I sent your office a map to be reproduced and placed in a permanent display case to help guide visitors at this Monument. Later I received a letter from Dale saying the the Phoenix Blueprint Company would send me photostatic copies of a diagram drawn by Mr. J. H. Tovrea, and that the original would be kept in Coolidge. The Blueprint Company has evidently forwarded the original to me by mistake. (I suppose the copies were sent to you.)

Since I sent you the sketch of the Monument I have obtained a much better likeness from Dr. Colton, and since Mr. Tovrea has not reproduced the fumeroles on his sketch I suggest we start again and get off on the right foot.

Dale also writes that Architect Kuehl is designing a case and standard to house this diagram and may I suggest that while he is about it, he also design a register stand to replace the rickety pine frame that now holds the registration book. The stand should also hold a sign reading "Visitors Are Required to Register."

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# TONTO

By Woodrow Spires, Acting Custodian

It seems like I have no more than got settled and is time to send in my monthly report, so here goes my first attempt.

Weather

This has been one of the coolest August months that has ever been recorded. There was a mean average of 84, and a maximum of 103, with a minimum of 60. This cool weather is due to 3.31 inches percipitation. These averages are for the first 24 days of August. As there are six days left, there is a good chance of breaking the all time record of 4.11 inches.

Ranger Service

During the month the Monument was visited by 360 visitors of which 211 climbed to the lower ruin, and 5 to the upper. This gives an average of 57% climbing to the lower ruin against 67 last month. This is

Temperatures have been moderately high, with a majority of days showing a maximum of 100 degrees or more. Maximum for the month was 110 on the twentieth, low score on the second with 60 registered. So far this month (this is being written on the 28th) five showers have fallen, with a total precipitation of .61 inch.

Kid Steen, the author of this letter, entered his duties as ranger here on the first day of August, just in time to be put to work on the Mimeograph in getting out last month's report. Jack Winter, who has been appointed Custodian of Casa Grande, is on his way from the Washington Office and is expected to arrive about the fifteenth of September.

During the month a truckload of museum cases and exhibits arrived from Berkeley for the Southwestern Monuments. Casa Grande's portion of this consists of a reproduction of a Hohokam 'mirror', a wax model of a human foot for sandal display a storage case for perishable materials, and a supply of stack trays.

Museum work for the month consisted principally of cleaning and rearranging and labeling the reptile exhibit jars, a minor re-arrangement of the Colonial Hohokam shelves to accomodate the mirror or flasher display, and work started on the repair of a Salado skull.

Two new reptiles were added to the exhibit. Crotalus cerastes, the Horned Rattlesnake, and Crotalus atrox, the Desert Diamond rattlesnake. Nina Javeline, a Pima woman living near Blackwater, brought in two manos and a pestle found on her place as a gift to the museum.

Bird banding activities have been at a stalemate for several weeks due to a lack of bands. A supply has been ordered from the Biological Survey, but has not arrived yet.

Boss, I very blithely agreed to fill two pages of this report, and now, with less than one page written, I am stumped. Dale has put the kibosh on several items by saying, "you can't use that, that's headquarter's material," so I think I will sign off.

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# ARCHES

By J. M. Turnbow, Custodian

It has been a long time since there was anything to report from Arches until during July and August.

On July 30 we were visited by Ranger E. K. Reed. This was the first time the Arches had been visited by a ranger. He found no evidences of vandalism, but in a few places we were badly overgrazed by

accounted for by a group of 50 school teachers from the East on one of the Summer School Tours, "Transylvania," which arrived late on the evening of July 30, and as there was no one on the Monument they only looked at the Ruins through Field Glasses and proceeded to their camp at Roosevelt where Charlie Steen, Ranger of Casa Grande National Monument, gave them a 30-minute talk on Southwestern Archaeology.

Special Visitors

On the eight of August, Captain Thos. D. Teray of the Arizona C.C.C. division, accompanied by Dr. Siegfried Von Ciaciercey of Bonn University, Bonn, Germany, who is representing the German Government in the inspection of the Forest Service, C.C.C. Camps, and Park Service stopped for a hurried inspection of the Monument. As I was cleaning the old camp ground, I almost missed them. Returning as they were leaving, I talked to them for about five minutes, but they did not have time to go back to the lower Ruin with me.

We were also honored by a visit by Cliff London and his wife who spent several hours here July 28.

General

In the spare moments I have cleared the old camp ground which was scattered with debris. With the aid of a landscaper and a little revegetating, we will be able to destroy all evidence of this camp ground.

The Custodian's residence no longer looks like a "Shell Service Station", as all of the bright yellow has been covered with "Park Service Green," giving the building a different appearance---not nearly so gaudy.

I guess it is about time for me to sign off as my news supply is running rather low.

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# CASA GRANDE RUINS By Charlie R. Steen, Park Ranger

It seems rather strange to be writing you a letter when you are standing not three feet away, and know as much as I do about happenings at Casa Grande during August.

For the edificaion of the men in the field and in the Washington Office, however, I'll record the figures that during the past thirty-one days, 1376 persons visited this Monument. This count, strangely, is exactly the same as the visitor count for last July, but in fact, indicates a heavier travel for this year, as at present the gates are shut at five o'clock and last summer cars were admitted after that hour.

grass and flowers growing, and plenty of fresh water.

Roads are very good---never were better. I have had a man working on trails 15 days and they are now in very good shape once more. Whenever it was a stormy day and I knew nobody was coming, I got out and did a lot of trail work close by, so I could be on the job early and late while it was cool. Now I will let the rest of the trail work wait until November when I can do most of it myself. A lot of narrow bad places I will fix up.

I am now looking for some men Mr. Hamilton said he would send in to take the topography of the two camp sites he put on paper to see which one will be the best one to develop. Oneis down where my camp is and the other on top of the hill just south a few hundred yards. I prefer the last named.

The CCC camp at Blanding is nearly all built up, ten houses done, and 6 or 8 more to put up. The Captain expects 210 boys here in a few days. They have promised to do some trail and road work near the Bridges, but it is getting so late in the season I don't think anything will be done out here this fall.

I am trying to get them to fence the Monument for me by running a fence from White Canyon so that cattle could not get in there. I have a lot of trouble every fall with cattle that drift down on the point and can't get water and very often some of them die there. I have a nice job burning them up. About three miles would fence the whole Monument, and save a lot of trouble for me and the cattle owners. We can get the fence if we can help buy the wire. Please think about it, Frank, and let me know if anything can be done about it next spring. Too late now to get anything done this fall.

Well, Frank, I am very well and still in love with my job. I enjoy the reports of the various Custodians and when I compare them with mine, I feel just a little ashamed, but you know, boys; I was left a fatherless lad of 13 and got most of my education off the deck of a mustang pony about the subject of hard knocks, so please excuse some of my blunders, and I will close for this time.

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Zeke, doesn't need to apologize for his reports---if all were up to his standard, we'd be plenty satisfied.

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## PIPE SPRING

By Leonard Heaton, Acting Custodian

Again I sit down to record the history of Pipe Springs National

sheep. As soon as we get our boundary established we can keep the sheep out of the park area.

August 4-5, we were visited by Professor Larry M. Gould of Minnesota. This was the first time I had been thru the area with Professor Gould and he saw much more of the park than on his other visits here and took a number of photographs of Arches scenes, which will be published in the National Geographic Magazine soon. I am enclosing a clipping from our local paper. I would like something published about his visit in the Park Service Bulletine if you see fit.

We were visited on August 17, 18, 19, and 20 by Engineer J. H. Diehl.

I went over the park boundary with Mr. Diehl hiking most of the time. Several changes in the boundary will be recommended and last but not least we need a highway through Arches. Please keep this in mind and help me any way you can.

Several members of the local Lion's Club visited the Monument last week and they think our scenery is much better than Zion Canyon.

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# NATURAL BRIDGES

By Zeke Johnson, Custodian

Well, here I am coming at you once more with my report---and I wish I could write better or had someone to type for me, but here I am all alone in my dandy tent. Mrs. Johnson has gone to the Lake, and I will have things all my way now for a few weeks.

We have been and will be very comfortably located for some time to come here in our big new tent-house. It is surely fine and has lots of room, and when people come in as they do almost every day and see the egg-beater and pancake turner and a lot of other cooking utensils, they say "Well, Johnson, you have a real home here now." But, of course, it will be rather lonely now for a while until Mrs. Johnson returns.

A lot of very fine people have been with us this month. Paul Wilkerson, accompanied by Paul Franke and his boy, were here making pictures with his big camera for the White House. Then Architect Langley and Engineer Hamilton were with me a couple of days—they put my little town or camp on paper and it looked good to me. Will look better on the spot, but I am so comfortably located in my big camp tent that I am not worrying any more.

Weather has been very good---some showers---just enough to keep

PIPE SPRING (CONT).

Monument for the month of August. Main events are as follows:

August 16, received a brand new steel file case; spent the next day in getting rid of the old wooden and pasteboard boxes that I had used in filing away my papers, and tucking the papers into the new Office hand. It has become a pleasure now to sit down at desk and do the work that is required of me, knowing that when I want to find something I can do so with ease and save myself a lot of worry, wondering and patience trying to get it.

Here is one that is for the new Office Hand 100%.

August 25, 2:30 P. M. a storm from the southwest came up and turned loose on us all the water that it could in about two and one-half hours, causing the largest flood that we have had in several years and doing us a lot of damage. It brought down a lot of trash, brush and sand which found a place to stop on the Monument. The head of the twin culverts were stopped up and resulted in the filling up of the new drain wash with sand, turning the water into the old channel washing out the service road to my barn and hen house, covering up or washing out most of the irrigation ditches on the east side of the fort. The damage done to the Monument in work to fix it up like it was at 2:00 P. M. yesterday amounts to about $350.00. This I break down as follows in the 5 projects: No. 1.- Flood drain clean out $190.00; No. 2.- Road & drain repairs $25.00; No. 3.- Irrigation ditches repairs $25.00; No. 4.- Service road repair $25.00; No. 5.- Replacing of dirt washed away from the residence area $75.00. The last, No. 5, can be cut out by dumping the dirt from No. 1. We still have $275.00 espense.

August 17, CCC's staged a dance in their recreation hall having in attendance 140 people coming from the neighboring towns. A very enjoyable time was had by all.

For the travel this month our visitors came from the following states: Utah, Arizona, Oklahoma, New Mexico, New York, Pennsylvania, California, Texas, Wyoming, Washington, D. C., Total 256. Local travel count 593. Total travel using the Monument since last report 849, a decrease of 87 from last month and decrease of 227 from a year ago.

The CCC's have been pushing the construction of their buildings as fast as possible; this week will see most of them ready for the boys, but no word has been received as to when they will be sent in. The buildings that are erected are 8 26-men barracks, 1 administration, and recreation building, mess hall, hospital, officers quarters, showerhouse, garage, 6 smaller outer buildings, as cooler, powerhouse, cellar latrines, tool shed; 20 in all.

They have used most of the old west field down to the stockmens correll and part of the meadow, on the scuthwest corner, but little

damage will be done to it, as it is back to the meadow pond, and the grass does not grow very good there.

There will probably be some ECW buildings erected north of the road where the old cattle ponds were. I do not know how many or the kind that will be put up.

I received the book "Birds of New Mexico" last week and was surprised to get it as I thought I would be one of the last to get one, probably next year or so; but surely I have enjoyed reading and studying about the birds. If nothing prevents me, I shall have a good list of birds the end of next season, those that nest here and those that visit here.

Our reptile families have increased both in numbers and in family species: Snakes:- Black and white King, seen 7; 3 in sage; Bull, or blow Snake, seen 8; 2 in cage; Red racer, seen 5, 1 in cage; desert rattlers, seen and killed around fort and Monument 12, in in cage. The lizards I do not know so much about, but there are 3 very common kinds here and two new species that I have not noticed till this summer. I hope to become better acquainted with these creatures soon.

I will have to correct my statement of last month where I stated that the July report would be the last from me till the October one was due, but as you know the Scout Jamboree was called off, and I stayed home. Anyway we had a lot of fun getting ready and learned to take disappointment like men, It has been said the anticipation is greater than the realization.

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# MONTEZUMA

By Martin L. Jackson, Custodian

Another August and another report time has rolled around. While nothing very exciting has happened during the month, we have had a very interesting month. While I have not checked the register book accurately, I feel safe in saying that we have had quite as many out of state registrations during August as we have ever had in any one month.

While the total number for the month is far short of 1930, the loss is in Arizona people which we are still away behind on. The total for the month is 1910, as against 1654 for August 1934.

We were favored with a long delayed rain on the 13th, while the roads leading in to the Monument were damaged some, they were not too bad. On the morning of the 24th we had a regular cloudburst that washed the roads out very badly and am sorry to say they are not repaired as yet and probably will not be for several days. Still they are barely passable , so please do not route any visitors away because of the roads,

Visitors coming in have quite a lot of grief to unload. But with two of us here and both being blessed with broad shoulders, we can stand a lot of grief.

I am sure that it is 'old stuff' to you to hear me rave about what a wonderful class of people our visitors are. Am going you one better this time by saying that they are still the very best. And further that they even have the best dogs in the world. Several have confessed as much to us this season and quite a number have been perfectly willing to turn their dogs wild---loose among the wildlife on the Monument, and have no fear for what they might or might not do. So far we have gotten away with insisting that they all be kept on a leash.

Hugh Miller and wife spent the night of the 5th on the Monument as guests of Ranger Fish and wife. Due to an accident on the highway they arrived rather late and we did not get to visit with them on their arrival, but got in a few words with them the next morning before they left. Come again, Hugh, when you have more time. We know a lot of people and things that ought to be talked about.

One of Doctor Colton's representatives from the Museum of Northern Arizona was in during the month and requested that they be permitted to study some of the speciments in our museum. I referred them to you for the authority and have since been notified of your approval. And we will be glad to cooperate and extend every courtesy to them that we can. We think they are doing some mighty fine work. And more power to them.

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# CHIRICAHUA

By Wm. Stevenson, Project Sup't.

In the absence of Mr. Powell I am submitting herewith his report for the month of August.

Coninuous heavy rains during the month of August have made travel to and from the Monument slightly disagreeable, and the number of local Arizona visitors has decreased, but the out-of-state sight-seers are still coming as strong as ever.

958 visitors arrived in 225 automobiles bringing the total registration since June 1, 1935, to 2744. All spectators, both Arizona and out-of-state, expressed enthusiasm despite the inclemency and washed roads. The showers have brought out to the fullest extent the natural beauty of the Monument's wooded growths.

Arizona tourists miss Charles E. Powell, the Chiricahua's champion. While wishing him the best of luck in his new position, they hope to see him again at Chiricahua. All are grateful that he left trained CCC guides

to carry on his work, and the boys are doing remarkably well.

There has been more travel than usual over the trails of the Monument, especially over the Echo Canyon Trail to the bottom of the canyon, and into the Echo Park area. The next most popular travel route is up the Rhyolite Trail to the heart of the Rocks. Both these trails are under construction by the camp's work crews, but this has not hindered the hikers from clambering over the rough spots and making their way through with expressions that soon they will be able to stroll with talons of the thick mountain brush.

Many campers are already using the new fireplaces in the cleared portions of the public camp ground site. These units seem to satisfy the cooking needs, and we hope to soon have them all installed.

We were visited this month by Bob Rose who gave us two lectures on the points of interest in our Western Parks and Monuments. We all enjoyed Bob's talks and hope to have him with us again in the hear future.

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## CHIRICAHUA E.C.W.

By Wm. Stevenson, Project Supt.

I herewith submit the following report for the month of August.

The Monument water system is rapidly nearing completion. The 10,000 gallon reservoir is complete and the trench for the 4-inch pipe line into the headquarters area is dug. A pool for the wildlife of the Monument has been created near the spring area.

The headquarters Comfort station is complete except for installation of fixtures and plastering.

Kip No. 2 in Bonita Camp ground is finished and 300 feet of Camp ground road grading completed. Fifteen stone fire places have been constructed. A number of man days have been spent on general cleanup and Bonita Camp ground is assuming a finished appearance.

Two thousand feet of Old Roads have been obliterated this month.

Heavy construction is being encountered on the Echo Trail, the entire months work consisting of rock wall and heavy fill. To date 2500 feet of this trail is finished.

Construction was started on the Sara Deming Trail August 26.

Work is progressing on the Forest Service projects. The Ranger Cabin at Rustler Park is 40% complete and all materials are on the ground

for the Cabin at Fly Peak.

We were visited this month by Mr. Coffman, Mr. Cook, and Mr. Wirt of the Forestry branch of the National Park Service, Al Cottoneur, Master Mechanic of the National Park Service, and Mr. Curtes, Mr. Smith, and Supervisor Fred Winn of the Forest Service.

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# YUCCA HOUSE

BY ERIK REED, ROVING RANGER

During the first week of August 14 visitors registered at Yucca House; during the second week of August none. Among the 14 registrants were T. C. Miller and his wife and son and L. N. Goodding of the U. S. D. A., my first boss, and his son.

At present the fence is more or less up all around the Monument though rather battered in places; both gates are wired.

There are a large number of sites all around the Monument; many of them appear to be pit houses, presumably of Basketmaker date although most of the sherds found on them are Pueblo 3, with some Pueblo 1 and 2. A surprisingly large percentage of the painted sherds on these pithouse sites are of Chaco type, 1 to 3.

The burial ground mentioned by Mr. T. C. Miller in the June issue of the Coolidge Clarion is part of a quite nice little Pueblo III site northeast of Yucca House--at least fifteen rooms, apparently only one kiva. The building is badly iroded and the refuse mound considerably potted, but it still would be rather interesting to excavate.

These pithouse sites are more to the point, however---a few excavated and restored (roofed) Basketmaker dwellings would make a good complement to the great pueblo of Yucca House.

I want to reiterate that the building just north of Upper House extends north beyond the fence perhaps 50 feet and that this small area should become part of the Monument.

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# NAVAJO

By Milton Wetherill, Acting Ranger

Report for this month is as follows: July 18, 1935, to August 18, 1935, Be-ta-ta-kin 107, Keet Zeel 33.

For the year August 18, 1934, to August 18, 1935, Be-ta-ta-kin 387, Keet Zeel 79.

NAVAJO (CONT).

Dr. F. W. Hodge, Southwest Museum, Los Angeles, California, was in August 10, 1935, with a small party.

Dean Cummings was in with his summer class August 11, 1935, going to Keet Zeel August 12, 1935, leaving for the Rainbow Bridge August 13, 1935.

Mr. Mike Shepard Bylas, Arizona war veteran, made the trip into Be-ta-ta-kin with three legs (two Wooden).

Some work is needed at Keet Zeel in front of trash pile on the northwest side, as it has washed badly the last two storms.

Birds seen and noted July 18, 1935 - August 17, 1935.

| | |
|---|---|
| Turkey Vulture | Long Crested Jay |
| Western Red-Tail | Woodhouse Jay |
| Sharp-Shinned Hawk | American Ravin |
| Desert Sparrow Hawk | Pinyon Jay |
| Western Mourning Dove | Clark Nutcracker |
| White-Throated Swift | Mountain Chickadee |
| Broad-Tailed Humming Bird | Lead-colored Bush-tit |
| Costa Humming Bird | Canyon Wren |
| Black-Chinned Humming Bird | Rock Wren |
| Red-Shafted Flicker | Mountain Bluebird (Tsegia) |
| White-Breasted Woodpecker | Western Gnatcatcher |
| Ash-Throated Flycatcher | Western Tanager |
| Cassin Kingbird | Rocky Mountain Blackhead Grosbeak |
| Say Pheebe | Spurred Towhee |
| Northern Violet-green Swallow | Western Warbling Vireo |
| | Black-throated Gray Warbler |

Birds banded to date at Be-ta-ta-kin Ruins

| | | |
|---|---|---|
| June 12, 1935 | 6 young Chickadee in nest | 34/49551-56 |
| Aug. 3, 1935 | Woodhouse Jay - - - - - - | 34/339641 |
| Aug. 5, 1935 | Woodhouse Jay - - - - - - | 34/339642 |
| Aug. 6, 1935 | Woodhouse Jay - - - - - - | 34/242126 |
| Aug. 6, 1935 | Woodhouse Jay - - - - - - | 34/242127 |

Woodhouse Jays 34/242126 and 34/242127 have acquired the trap habit.

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By John Wetherill, Custodian

Milton has just come in with the report from the rums. I cannot help by adding anything more. I will be down to see you as soon as I can get away. The roads have not improved with our last rains. I am surprised that anyone would have the nerve to drive over them as they

are. Hoping you can get up this way soon, I am yours truly.....

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# BANDELIER

By Earl Jackson, Custodian

Follows the monthly report for August 1935:

Visitors

Visitors numbered 2475, arriving in 648 cars. Thirty-sever states, the District of Columbia, England, Scotland, the Federal District of Mexico, and Canada were represent. Canadian visitors were from Alberta, Bristish Columbia, Ontario, Nova Scotia.

The six highest states by travel were: New Mexico, 900; Texas, 447; Oklahoma, 317; Kansas, 112; Colorado, 97; Missouri, 94.

The largest travel month in the history of Bandelier National Monument brought a much more restricted regional representation than less busy months, but this is not surprising when we realize that in August the South literally takes to wheels to avoid summer heat, and comes through our way in great throngs.

The remarkable feature about our travel this month is the fact that it is the heaviest ever in spite of far more stormy conditions than usual.

Weather and Roads

Precipitation for the month since July 25 was 5.33 inches. There has truly been "water, water everywhere," and then some to spare. The heaviest rain was on the afternoon of the 20th, when two and a half inches fell in five hours. Another single rain produced over an inch.

These torrential downpours, while greatly helping the country, have wrought havoc with roads. On three or four occasions the road to Santa Fe via Pojoaque (the most traveled route) has been impassable because of high water and quicksand in Tesuque and Pojoaque arroyos, so that much tourist travel has been lost for Bandelier, and those coming during such times had to take a route through Espanola, which is 15 miles longer.

U. S. Highway 66 was washed out at one point between Santa Fe and Albuquerque and is still completely closed to travel. Four people were drowned in this flood, when an arroyo became so full it had to assume the proportions of a river.

State Route 4 from Bandelier to the highway (26 miles) is very rough and quite dangerous for high speeds. The road leading out of Frijoles Canyon stood up well as a whole, but some of the shoulder sections were

deeply cut.

Frijoles Creek is running very briskly now. There is plenty of water, and everything is looking greener than I have ever seen it.

Special Visitors

July 26 the Kit Carson Camp for Boys, Tres Piedras, New Mexico, sent in a very interested group of seven boys under the direction of adviser Bateman Hardcastle.

Billy Carmon and party, radio and vaudeville performers, spent an interested two hours with us.

July 28 - From the Texas Institute of Technology came Professor W. C. Holden and 28 archaeology students for an afternoon. This place is becoming quite popular for student parties from Texas Tech, and I have found them all to be a good bunch.

August 5 - Adrey Borell, Regional Wildlife Technician, was in for a ten-day stay.

August 10 - Jack Diehl arrived for a two-day stay.

August 11 - Chief Forester Coffman and Associate Forester L. F. Cook were in for a brief inspection trip, leaving on the same day.

August 12-- Mr. and Mrs. A. E. Demaray, Mr. and Mrs. Howard Baker, and Charles Richey, were in for a short stay and out the same day. ( I was exceedingly sorry to have missed seeing Messrs Demaray, Coffman, Cook, Borell, Diehl, Richey, and Baker. I was away on annual leave from August 3 to August 19. Have never had the pleasure of meeting Mr. Demaray or Mr. Coffman).

August 25 - Hugh and Christine Miller arrived for a two-day portion of their vacation. It seems to me that Hugh is just about as busy as ever though, vacation or not.

Forest Fires

Again we have been very fortunate on fire problems. The one fire of the season so far was from a lightning snag, and burned less than half an acre of duff and litter and some small yellow pine and juniper. I took Logan Horne (a very competent C.C.C. leader) and a crew of five men, and we had the fire taken care of in two hours from the time it was reported.

Nature Notes

The tent caterpillar has again succeeded in stripping the upper halves of a great many cottonwood trees. Jim Fulton's bug crew has been hard at work with our new Hardie sprayer attempting to give the pests

lead poisoning, but the sprayer hasn't enough power to reach to the tree-tops. The result is, many of the trees are quite green about the lower portion, but the foliage appears to have been shaved off at about the mid-section. We are not fearful for the lives of the trees this year, for the attack was late, but will be thankful when this insect cycle is over.

General

The Custodian took himself away on August 3 to the teeming civilization of the East and Connecticut to fetch himself a wife. She was Miss Elisabeth Morris, of New Haven. Now she is one of the Gang.

We drove West, via New York City, Washington, D. C., Virginia, Tennessee, Arkansas, Oklahoma, and Texas.

New York was too hot and too big. The buildings were so high I couldn't see the North Star, and so got lost. Driving down the Hudson River from the Bear Mountain Bridge to New York's skyline is wonderful.

Washington was so hot one's shoe soles curled, but we had a wonderful time there. The reason can be laid at the door of the National Park Service offices. Mr. Tolson and Charley and Mrs. Brill took it upon themselves to treat us like visiting royalty, and they certainly made that Washington visit fascinating and enjoyable. Had the pleasure of meeting Mr. Cammerer, renewed acquaintances with Carl Russell and Louis Shallbach, and met several other Park Service folk. That Washington bunch is all right, and believe me they do the work. If any of you fellows have the idea they don't work in Washington, you have two more thinks coming.

Going west we visited Shenandoah National Park and the Luray Caverns, and met Superintendent Lassiter. We left the park by the famous Skyline Drive.

In Tennessee we drove through a corner of Great Smoky Mountains National Park. That is one of the most beautiful places God ever made. Every foot of that country is fascinating to one who has always been able to count the trees in his own state.

We reached Bandelier just twenty minutes before the commencement of the heaviest rain storm I have ever seen. We must have brought it back with us from Tennessee.

And so, back into the traces, and glad to be there. The new H.C. W.P. has decreed that all work makes Jack a bright boy, and so hopes to raise my mental status.

# BANDELIER E.C.W.

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

Work this month on the headquarters comfort station has been confined to the interior installation of all rough plumbing and wiring, with the completion of the roof and some work started on the portal connecting headquarters building with the comfort station building.

An additional 175 feet of stone guard rail along the entrance road has been completed this month.

All fire places in the camp ground extension area are now complete in place; in addition five of the new approved fireplaces have replaced the less substantial fireplaces in the old camp ground area. This replacement work will continue until all camp sites are equipped with the new approved style or plan.

Practially all activity in the utility area this month has been confined to the warehouse building, all walls to flashing height are complete with roof deck in place. Plumbing of the toilet room started today. The building throughout is ready for plaster, floors and opening trim.

Additional spraying of trees for control of the tent caterpillars has been carried on this month.

Obliteration of old trails, roads and open areas has gone forward under landscape direction.

A timber crew cutting and trimming viga and lintel material for utility area buildings hasbeen working all month, the work being completed this date.

The usual large crew has worked continually in the rock quarry this month quarrying and shaping rock for the guard rail and buildings.

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# ENGINEERING

By J. H. Diehl, Park Engineer

The survey crew in the field under Andy Clark, has been busy all month at Walnut Canyon National Monument, on topography mapping of the proposed headquarter and camp ground areas. They also followed out the proposed boundary extension line along the north side of the canyon, in order to definitely ascertain that this proposed extension will cover the area desired.

ENGINEERING ACTIVITY (CONT).

In the headquarters office at Coolidge J. H. Tovrea has been busy plotting cross sections of the Bonita Highway, Chiricahua Monument, and attending to other mapping work.

From the 6th to the 27 inclusive, I have been in the field visiting the various monuments, getting acquainted with their engineering needs, checking proposed boundary extensions, and investigating the proposed boundaries of an area southwest of Gallup, New Mexico, which is being considered as a possible national monument. Owing to heavy rains, we were unable to complete this investigation for a report at this time. With prehistoric ruins and spectacular red and white sandstone formations, this area appears to have features that justify inclusion in our monument group.

Progress on construction of the various ECW projects in Bandelier National Monument and Chiricahua National Monument, has been somewhat retarded owing to many of the old experienced CCC enrollees being discharged, with the new replacements not yet acquainted with their duties, nor quite up to the physical caliber of those released.

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# NATURALIST DIVISION By Robert H. Rose, Park Naturalist

Staff

The staff of the Naturalist Division during the month consisted of Junior Park Naturalists Dale King and Louis R. Caywood and the Park Naturalist. Mr. Caywood has been on special field assignment during most of the month at Canyon de Chelly. Toward the end of the month he changed his field station to Aztec where he will do relief duty in the absence of Custodian Johnwill Faris.

Mr. King has been at Headquarters during the entire month. Except for a brief field trip to Chiricahua to which reference will be made later, the Park Naturalist spent the entire month at the Headquarters Office.

Junior Naturalist Dale King Report

GUIDED: 3381 minutes---more than 8 8-hour days

MUSEUM WORK: Prepared a few miscellaneous labels for Casa Grande,
Prepared labels for Aztec Stratigraphy case.
Checked and helped unload Berkeley shipment alluded to above.
Ordered from Berkeley: Wupatki relief maps.

MISCELLANEOUS: Planted 30 mesquite trees.
Painted Headquarters bookcase.

NATURALIST DIVISION (CONT).

OFFICE WORK: Sent to field: 64 publications and books
Mimeographed: 18 Office Memorandums
Copy read and lettered headings for August Report
Sent supplies to Tonto and Wupatki, Bird Banding files and Natural History files to Walnut.
Continued listing of Headquarters Library during rest os time.

Report of Junior Naturalist Louis Caywood

"Following is a resume of my activities since I left Headquarters, covering the latter part of July and all of August to date (August 23).

On July 20 I left Coolidge accompanied by Assistant Director Dr. Bryant and arrived at Canyon de Chelly National Monument the following day. Enroute we visited Petrified Forest National Monument.

On July 22 I made a trip into Canyon de Chelly with Dr. Bryant. The following day was taken up in travel from Chin Lee to Grand Canyon National Park where Dr. Bryant continued his trip by train. July 25 and 26 were spent on the return trip to de Chelly.

On the following two days Custodian Robert R. Budlong showed me about Canyon de Chelly and White House Ruin. On July 29 I accompanied Dr. and Mrs. John Deur of Long Island University on a horseback trip to Antelope House in Canyon del Muerto.

The Soil Conservation Project Superintendent was in de Chelly on August 5 on an inspection trip and I accompanied him into Canyon de Chelly and del Muerto in a Soil Conservation car.

From July 28 to August 22 I personally contacted 57 visitors and accompanied them into the canyons on four horseback trips to Antelope House; one car trip to Mummy Cave and three ruin and rim trips to White House. The remainder of the time was spent in study and exploration of the canyons and the rims.

On August 23 I left Chin Lee during the morning, via Gallup, for Aztec Ruins National Monument.

Field Trips:

On August 6 Mr. Rose left for Chiricahua National Monument returning to Coolidge on the 8th. While at Chiricahua he gave two illustrated talks, one on the night of August 6 on the National Park Service in general, and the other on the evening of the 7th entitled "National Monuments of the Southwest."

Attendance was 150 on the first evening and 175 on the second. These boys seemed to enjoy the pictures and program and were among the best audiences from standpoint of attention one could ask for,

NATURALIST DIVISION (CONT).

Two trips were made to the U. S. General Land Office in Phoenix during the month in regard to land matters relating to proposed Kofa Mountains and Organ Pipe Cactus National Monuments. Final reports on inspection trips have all been received and assembled. These assembled reports, together with recommended boundaries, have been forwarded to Superintendent Tool.

General Personnel

Last month we referred to the position of travelling ranger in the "Four Corners" region. Mr. Erik Reed who has filled the job most capably for several weeks received an ECW assignment toward the latter part of the month. We regret to lose Erik but during his few weeks tenure he has collected much data of value to us in that region.

Temporary Ranger Lewis of Aztec left on August 20 for his teaching position in Texas. Mr. Lewis seems to have put forth his best efforts at Aztec and did his share to make the summer in public contacts at that monument a real success.

Temporary Ranger Chas. E. Powell left Chiricahua early in the month for a position with the Army under his Reserve Commission. We regret to lose "Charley" at Chiricahua and at Saguaro and wish him best of success in his new assignment.

Supplies, materials and exhibits received

During the month the following materials and exhibits were received from the Field Division of Education, Berkeley:

225 stack trays for museum storage
7 museum storage cases for bird study skins and other perishable objects.
8 government sparrow traps
6 woodpecker traps
3 wax casts of human feet to be used in footgear displays
650 aluminum labels for cactus species
1 set of prehistoric pyrite mirror reconstructions

All supplies and exhibits came to us in fine shape. We wish to express sincere appreciation for this cooperation of the Field Division in our program.

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# WILDLIFE DIVISION

By Regional Technician
Adrey Borell

Bandelier National Monument, August 5 - 12.

(1) Weather: cool, cloudy, several showers.

WILDLIFE DIVISION (CONT).

(2) Scientific Studies: .Hiked the full length of Frijoles Creek to gather data on fish and stream conditions and to look for beaver which were supposed to have been planted there several years ago.

About 30 dams were put in the upper portion of the creek during the spring of 1934. The majority of these have been washed out. However, the remaining ones are functioning as they should. The pools above the dams have filled with silt but the water falling over the dam (about 22 inches) has dug out quite a large hole. Each of these holes was the home of one or more fair sized trout. Further information gathered is recorded in a special stream report which is attached.

No trace of beaver was found.

Recorded the Following birds.

*1. Turkey Vulture, one, August 12.
2. Western Red Tailed Hawk, one, August 8, mesa.
*3. Sparrow Hawk, one, August 10.
4. Merriam Turkey, few feathers, upper Frijoles Creek, August 8.
*5. Mourning Dove, few in Canyon, Aug. 8-11, many on mesa, August 12.
**6. Pacific Night Hawk, two or three each evening.
*7. White-throated Swift, twenty, August 7 and 11, about cliffs below headquarters, apparently nesting.
*8. Broad-tailed Humming bird, two, August 7, one, August 9.
9. Rocky Mt. Hairy Woodpecker, One, August 7.
10. Red-shafted Flicker, two, August 7; two, August 9.
*11. Ash-throated Flycatcher, one, August 8, mesa.
*12. Flycatcher, Sp.?, one, August 11.
13. Long-crested Jay, one or two each day, two immature on August 12.
14. Raven, one, August 10.
15. Woodhouse Jay, one or two each day.
16. Clarke Nutcracker, one, August 8, head of Frijoles Creek.
*17. Pinyon Jay, flock of six, August 7, mouth of Frijoles.
18. Mountain Chickadee, six, August 8.
19. Rocky Mt. Nuthatch, one, Aug. 12.
20. Red-breasted Nuthatch, two, August 8, head of Frijoles.
21. Canyon Wren, two, August 7, one, August 11.
*22. Thrush, sp.?, one, August 6, one, August 10.
*23. Chestnut-backed Bluebird, six, August 12, on mesa.
24. Robin, two, August 7, one, August 9, two, August 12.
*25. Gnatcatcher, sp.?, two, August 7, mouth of Frijoles Canyon.
*26. Western Warbling Vireo, two, August 7.
*27. Western Tanger, two, August 7, mouth of Frijoles.
*28. Rocky Mt. Black-headed Grosbeak, few adults and immatures seen each day.
*29. Arizona Blue Grosbeak, two, August 6 and 7.
*30. Arkansas Goldfinch, four, August 7, three, August 9.
*31. Spurred Towhee, two, August 7, one, August 9, on mesa.

32. Junco, sp.?, two, August 8, head of Frijoles Creek.

All were observed in Frijoles Canyon unless otherwise stated.

Eighteen of these (marked with *) are new to the list which I recorded between November 5 and 15, 1934. Scientific names are not given as no specimens have been collected and therefore identification cannot be positive.

(3) E. C. W. Supervision: With Camp Superintendent Chase, Chief Forester Coffman, Assistant Chief Forester Cook, Forestry Supervisor Wirt, Landscape Architect Morse and Forestry Technician Fulton, went over all Fifth period projects, and looked over a proposed fire trail route. At present there is no trail along the west boundary and no good trail leading west over the mesa. The forestry representatives were strong in their opinion that one good trail should lead from headquarters across the mesa along the west boundary to the small canyon beyond Capulin, about 18 miles of new trail. This trail would join the old river trail making it possible to ride or hike completely around the monument. The Foresters feel that this new piece of trail is essential and it would be valuable for patrol during the deer season.

We also discussed a truck trail from headquarters to Capulin Canyon. I believe that this truck trail is not essential. Furthermore this road would pass near the Stone Lions and the Painted Cave and for this reason there would be constant pressure to have this road open for tourist travel. If this project is proposed, I believe it should not be approved.

Tent caterpillars are doing serious damage to trees in the lower three miles of Frijoles Canyon. Cottonwoods are most severely damaged but in some places, willow, alder, Gambel Oak and boxelder are being defoliated. Some of the trees do not have a single green leaf left on them. Forestry Technician Fulton is spraying the infested trees about headquarters.

I was disappointed in not being able to see Custodian Earl Jackson.

State Game Commissioner Elliott Barker and State Game Expert Stockley Ligon at Santa Fe, August 9, discussed the following subjects:

(a) Proposed Federal Game Refuge or National Monument surrounding the Big Hatchet Mountains of Southern New Mexico. Barker and Ligon were violently opposed to Federal control of that area. Said that it is already a State Game Refuge and that they have been giving special attention to it for several years. They said that they are getting fine cooperation from local ranchers and that the Taylor Grazing Act administrators have agreed to exclude domestic sheep from the area. A large proportion (40%, I believe) is State land. They maintained that if the

Federal Government took over the area and lost the cooperation of local ranchers, through elimination of grazing or through the lack of control of predators, the ranchers would shoot sheep at every opportunity. They said that there are sheep in the Guadalupes and San Andres Mountains which they would be glad to have the Government take over but they will fight the Big Hatchet project to the end. They favored extending the boundaries of White Sands National Monument to include the artesian well area for waterfowl and a portion of the San Andres Mountains for mountain sheep protection.

(e) Barker and Ligon suggested that since the Ramon Vigil Grant adjoins Bandelier National Monument the Park Service might be able to encourage the Indian Service to enforce the State Game Laws on this recently purchased area.

(6) Regional Engineer John H. Diehl regarding a possible boundary extension at Walnut Canyon. He said that Ralph M. Hussey, Supervisor of the Coconino National Forest seemed amenable to an extension and was quite willing to establish a buffer area around the monument.

(7) Wo Peen, Indian artist at San Ildefonso, New Mexico. Mr. Peen said that if the Ramon Vigil Grant were turned over to the San Ildefonso Indians, he thought that game regulations could be worked out satisfactorily. Wo Peen is well educated and a fine man. He would be a good one to work through if that grant is turned over to the San Ildefonso Indians. Governor Montoyo was away at the time of my visit. Regulations on this grant would be especially desirable in order to save the game species of Bandelier.

(8) Chief Forester Coffman, Assistant Chief Forester Cook, Forestry Supervisor Wirt, Forestry Technician Fulton, Regional Engineer Diehl, Camp Superintendent Chase, regarding fire roads and trails, caterpillar control and E. C. W. projects at Bandelier.

Bandelier National Monument

1. Puncture Vine: Assistant Chief Forester Cook called our attention to an invasion of the exotic puncture vine near headquarters. He suggested that we attempt to eradicate this very undesirable exotic. This project should be encouraged.

2. Truck Trail: There has been some agitation for a truck trail to lead from headquarters to Capulin Canyon. If this project is proposed, I think it should not be approved. See page 8 of this report.

3. Trout Planting: I recommend that future plantings be made after the summer rains and that no trout be planted in the lower six miles of the stream. Most of the planting should be done in the vicinity of, and above, the upper crossing. See stream survey report which is attached.

Most of the recent planting has been done near headquarters (3 miles from the mouth) since that is the only place where a road leads to the stream. A car can be driven to within one mile of the upper crossing and to within two miles of the head of the stream and the trout packed in by horses or C.C.C. boys.

## STREAM SURVEY OF RITO DE LOS FRIJOLES

## BANDELIER NATIONAL MONUMENT, NEW MEXICO

This is a small, clear creek, flowing at a medium rate. It is about 23 miles long, of which the lower 11 miles are in the Monument, the upper 12 miles are in the Santa Fe National Forest. Its source is in a heavy stand of yellow pine, Douglas spruce, white fir, alder and aspen at about 8500 feet elevation. The stream is fed from natural drainage and several springs. The upper 15 miles are quite well suited for trout as there is an abundance of food and shelter and many small pools, one to three feet deep during low water.

Record of past plantings as supplied by the New Mexico State Fish and Game Commission which has furnished all the trout for this stream:

1926 - 5,000 Brook trout
1929 - 10,500 Brook trout and 2,500 Rainbow
1932 - 500 Rainbow
1933 - 500 Rainbow and 5,000 Cutthroat (native in Northern New Mex.)
1934 - 11,000 Cutthroat
1935 - 21,000 Cutthroat; 1,000 of these were from 5 to 8 inches long.

In the light of these plantings it is of interest to note that of the thirty trout which I took (and released) on August 8, 1935, all were brook trout except one rainbow, no cutthroats. The largest of these was 8 inches but few were over 6 inches. By far the best fishing is in the upper ten miles of the creek. The reason for this is twofold. The lower part is fished heavily as the road strikes the creek three miles from its mouth and a good trail follows down to the mouth and up about 8 miles. Furthermore, the lower 6 or 7 miles are subject to rather violent floods in the late summer. Two miles below headquarters are two falls; one about 60 feet high and the other about 50 feet. Regional Engineer John Diehl and I visited these falls on August 11, a week after two violent floods. Below these falls we found 6 dead and I injured trout. Six of these were cutthroat and one rainbow, all were between 4-3/4 and 5-1/4 inches long, apparently from the recent planting.

I have a feeling that if plantings were made after the summer rains, (say September), that the young trout would have an opportunity to become adapted to the stream before they were forced to contend with flood waters. Furthermore, I think that no trout should be planted in the lower 6 miles

of the stream. The upper part of the stream is much better adapted to fish and is less subjected to floods. This summer's planting was made near headquarters and shortly after two floods occured. I feel that a large percentage of these small trout were carried over the falls and killed and most of those which were not killed were carried into the muddy Rio Grande. At least there are very few trout left in the lower 7 miles of the stream where 21,000 were planted this spring.

I am not in a position to say which species of trout is best adapted to the stream since the recent plantings of cutthroat were made in the spring in the lower portion of the stream and did not have a fair chance. I should like to see a planting of cutthroat in the upper ten miles of the creek. A car can be driven to within one mile of the upper crossing and within two miles of the head of the stream. From either of these points fish could be taken to the stream by pack horses or C.C.C. boys.

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# ENGINEERING DIVISION

J. B. Hamilton,
Associate Engineer.

General

I seem to have neglected the Southwestern Monuments of this section this month as I have only visited Canyon de Chelly and Natural Bridges National Monuments once each. With work at Aztec and El Morro held up for lack of approved plans in the one case and money in the other, to my sorrow I could not find an official excuse to go to either.

I was very pleased to have a few minutes' chat with Engineer Diehl one evening here at Mesa Verde.

Canyon de Chelly National Monument

I went over on August 8 and returned on the 10, going by way of Gallup and Ganado amd returning by Lukachukai Pass. Recent floods made the road somewhat rougher than usual. I was lucky in dodging local showers.

Most of the time at de Chelly I spent in checking over costs with Foreman Brown, which I was enabled to do closely, as Mr. Hugh Miller's ledger sheets came in while I was there. I found the job costing more that had been estimated not only because of the flood but generally running high.

A fine water and sewer system will result if we can finish it.

I was lucky enough to be able to attend a Navajo "Squaw" Dance the night of the 9th. As I was short of change I had to hide in the auto, after my last nickel was spent, until the rest of the party was ready to leave.

Natural Bridges National Monument

August 13 at 6:15 A.M. I left Mesa Verde National Park and drove the 180 miles to Natural Bridges National Monument, arriving just fifteen minutes before noon. There I found Architect Langley and Custodian Zeke Johnson.

That afternoon while Mr. Langley looked over the headquarters area and dreamed his dreams of the future, Zeke guided Mr. Yeager, Forestry Technician, attached the CCC Camps at Mesa Verde, and myself over the eight mile circuit past the three bridges. Needless to say to those who have been there we were greatly impressed when we reached Augusta Bridge, the climax of the trip. The stupendousness of the spectacle combined with the lesson in geology makes the trip eminently worthwile for anyone.

Of course, Zeke pumped me on the trail problem. Problem is the word advisably. The long stretch in the canyon is so sandy and so likely to be washed out that it will take a tremendous amount of effort to put in anything of a permanent nature.

The trail out of Whites Canyon at Augusta Bridge to the point between White and Armstrong Canyons is almost the problem of the Canyon de Chelly White House trail over again, but probably somewhat more difficult. The same as across from the White House we have the talus covered amphitheater with the rock cliff at the top and bottom. Across the point between the Augusta and Edwin Bridges is comparatively easy work, but even so much labor is required at two or three small canyon crossings. To cross Armstrong Canyon at the Edwin Bridge with a standard trail is a large undertaking.

I can see about two summers work for a full CCC camp on trail work alone. The camping spot at the Caroline Bridge should be given protection against erosion, the parking area and roads about Headquarters Area built, water system and sewer installed, if the Monument is to be built up to the standard it deserves.

While I should like to see a CCC camp there I realize the difficulties of getting one established. The cost of a water supply and of sewerage disposal would be very great and the distance supplies would have to be hulled, largely from Grand Junction, Colorado, lead me to believe that the Army would never approve a camp in that location. I hope I am wrong.

That evening and the morning of the 14th some of the above problems were discussed and the area to be surveyed determined upon. While at the Monument I had the pleasure of meeting Dr. Hodges of the Southwestern Museum, Los Angeles, and some of his party, who are visiting points of interest in the southwest. I returned to Mesa Verde the afternoon of the 14th.

# CLOSING

It has been a great month, Chief, and we hate to bid it goodbye though there is probably just as good a month ahead of us for business is on the up grade in the Southwest and we are having more and better visitors than for several years. Also we are heading into our winter season which is always a busy season with us at these headquarters and we are looking forward to a lot of new schemes and experiments.

The so-called "Roving Ranger" experiment conducted by Erik Reed was intensely interesting and we consider it highly successful for as long as it lasted. The theory about it is that we have some outlying monuments in our district which are not yet heavily visited but are valuable from research and other angles. Vandalism should be prevented; fences should be kept up; drainage should be studied and changed; local sentiment should be built up against destruction; and so on.

Erik Reed went out in the "Four-States-Corner" country with a car, a camp outfit and a page or two of general instructions, and in the course of a month or six weeks turned in a lot of paper which is pretty valuable. He caught up the fences at Yucca House, got an adequate idea of the location of the ruins on and off the monument, studied and reported past vandalism, which, by the way, was nothing very serious I am glad to say, posted signs showing ownership and forbidding vandalism, and made local contacts in which he told the neighbors what it was all about and why we were operating in that country.

He located and visited the various subdivisions of the Hovenweep National Monument, studied and reported the needs for repairs and protection, suggested means of handling in the future, contacted local people and turned in a lot of information about ruins in that vicinity.

He visited Moab and the Arches National Monument, met a number of people in that vicinity, gathered much information and made some suggestions on enlargement of the monument and the possibility of future monuments in that country.

In moving from one of these places to the other he made a general archaeological survey of the country, visiting ruins reported by the people of the locality, finding if they were on Government land, warning the neighbors to let them alone if they were, and turning in much valuable and interesting material to us in the way of reports.

About the time he got settled and going good, you folks back there sent through a promotion for him to a higher paid job in ECW work and we lost him. It is too late in the season to try to replace him and we are letting the experiment go over until next spring.

Given the right man, I am enthusiastic about the results we can

obtain from this kind of a job and I am quite sure it will well repay further experimentation.

In case you have missed the personal items and gentle spoofing dealing more particularly with our own organization, I might say that we have gradually withdrawn most of that from the Monthly Report and Supplement and are circulating it among ourselves in the form of a letter once a month which we call the "Broadcast" principally because it isn't one. We are getting a lot of fun out of it and it is serving a real need. The only people who get a copy without asking for it are those on the pay rolls of the Southwestern Monuments. There are no exceptions to this rule. Anybody else must request us in writing and we will consider the application without guaranteeing favorable action. We want to keep that mailing list as short as possible. We run about fifty copies now. Thus far, at least, the Broadcast is another experiment which has worked out well.

Cordially,

Frank Pinkley

Frank Pinkley
Superintendent

Boyes between the ages of eight and fifteen with one switch on each hand were placed on both sides of the hallway inside the Mission. The number of boys on each side was usually ten to fifteen, standing about four feet apart in order to allow enough space so that they could get a good swing with their switches. The masqued men then lined up in front of the Mission, were inspected to see that they carried no heavy clothing on their backs, and then marched in, with their hands up stretched, by the right side of the hallway, turning by the front altar, and returning by the left side of the hallway. They marched back and forth four times, while the boys would beat them as hard as they could.

At the end of the last round, they lifted their masks, and those who could get one of the boys would do so and take him to the altar, where they knelt and asked forgiveness to the Lord for their erroneous belief in him. The child was considered a godson to the man who picked him up after these ceremonies. This was the punishment they received for having violated the Catholic rules during Holy Week, and was one of the first steps in their forgiveness.

On Saturday night they prayed a rosary and usually went to confession. These exercies lasted until midnight. On Easter Sunday they went to communion and were baptized. This, the Indians believed, was sufficient sacrifice to erase all evils from the souls of the rebels.

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# EL MORRO MUSEUM

By Evon Z. Vogt

I enclose some thoughts for Museum which I hope you will like. They can be changed but in the main I think the line of display showing those features would be most absorbing to the visitor.

I had in mind getting a letter of introduction from Director Cammerer to the Director of their Museum and by such an approach perhaps we could get acquainted and after plenty of time to get them interested, might be able to get some fine material from them. I expect to be working some next winter again in Mexico and will sooner or later get to the Capitol.

Would like to have your ideas.

1. Our Museum should be predominantly of the Spanish Colonial Nature.

2. Any old printed records of government, church or history of 1500 to 1800, relaciones of travelers tales, maps, orders, deeds or contracts printed in the old Spanish would be most interesting.

3. The guns, armor, saddles, bridles, blankets, clothing, spurs, tools, dishes and even an old solid wheel carreta of those years would be greatly studied by all.

4. A map of the Southwest showing Mexico with the courses followed by the various expeditions of conquistadores would enable the visitor to visualize the part and the records left on our Monument.

5. Three or four dioramas set into the walls of the building showing diminutive but life-like scenes of (1) Early Indian life perhaps both pueblo and Navajo. (2) Spanish expedition approaching El Morro. (3) Onate carving his inscription or De Vargas surrounding by his soldiers, some following the work closely, others more interested in finishing off a roasted deer rib or saddling his horse.

6. An archaeological exhibit comprehensive enough to cover the values of this Monument but not nearly as extensive as that at Chaco Canyon or Mesa Verde.

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# WHY TOPOGRAPHIC MAPS?

By Andrew E. Clark and J. H. Tovrea

To the average person a topographical map is a mysterious maze of lines which engineers look at long and thoughtfully pretending to gather knowledge therefrom. Mr. Average Person marvels at the engineer's ability to decipher this puzzle and concludes that he, the engineer, is a pretty smart hombre.

Then there is a non-technical group of above average people who by various ways and means have learned to untangle the seeming network of contour lines which appear on the topographical map. This group by stretching the imagination a bit can vaguely visualize mountains, valleys, streams, etc. It is this non-technical group which is somewhat confused as to the actual value of the topographical map. Having graduated from the hero worshiping average class they begin to wonder if perhaps the engineer isn't spoofing the public on this topography business. This group usually asks: "Why topographical maps? Why spend money and time shooting topog when there is a road to be built or a campground or trail to construct? Why not just go out and build these things instead of chasing rodmen all over the hills finding contours which in turn must be securely penned up within border lines by draftsmen? Why not quit fooling around with fancy maps which do nothing but show the hills, valleys, streams, etc., which can be seen just as well by the engineer locating the road if you would just sic him on it?"

Now that really is an intelligent question even though it might not seem so to the engineer at first glance. It can be compared to similar questions on different operations which some engineers might ask such as: Why make a budget--why not just go out and spend the money--there is only so much to spend anyway? He wouldn't ask this one but some people do: Why draw plans for a building---why not just go out and build it? He might ask his wife, though I doubt it, "Why bother with a recipe for that cake---you have all of the stuff here to make one---why not just keep mixing them up until you get what you want?" "Why keep books on a business---you have the money you made---what more do you want?"

Now let's try to answer this question by comparing the engineer and his task of locating a road to a task that almost every married man encounters off and on throughout his life.

Did you ever have the "Honorary Custodian who gets all of the Pay" make you move furniture all over the living room until every possible arrangement had been studied and you, exhausted, were at the point of going home to father? If you are married and haven't had this experience you either are just married or haven't got any furniture or living room. If the latter is the case you are probably an engineer. Your wife in having you move the furniture around was seeking the best arrangement and she has made you the locating engineer even though you think the dray horse would be a more fitting name. But she has made you do the job without a topographical map so that all you could do was to use the trail and error method so perhaps you were the dray horse after all.

Now suppose you could have had a little map or drawing to scale of the living room together with little cutouts of the furniture to be arranged therein. You would sit down with the drawing before you on the dining room table and move the cutouts here and there until the best solution of the problem was arrived at. Lets also suppose that at the same time an engineer sits down with a topographical map on which he has to locate a road.

On your drawing you have all of the features of the living room, doors, windows, projections and alcoves. The engineer's drawing has all the features of an area of land, trees, rocks, buildings, railroads, telephone lines, canyons, mountains and streams.

You study your map and observe that the divan can't go here on account of a window or door. The engineer looks at his map and notes that the road can't go there on account of a fine group of trees or a building.

"Let's see," you muse,---"the piano won't fit in this alcove where Mary wants it but it will go in this corner which is her second choice. Boy, am I glad I found that out without having to push it all over the joint."

Jumping back to our engineer we find him saying: "The road can't go up that canyon where the Boss wants it because the grade would be too steep but this canyon can be used and he said it would be O. K. also. Boy, am I glad I found that out without having to run a line all over the country."

Now you see, Mary and the Boss, or we might as well say the two bosses, have a job he wants done and both jobs can be done two ways. One way is by trial and error. If you think you would be classed a sissy by playing with cutouts this dray horse method is recommended as it involves moving furniture all over the house until the proper arrangement is found. For the engineer this method would involve running survey lines all over the country until the best road location was found.

The second method is the topographical map of the area involved, be it the living room or Bandelier National Monument. By using this method you and Mary find out exactly what is to be done before you do it and the furniture is located only once and moved only once to its proper place with minor adjustments. We and the Boss do the same thing with our topographical map of Bandelier National Monument. After a study of the map our road can be located in its proper place in the field subject also to minor adjustments.

Then, too, we must remember that with the map Mary and the Boss could solve their individual problems if their living room and road were in Arizona and they were in Africa. When you are the boss you can't be in all of the places that your problems are but these places can be brought to you in the form of topographical maps.

So we must conclude that the Topographical map is almost indispensable to not only the engineer but also to all supervisory personnel connected with construction. The landscape architect relies on these maps in making his studies for appropriate building sites, trail locations, and camp ground layouts.

It is quite evident that the day of mapping large areas of several hundred square miles is almost a thing of the past as far as the plane-table is concerned. This type of mapping is now being accomplished at a much lower cost by aerial surveys. For comparatively smaller areas, however, where more detail is required the plane-table method is still the best.

It is our aim in making topographical maps of the monuments to include enough area and to show enough detail to take care of future needs. If further development is desired on a monument at some future date it will not be necessary to send in a field party from some distant point to get the topography of some three or four acres.

# PARK FORESTRY

Extract from Foresty Circular No. 2, by Forester Fred H. Arnold

orestry is the science dedicated to the protection and provident treatment of the forest for the continuous production of its products and uses, both tangible and intangible, for the benefit of mankind.

The production of the tangible products of the forest such as saw timber, pulpwood and naval stores, is the concern of the commercial phase of forestry.

The protection and preservation of the forest in, or its restoration to a natural state for its asthetic, recreational, inspirational and educational benefits is the province of park or recreational forestry. Park forestry also includes special preservation and repair treatment of important individual trees.

The objectives of the two fields are essentially diverse and may often conflict, though in some cases they have been made to go hand in hand. It is essential that the distinction between them be recognized and understood fully.

Proper park forestry does not sanction the blind pursuit of forestry practices or systems merely for the sake of practicing forestry or of having a system. A definite purposeful objective must be the motivating force that initiates and guides the progress of all forestry projects. A thorough analysis of the problem and the preparation of a working plan is an essential basic preliminary step that should precede all field work. Proper project planning is as imperative in forestry work as it is in all other types of projects.

When dealing with vegetation the principle must be recognized and fully considered that conditions in the forest are never constant, but constantly changing. Natural forces are continually at work producing decay and death as well as reproduction and growth. Conditions that are created in the forest today will not remain static but will change as time goes on. This fact has a most important bearing upon the practicability of certain operations from the maintenance standpoint. The value of present work in many instances depends largely upon the extent to which its effects can be maintained in the future. Repeated reworking at regular intervals may be required if the benefits of the initial accomplishment are to be preserved. If conditions will be allowed to revert quickly to those or to worse than those which obtained before any work was done, the value of the initial work is questionable. An important consideration is to prevent burdening the future with a heavy maintenance liability, for projects that produce highly temporary results require continued upkeep.

Above all, park forestry aims to protect and preserve natuarl forest conditions or to foster their return where they have been destroyed, and to prevent the introduction of artificiality into the woods. This is the park forester's contribution to the development and management of the park. Through a mutually sympathetic and a cooperative attitude this objective and the objectives of wildlife, aesthetics, history, and all others must be coordinated into a unified effort for the successful accomplishment of the whole. All interests must center upon that singleness of purpose which is for the greatest and most lasting good of the park and that to which it is dedicated.

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# TALUS UNIT NO.1, CHETRO KETL

By Margaret S. Woods

Another season of excavation has drawn to a close in Chaco Canyon, and the Talus Village presents new crop of problems as well as a certain number of satisfactory results. Our finds have not been lacking, although they have been less sensational than those of last year.

Talus Unit #1 is a small house site northwest of Chetro Ketl and close to the North mesa wall of Chaco Canyon. In plan it presents a general T plan; its West and East wings are continious and parallel to the Cliff, and the central wing with itsprominent "buttress" wall projecting toward the south. To date the excavations have indicated that it is a Pueblo III house site.

The first two seasons of excavation were spent mainly in clearing debris from the East wing, and from the Eastern side of the "buttress." This summer we have concentrated on the rooms around the "buttress."

We cleared enough debris from the top of the mound behind the "buttress" to trace a long wall from the central wing well out toward the west end of the village. Whether this really represents the back wall or not we must dig farther before we can be sure.

At the south and of the central wing we cleared two or three small rooms and a small Kiva (D). The letter is an especially fine example of a small Kiva. It is about fifteen feet in diameter with a single bench incircling the wall inside except at the south. A "ventilator" Shaft enters under the south wall, with the vertical shaft opening to the outside and the horizontal to the inside directly south of a well burned fire pit.

The adobe floor originally covered all of the horizontal part of the shaft leaving only a square vent close to the fire pit, which was

apparently covered with a fine thin metate. Our greatest delight in Kiva D was derived from the remarkably well preserved plaster on the top and sides of the bench and continuing a foot or more up the Kiva wall. We counted at least ten layers of fine white gypsum plaster, paper thin, and eight or nine more layers of sandy plaster between them.

At the very end of the season a slab fell out of its place in the stone flooring of the "ventilator" shaft, revealing a hollow below, and another wall in line with the upper Kiva wall, continuing down into the debris. We cannot know yet what this is; quite possible it is part of another Kiva which was filled in and used as a foundation for the later Kiva D.

Such construction is common in the Canyon, witness the East tower Kiva in Chetro Ketl, with its four or five identifiable Kivas built irregularly one above the other. At all events that must be left for the future to decide. Room #10, enclosing Kiva D, is the room in which the fine burial of last season was found at an upper level, above the topmost levels of the Kiva wall.

At the same level in a nearby section of this room we discovered a fine olla of corrugated ware of Characteristic Chaco type. It stood about 15 inches high and measured close to 3 feet in circumference. A heavy stone disc served as a lid, and was largely responsible for the damage done to the rim and for a large crack down one side.

The western slope of the "buttress" offered a new problem. A circular wall suggested another Kiva, and we named it Kiva E, but as we cleared further down into it we found it to be a circular room built over the eastern portion of a rectangular room of two stories and probably more. None of the characteristic features of a Kiva were present except the circular wall. Bench, slpapu, fire pit and ventilator were entirely lacking. The eastern end wall of the rectangular room had been partly torn down, and part of the north wall, and the circular wall built over them, utilizing the lower part of the east wall for a bench or platform.

A number of bone Awls, metates and other artifacts, and a quantity of animal bones, many large enough to be of Elk or antelope, or other animals of considerable size were found there. It has been suggested quite plausibly that this may have been a sort of club room, not intended for ceremonial use, but as a gathering place where the man might do their handiwork---weaving perhaps or painting or making beads, or whatever they had to do. That it was not an ordinary Kiva was quite evident.

The "buttress" itself remains an unsolved problem; it stands at least two stories high, and the upper portion is probably of cruder masonary than the type 2 masonary below. It must be admitted, however, that the weathering of the exposed masonry tends to make it appear cruder than it actually is. A doorway leads into the lower portion in

the south wall, from room #10. When we cleared this out, hoping eagerly to find a roofed room within the buttress, we found it filled to the top with heavy rocks and a quantity of adobe, evidently intended to support the upper structure. A neat little passage runs along the west wall at the middle level, divided into two parts by a short wall near the center, and once roofed over.

So far no explanation of the purpose of the buttress has presented itself except that it might have served as a sort of watch tower. It commands an excellent view along the canyon in both directions. A similar wall has been noted further down the canyon against the north mesa a short distance west of Pueblo Bonito; this also commands an unhindered view of the Canyon to east and west, and southward through the gap, and an Indian stairway ascends the mesa directly behind it.

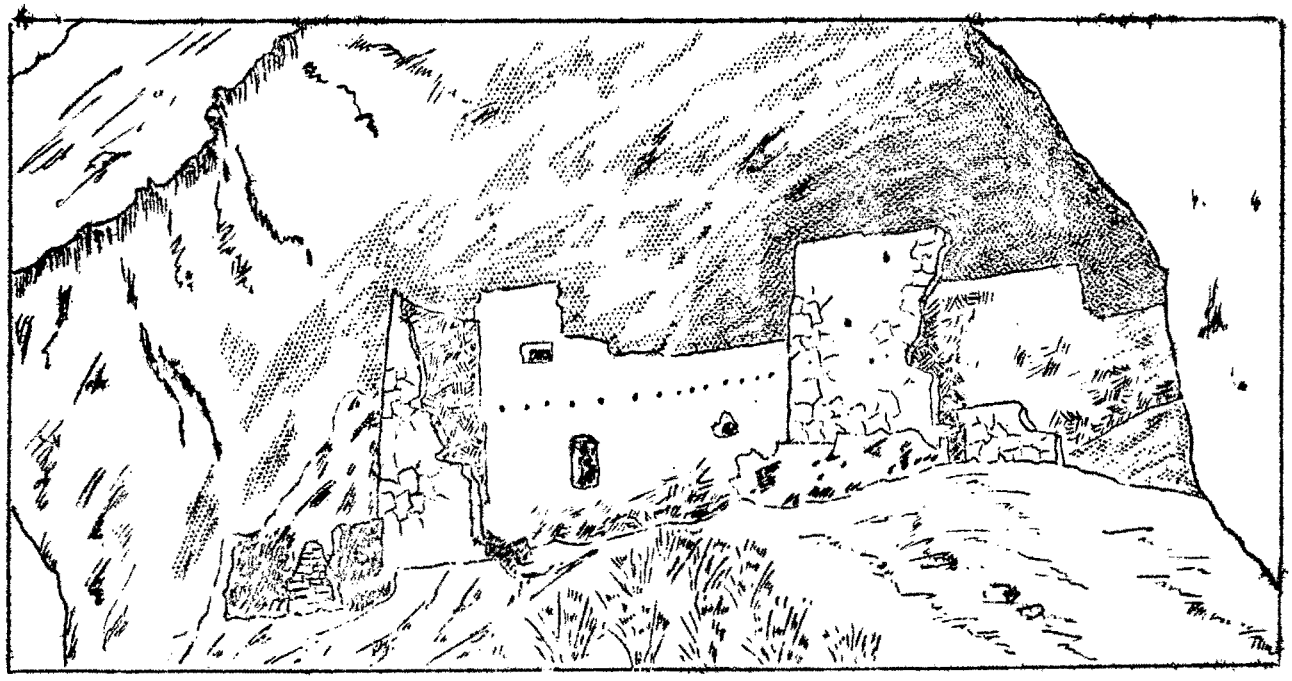
I have said that the finds of this season were less sensational than those of 1934, but they are spectacular enough, especially as compared to the usual finds of Chetro Ketl. In proportion I believe they considerably exceed the numbers of Chetro Ketl finds.

Eleven arrow-points, some of which are of exceptionally fine handiwork, a large number of bone awls, fragments of two stone rings, (quite possibly finger rings) and miscellaneous Manos, Metates and other stone tools roughly describe the list.

The pottery appears to be of the characteristic Chaco types, possibly with importations from Kayenta, Mesa Verde, the Little Colorado area, etc. Corrugated ware was found in large quantities, perhaps as much as 50% of the total number of sherds belonging to this type.

We were fortunate in securing a small fragment of finely woven cotton textile; it was light brown in color, considerably stained, and ravelled on all four sides. After it had been brushed free from loose dirt and carefully washed in cool running water, a design was clearly visible. Two dull stripes, each consisting of seven small ones ran the length of the fragment. Other tiny bits of cotton textile were found elsewhere in the Talus village but of coarse weave, and too small to identify any design on them.

The Talus unit is far from complete as yet. A test shaft sunk in what appears to be a Plaza east of the "buttress" shows other walls at a depth of six feet or more, and the west wing has not been touched. We are looking forward to at least one more year and perhaps two years of further excavation, and hope that our results will continue to prove as satisfactory as they have so far.



Sketch of Lower Ruin of Tonto National Monument, as of about 1910.

# TONTO NATIONAL MONUMENT

In 1909 President Roosevelt created the Tonto National Monument, as area of 640 acres five miles east of the Roosevelt Dam.

This reservation contains four prehistoric cliff dwellings and several surface houses, all of which were occupied during the same general period.

One reaches the Monument from either Globe or Phoenix by way of the Apache Trail. An entrance road runs one mile from the highway into a canyon to the Headquarters Area. From here the lower cliff dwelling may be seen.

A half mile trail which climbs an elevation of 325 feet leads to this dwelling, and, from here, another half mile trail with an additional rise of 300 feet climbs to the second major ruin of the Monument. The other house remains are not important enough to warrant trail construction.

During the early part of the fourteenth century the Pueblo Indians of the Little Colorado River valley were seemingly subjected to a series of raids by nomadic Indians or went through a period of stress due to other influences which we haven't recognized. Large groups of the Pueblos seem to have become so discouraged with their lot that they abandoned their villages and drifted south. These migrating bands wandered principally into the valleys of the Verde, Tonto and Salt Rivers and established new homes. A few colonies continued south until they emerged

from the mountains and settled in the lower Salt and middle Gila valleys. In order to distinguish this phase of Pueblo culture the term Salado was coined, being a contraction of Colorado and Salt.

The cliff dwellings of the Tonto National Monument were built during this period. As the Pueblos were farmers they built in easily fortified positions near the rivers, and in consequence, there are many prehistoric sites of this period on the hills bordering the bottom lands of the river and, wherever suitable cliff shelters were available, cliff dwellings were built in the mountains. The latter are well protected from the elements, hence walls are still intact and normally perishable materials well preserved, while the adobe and roofing materials of the surface houses have been destroyed so that only low mounds and the outline of walls remain.

The Salado people raised their maize, beans, squash, and cotton in the river bottoms. Diversion dams (probably of poles and brush) were thrown across the stream and canals dug to carry the water to the fields. Up to the time the Roosevelt Reservoir was created many of these canals were still visible in the valley. In addition to the cultivated food the Indians gathered nuts fruits, and seeds in season and hunted game animals. The principal native vegetable foods are pinyon, walnut and jojoba nuts, cactus fruits, barberries, elder berries and Indian wheat.

As wealth in those prehistoric days was estimated in terms of food, these Indians were rich; and in the manner of all men who acquire wealth a means of conserving it was sought. The logical solution was a combined dwelling and granary which could easily be protected, and the cliff shelters of the mountains of the region are the perfect answers to the problem. Houses were built in the shelters, the cliff itself was utilized for back and side walls, and a solid wall constructed across the mouth of the shelter with usually only a single entrance.

The lower cliff dwelling, seen from the headquarters area, is an excellent example of this type construction. A two story house of twenty-nine rooms was built into the cliff shelter. The front wall was blank with the exception of several port holes for defensive purposes and the single entrance at the southwest end of the building could be reached only by a twenty-foot type construction. Three faces of the house were automatically eliminated as points of attack and the cactus-covered hillside in front would offer little cover and plenty of discouragement to an enemy.

The upper dwelling, largest on the monument, is much more irregular in construction than the lower. Three major periods of building are to be seen in the walls of this structure. No plan was followed and the resultant dwelling is a rather hit-and-miss affair insofar as shape and form are concerned. Defense was achieved however, by means

of the building's greater elevation and the very steep hillside below it. The outer walls have deteriorated to such an extent that entrances are not discernible at present, this house very likely had more than a single entrance. The upper dwelling originally stood four stories high and contained sixty or sixty-five rooms.

**********

Flora

The more prominent plants on the monument are the saguaro or giant cactus, several varieties of prickly pear and cholla, palo verde, mesquite and mountain laurel. In the canyons, near water, sycamore, walnut, hackberry and elder are common, Smaller shrubs are barberry, a shrub honeysuckle and the very common jojoba.

For the greater part of the year hillsides in this region have a rather sere appearance but after a rain the evergreens brighten up and the resurrection plant makes a brilliant green carpet over what previously had been bare patches. After the winter rains and until warm weather sets in, that is from February until May, this region is gay with the color of flowering annuals.

Early in the season the California poppy is most abundant but gives way to the Lupine which forms a solid mantle of blue over large areas. During this period of the year as many as thirty-five different species of floers may be seen along the trail to the lower ruin.

Fauna

The visitor to the Tonto cliff dwellings rarely sees any of the large animals of the district; nevertheless, at close hand are coyote, javelina (a form of Peccary), Mexican mule deer, black bear and cougar. The only mammal seen frequently is the Colorado rock squirrel. To make up for the lack of mammals are large numbers of birds, ranging in size from the tiny Costa Humming Bird to the Turkey Vulture.

Seasonal variation of bird life is very slight as most of the species spend the entire year in the district, although a few come down from the higher mountains for the winter. During the fall and spring months large numbers of migratory birds stop for a day or two at the springs in order to rest a bit, then pass on to their winter or nesting grounds.

Birds which are seen most frequently are the Cactus Wren, Canyon Wren, Gila Woodpecker, Ash-throated Flycatcher, Arkansas Goldfinch, Gambel Quail, American Raven and Western Red-tailed Hawk.

**********

# WANDERINGS IN MONTEZUMA COUNTY, COLORADO

By Erik Reed, Roving Ranger

1. There is a group of interesting sites at the head of Ruin Canyon, Colorado, (a tributary of Cross Canyon in the eastern drainage of Montezuma Creek; not the Ruin Canyon in which one group of the Hovenweep National Monument is located), of which one has been excavated by Dr. Paul Martin.

The cleared site is a small pueblo about 15' by 75' in quite passable condition on the west rim of the canyon not far below its head.

Southwestward (down canyon) from this there are several unexcavated sites close together on the west rim of the canyon and on the canyon floor west of the arroyo. Two of these are quite large. All are badly eroded but only slightly potted.

On down Ruin Canyon there are numerous scattered small sites. None of these strike me as sufficiently large, unusual or especially important to necessitate the creation of a reservation or monument, though it would be well to somehow protect the group at the head of Ruin Canyon from vandalism. If the Lowry ruin were by chance to be made a National Monument these could be included.

2. There is an abundance of sites, mainly small and in poor shape, in the upper Hovenweep and its tributary side canyons. Worthy of particular mention are: The large site beside a draw just south of the Hansbury property, which is twelve miles by road from Ackmen; the large site on the south slope of Hovenweep Canyon beside the Cooper house, pretty well torn to pieces; the standing tower in the canyon floor about two or three miles south of the latter on the property of Dr. R. W. King.

All other sites close by seen (and those heard of) are ordinary smallish pueblos in not very good condition. There are none, certainly, justifying creation of a reserve monument or other especial attention.

Risley Canyon, Ligleman Canyon, and Piel Canyon, a little further down the Hovenweep, are reported to contain especially large or especially interesting and well-preserved structures; these will bear looking into.

3. The Goodman Lake "reservation"---Section 4 of Township 36, Range 17, as far as I can discover, which has never been opened to homesteading---contains one tremendous ruin, at Juarez Springs. Otherwise the sites in and near this section are ordinary unit-type pueblos, except for a large depression near the center of the section---possibly a large kiva.

TheJuarez Springs ruin is an unusually extensive pueblo surrounding the head of the draw in which the spring is located, a minor tributary of Goodman Canyon. It is of course pretty well shot, a huge rockpile merely with few standing walls, but would certainly be worth excavating and preserving. There has been very little digging in it. The Juarez Springs ruin certainly should be brought under the control of the Park Service.

Goodman Lake, by the way, is a pretty poor imitation of a small pond.

4. There are several sites at and near the head of Sand Creek Canyon, which is a few miles west of Goodman Lake and has been referred to previously. The open sites on the flats east and north of Sand Creek Canyon merit no special consideration; the excavated site at the head of Sand Creek proper similarly---it is an interesting small pueblo, but there are thousands like it.

The ruin at the head of the first draw below the canyon head on the northwest side, however, is a horse of a different coloratura. It is almost as extensive as the Juarez Springs ruin; of the same general type exactly, it stands two stories high at least, in a few places, as does the Juarez Springs site. This draw and its spring are unnamed; are evidently in the NE ¼ of Section 12, T. 36, R. 18 (on Government land).

5. Averaging all reports, the sites at Moki Lake do not amount to much and are hardly worth visiting; the same probably applies to West Rock Creek and middle and lower Goodman Canyon---many small sites.

**********

# DAILY DUDE DECLAMATIONS

By Alfred Peterson, Ranger at El Morro

"This is some Rock. How high is it?"

"Why doesn't the government do something about these roads?"---since the government is blamed for everything from the depression to fallen arches.

"Don't you get lonesome away out here alone?"---with from one to six cars parked near.

"Do you really drink this water?"---when looking at the famous cove.

"Oh! Look at the fish---they're catfish."---when they see the 'water dogs" in said cove.

"Where is Coronado's inscription?"---and sometimes want to argue because they read somewhere that there is one.

# CORRECTION

An error appeared in the July report relative to the derivation of the name for Tonto National Monument. The article in question stated that the area was name 'after the Tonto Apaches', and that Tonto is the Spanish word for Fool. Only the last part of the statement was correct.

Early settlers in south central Arizona noticed long spur of the Mogollon Rim which gave the impression that it might be the true divide. This was named the Tonto, or false, rim and in turn gave it's name to a large section of country. Below the rim are found Tonto Basin, the creek of that name, a National Forest and a Monument. The Tonto Apaches are a band of the Western Apaches living near the Tonto Rim and are not a group of Indians with a low I.Q.

Charlie Steen

**********

Just as we go to press, Headquarters has received a shipment from the Field Division of Education of 2,000 metal standards to be used in affixing botanical and other labels along our Monument trails.

The design was worked out by the Berkeley Office after we had made the order due to a suggestion of Custodian Earl Jackson at Bandelier. They seem to be very satisfactory, from trials we have made here at Headquarters.

The standards come in different sizes for the various-sized labels, so when you make your orders to us be sure to stipulate the various sizes of labels you have, and how many you wish of each.

We have also received from Berkeley 650 excellent cactus labels. If you have any of the following species of cacti which you wish to label, send in your orders:

| | |
|---|---|
| Lophocereus schottii | Echinocereus polyacanthus |
| Ferocactus wizlizeni | Echinocereus engelmanni |
| Opuntia bigelovii | Opuntia polyacantha |
| " laevis | " discata |
| " hystricina | " erinacea |
| " basilaris | " acanthocarpa |
| " chlorotica | " echinocarpa |
| " delicata | " vivipara |
| " engelmanni | " leptocaulis |
| " canada | " clavata |
| " fragilis | " versicolor |

**********

# RUMINATIONS

In going over this report as it has been coming out of the 'hay baler', which is our affectionate name for the new mimeograph, I am impressed with the amount of valuable material we have put out in this Supplement which is mighty well worthy of preservation. Jimmie and Sallie have done a good job on the Wupatki Petroglyphs and point out some interesting similarities. By the way, they cut their own stencils on that article.

Betty Budlong, who, of course, is the wife of Custodian Robert R. Budlong, of Canyon de Chelly National Monument, gives a most interesting description of a rare ceremony, not, I believe, elsewhere described in southwestern literature.

Luis Gastellum, who is temporarily filling a clerical position here at headquarters, was born and raised at Tubac, a few miles from the Tumacacori National Monument and is not writing from hearsay evidence or something he has scratched out of books in his description of the ceremony at Tumacacori. As a boy he actually went through that ceremony. The subject came up one night out in the 'Bull Pen', which is the circle of chairs out in our back yard, and I asked Luis why he couldn't give us this story of it. The result is well worth keeping for future generations to read.

Who could better start the discussions of an El Morro Museum than Evon Vogt who has been Custodian at that Monument so many years? This is only the beginning of the discussions of this particular museum and Mr. Vogt is leading off with some basic ideas. More will follow in future editions of the Supplement.

Andy.and Tov. come in with a pretty pertinent discussion on a subject which comes to the front once in a while in our District. While they touch the question lightly as it were, they are both experts on the subject. I asked the boys for this article because I occasionally have heard this question raised among our men who think topography maps are, to say the least, not very essential.

The report by Miss Margaret S. Woods, who was the leader of the party working on Talus Unit No. 1, Chetro Ketl, in the Chaco Canyon National Monument, during this season, is another case where we are not getting second hand evidence. We are very glad to be able to put this report into the files of so many Institutions and field men as are on our mailing list so soon after the work has been done.

The short article on Tonto National Monument is filed here for future reference and a separate of it will be used for distribution to visitors at the Monument itself.

And so we drop another edition of the Monthly Report and Supplement into the waiting mail bags and turn back to a desk well loaded with September problems. History? Sure we like to read it, but it is more fun to make it.

Cordially,

- Tom Boss -

Nancy Pindley

# SOUTHWESTERN MONUMENTS

## MONTHLY REPORT

## SEPT. 1933




DEPARTMENT OF THE INTERIOR

NATIONAL PARK

SERVICE

SOUTHWESTERN NATIONAL PARK SERVICE
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# SOUTHWESTERN MONUMENTS
# SEPTEMBER REPORT
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# SOUTHWESTERN MONUMENTS
# PERSONNEL

HEADQUARTERS Southwestern Monuments, Coolidge, Arizona: Frank Pinkley, Superintendent, Hugh M. Miller, Acting Assistant Superintendent. John H. Diehl, Associate Engineer. Robert H. Rose, Assistant Park Naturalist. Dale S. King and Louis R. Caywood, Junior Park Naturalists. Robert L. Cole, ECW Clerk. Luis Castellum, Temporary Clerk-Stenographer.

GENERAL FIELD MEN: Charles A. Richey and Harry Langley, Resident Landscape Architects. J.B.Hamilton, Associate Engineer. Andrew Clark, Topographer. J. H. Tovrea, Chief Engineering Aide. C. E. London, Carl Schmidt, Rodmen.

FIELD STATIONS:

1. Arches---Moab, Utah. J. M. Turnbow, Custodian.
2. Aztec Ruins---Aztec, New Mexico. Johnwill Faris, Custodian. Robert W. Hart, Ranger Archeologist.
3. Bandelier---Box 669, Santa Fe, New Mexico. Earl Jackson, Custodian. Jerome W. Hendron, Temporary Ranger.
4. Canyon de Chelly---Chin Lee, Arizona. Robert R. Budlong, Custodian. J. Douglas Harritt, Temporary Ranger.
5. Capulin Mountain---Capulin, New Mexico. Homer J. Farr, Custodian.
6. Casa Grande Ruins---Coolidge, Arizona. W. J. Winter, Custodian. Charlie R. Steen, Park Ranger.
7. Chaco Canyon---Crownpoint, New Mexico. Thomas C. Miller, Custodian. Lewis T. McKinney, Temporary Ranger.
8. Chiricahua---Willcox, Arizona.
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. Milton Wetherill, Trail Foreman.
16. Pipe Spring---Moccasin, Arizona. Leonard Heaton, Acting Custodian.
17. Rainbow Bridge---Rainbow Lodge, Arizona. No. Custodian.
18. Saguaro---Tucson, Arizona. No Custodian.
19. Sunset Crater---Flagstaff, Arizona. J. W. Brewer, In Charge.
20. Tonto---Roosevelt, Arizona. Woodrow Spires, In Charge.
21. Tumacacori---Box 2225, Tucson, Arizona. George L. Boundey, Custodian, Martin Evenstad, Park Ranger.
22. Walnut Canyon---Flagstaff, Arizona. Paul Beaubien, Park Ranger.
23. White Sands---Alamogordo, New Mexico. Tom Charles, Custodian.
24. Wupatki---Flagstaff, Arizona. J. W. Brewer, Park Ranger.
25. Yucca House---Cortez, Colorado. No Custodian.

# CONDENSED REPORT

Coolidge, Arizona
October 1, 1935

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

Dear Mr. Director:

The Condensed Report for Southwestern Monuments for September, 1935:

TRAVEL:

| | September, 1935 | September, 1934 | September, 1933 |
|---|---|---|---|
| Aztec Ruins | 1,891 | 1,673 | 1,090 |
| Bandelier | 1,594 | 1,492 | 634 |
| Capulin Mountain | 5,000 | 2,500 | ----- |
| Casa Grande | 1,691 | 1,429 | 1,070 |
| Chaco Canyon | 875 | 670 | 662 |
| Canyon de Chelly | 153 | 102 | ----- |
| Chiricahua | 576 | 6,530 | ----- |
| El Morro | 240 | 300 | 240 |
| Gran Quivira | 545 | 328 | 395 |
| Montezuma Castle | 1,782 | 1,839 | 1,735 |
| Natural Bridges | 87 | 200 | 247 |
| Navajo | ----- | 131 | ----- |
| Pipe Spring | 472 | 284 | 285 |
| Sunset Crater | 665 | ----- | ----- |
| Tonto | 338 | 305 | ----- |
| Tumacacori | 937 | 788 | 426 |
| Walnut Canyon | 1,214 | 1,124 | ----- |
| White Sands | 3,644 | ----- | ----- |
| Wupatki | 250 | 194 | 57 |
| Yucca House | 38 | ----- | ----- |
| Actual Reported Registration | 21,992 | 19,889* | 6,841 |

(*Labor Day Dedication Celebration brought 6,000 special visitors to Chiricahua.)

The 16 Monuments which reported both in 1934 and 1935 showed a decrease from 19,758 to 17,645----2,113 visitors, or 10.6%. This decrease was caused by the unusual number of visitors to Chiricahua in 1934. Actually, the Monuments gained almost 30% in 1935, if the abnormality is eliminated.

The 11 Monuments which reported both in 1933 and 1935 showed an increase from 6,841 to 10,364----3,523 visitors, or 51.4%. A remarkable increase.

Thus, eliminating the abnormal Chiricahua figure, it would appear that September, 1935, as a travel month was about 28% better than the same month in 1934; 51.4% better than the same month in 1933.

CONDENSED REPORT (CONT.)

ANNUAL TRAVEL FIGURES

| | | 1935 | 1934 | 1933 |
|---|---|---|---|---|
| Arches | | 300* | 275* | 425* |
| Aztec Ruins | | 10,738 | 10,142 | 7,546 |
| Bandelier | | 12,381 | 9,457 | 3,906 |
| Canyon de Chelly | | 988 | 650* | 435* |
| Capulin Mountain | | 24,000* | 22,000* | 14,000* |
| Casa Grande | | 27,345 | 26,776 | 21,771 |
| Chaco Canyon | | 6,565 | 6,068 | 5,817 |
| Chiricahua | (1) | 6,420 | 15,331* | ------ |
| El Morro | (2) | 2,475 | 2,800* | 2,467* |
| Gila Cliff Dwellings | | 100* | 75* | ------ |
| Gran Quivira | | 4,649 | 4,342 | 3,563 |
| Hovenweep | | 200* | 125* | 425* |
| Montezuma Castle | (3) | 14,919 | 18,619 | 13,899 |
| Natural Bridges | (4) | 700 | 750 | 654 |
| Navajo | (5) | 446 | 675* | 375* |
| Pipe Spring | (6) | 4,896 | 8,544 | 2,548 |
| Rainbow Bridge | | 430* | 390* | 385* |
| Saguaro | (7) | 9,900* | 2,500* | ------ |
| Sunset Crater | (8) | 5,688 | 2,500* | ------ |
| Tonto | (9) | 5,350 | 7,005* | ------ |
| Tumacacori | | 13,081 | 11,238 | 8,869 |
| Walnut Canyon | | 11,328 | 10,000* | ------ |
| White Sands | (10) | 33,912 | 33,900* | 12,000* |
| Wupatki | | 1,369 | 1,080* | 1,250* |
| Yucca House | (11) | 300* | 150* | 300* |
| Total | | 198,480 | 195,392 | 100,635 |

* estimated

(1) Great apparent decrease due to close check on visitors, and the fact that no large celebration of importance was held. Actually, visitors probably increased in number at Chiricahua.

(2) El Morro's slight decrease due to very bad road conditions.

(3) Montezuma Castle shows a decrease attributable to bad highway conditions.

(4) Threatening weather and heavy rains cut down Natural Bridges' total.

(5) For the first time we have an accurate total for Navajo. Not sonhigh as was estimated in 1934.

(6) Pipe Spring reports more out-of-state, but much less local travel.

(7) More accurate checking of visitors reveals this Monument much more popular than preveiously supposed.

(8) The foregoing statement applies also to Sunset Crater.

(9) An accurate visitor check showed our 1934 estimate slightly too high.

(10) This year's total probably very accurate, which means that we over-estimated a little last year.

(11) A registry book at Yucca proves more visitors than we had supposed in 1934.

CONDENSED REPORT (CONT.)

The 19 Monuments which reported both in 1933 and 1935 showed an increase from 100,635 to 198,480----59,059 visitors, or 58.6%.

The 25 Monuments reported in 1934 and 1935 showed an increase from 195,392 to 198,480----3,088 visitors, or 1.5%.

Thus it would appear that 1935 as a travel year was 58.6% better than 1933; only 1.5% better than 1934. However, when the factors of unusual occurrences of celebrations and poor road conditions are eliminated, it is believed that 1935 actually should show an increase of about 10% in travel. It is noteworthy also that this year's totals are far more accurate than any we have been able to obtain heretofore, due to increased personnel and careful checking methods.

It is well to note that such Monuments as Aztec Ruins, Bandelier, Casa Grande, Chaco Canyon, Gran Quivira, etc., where an absolute check can be maintained, show consistent gains.

WEATHER

September is a beautiful month in the Southwest, and the northern Monuments have come in for their full share of warm sunny days, and crisp nights, although Wupatki seems to have experienced an unusual amount of rain. Moisture in the Montezuma Castle region has produced superlative forage conditions.

Chiricahua and Tumacacori in the highlands near the Border have had good rains, but Casa Grande and Tonto in the Gila and Salt River Valleys need more rain.

FIELD TRIPS

Superintendent Pinkley and Engineer Diehl left Headquarters Sept. 15 for an inspection trip through New Mexico and northern Arizona Monuments. They accompanied Miss Isabelle Story, Park Service Editor.

Junior Naturalist Caywood was stationed at Aztec Ruins on museum preparation work until Sept. 22, when he assumed relief duties at Wupatki.

ENGINEERING ACTIVITIES

Engineer Diehl spent most of the month in the field, supervising and inspecting ECW and other work on National Monuments. The topography crew under A.E. Clark continued work on the headquarters area at Walnut Canyon, and checked the boundaries of Sunset Crater. Chief Engineering Aide J.H. Tovrea at the Coolidge Office prepared sketches, maps, and survey data, to be submitted to the Superintendent or the Branch of Plans and Designs.

E.C.W. ACTIVITIES

BANDELIER

1. Headquarters comfort station completed, as well as entrance road

stone guard rail.
2. All camp sites in camp ground equipped with approved fireplaces.
3. Excavations completed for all utility buildings.
4. Warehouse building completed except carpenter work on openings and painting.
5. Gasoline and oil building 50% complete.
6. Worn area and road obliteration carried on.
7. Rock quarrying activities occupying much attention.
8. Wall around utility area completed September 20.

CHIRICAHUA
1. Echo Canyon horse trail completed for 2800 feet.
2. Nine hundred additional feet completed on Sara Deming trail.
3. Bonita Canyon campground 100% complete, including fireplaces and dips.
4. Headquarters and camp ground water systems complete, as well as reservoir pipe line.
5. Completed spring development fencing.
6. Headquarters comfort station complete.
7. Eight hundred feet of road obliteration.
8. Maintenance crew worked all month on Massai Point road.
9. Rustler Park Forest Service cabin completed.

PERSONNEL

1. Robert W. Hart, Jr., newly appointed Ranger-archeologist at Aztec Ruins National Monument, assumed duties September 15. Mr. Hart, who comes from Greenwood, S.C., enters our staff with excellent training of five seasons as Temporary Ranger at Mesa Verde National Park.

2. W.J. Winter assumed duties as Custodian, Casa Grande National Monument, September 16. He is a graduate in Anthropology from the University of Arizona, has done graduate work at the University of Chicago, and previous to accepting the Custodian's appointment, was employed in the Historical Division Offices in Washington.

Our temporary rangers this season have done uniformly and unusually excellent work; it is hoped that we may obtain their services again. A list of the men separated during the month, and their dates of separation from duty, follows:

3. Jerome W. Hendron, Bandelier National Monument, September 30.
4. J. Douglas Harritt, Canyon de Chelly National Monument, Sept. 30.
5. Lewis T. McKinney, Chaco Canyon National Monument, September 30.
6. Alfred Peterson, El Morro National Monument, September 14.
7. Paul Beaubien, Walnut Canyon National Monument, September 30.
8. James W. Brewer, Jr., Wupatki National Monument, September 30.

VISITING PARK SERVICE OFFICIALS

The Headquarters and Casa Grande staffs were very pleased to receive a short visit from Director Cammerer September 27.

# REPORTS FROM MEN IN THE FIELD

## WHITE SANDS

By Tom Charles, Custodian

Our travel count is complete to September 20. From September 20, 1934, to September 20, 1935, there were 33,001 visitors in the Heart of the Sands. With an estimated count of 911 for the last ten days of September, we will have 33,912 the past year. Part time count shows that 23.5% of those passing through the monument visit the center of the Sands. On that basis we have had a grand total of 144,306 visitors through the monument during the past year.

I want to thank you for the fine meeting of Park Service officials which we had here on the 10th and 11th of this month. It seemed the best meeting we ever had at the White Sands. Suggestions of one department proved to be the hopes and desires of the others. Of course, I would not want the Washington group to think we were all a bunch of "yes" men. You will remember the heated argument you and I had as to whether the proposed picnic ground was 200 yards from the Turn-around as you thought, or a mile as it seemed to me, and that some one suggested that each one present take up his share of the difference in opinion between us and it would get us together. We introduce this incident as evidence of the prevailing harmony.

It seems to me there was a sort of general feeling there had never been any mistakes made at the White Sands, or, if there had been, no one present knew anything about them.

I have already sent you prices on the posts designed to keep automobiles out of the scenic area beyond the Turn-around. I certainly hope that our plans work out and that before long we may have a few small tables with cheap sun-shades over them at the picnic ground. These tables would no doubt keep a large percentage of picnickers from eating their lunch on top of the most convenient and attractive sand-dune.

To my notion each table should have a portable fire-place near and a trash can which simply covers a hole in the ground into which may be dumped the chicken bones, paper plates, and the watermelon rinds.

By the way, since you left, all the watermelon seeds out there at the Sands, which were then unsprouted, have come up. One place, about ten feet square, is green with growing watermelons. (If chicken-bones would sprout like that we would soon have a profitable industry at the Monument.)

Up to now the clean white sand-dunes have been an invitation to everyone with a lunch basket. We are hopeful that we can hold the scenic area free from automobile tracks and grease, and in fact keep the dunes as pure and white and rippled as the day when we first invaded the sacred area.

We are all learning a lot about those "sands that creep," it seems to me. Old settlers say that over an experience of fifty years they have found that the outer edge of the Sands move eastward about eight inches a year. We have found out in the past year that at the Turn-around the drifts are likely to move much more rapidly than that, in fact, they are likely to move eight or ten feet in one night. We planted a tree about ten feet from the edge of a drift some months ago and today the sand is not only over to the tree, but it is four feet deep there and the poor sapling, although nearly five feet high has but a few inches of its green top out of the dune, struggling for its very existence.

When Wildlife Technician Borell left the Monument last week he took one of our little white lizards with him for identification. He also found some lovely specimens of lizards, much larger than the white ones, and with brilliant blue markings.

Our new well, with the pitcher pump, is proving a source of pleasure. One night recently six people camped at the well and next morning I found a miniature swimming pool dug out of the sand. Its walls were two feet high. We could have told them before they started that their work would profit them nothing for the sand takes up water like a sponge. These young fellows could have pumped from now on without getting anything more than wet sand for their labor.

Sunday I ran across two cars, with 11 travel-worn people, stopped at the well, and after filling up with the mineral water(which I am not recommending for its agreeable taste) they decided to clean up a bit. They tried it on their hands and faces and apparently liking the sample, most of them started in for a considerable bath.

From a distance I could see the wisdom of Harry Hommons precaution in having the overflow from the pump empty off, down grade, some ten feet from the well.

These two incidents are the unusual attempts at pleasurable uses of this well water. But every day, scores of thirsty people are glad to get a drink of this cool fresh water with little thought of whether the taste is caused by sulphur, magnesia, or what not, so long as they have the implied assurance of the Park Service that the water will not hurt them. To date, it is one of our best improvements.

Today we are introducing Ben Dougherty, taking the place of Charlie

Sutton who resigned to assume the duties of Superintendent of CCC Camp 37 in the Forest Service. We are glad to see a man of Charlie's ability and fidelity receiving a deserved promotion. Mr. Daugherty is an experienced road man and did the grader work on the original road project into the Sands.

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# GRAN QUIVIRA

By W. H. Smith, Custodian

Travel has been fairly constant through the entire month here. I have registered 545 visitors entering the Monument in 134 vehicles. This is quite an increase over last month and I believe it a better registration than during the same month last year.

There are 15 States represented, including New Mexico. Texas has the leading number of out-of-state travelers for the month.

I had an excellent month up to the time school started, but I have noticed a lull in travel during the last few days.

A camp meeting convened here on August 23, and lasted until September 3, which added to the registration to some extent.

I am having some much needed work done here. I purchased four rolls of slated composition roofing weighing 90 pounds to the roll which is reputed to give from ten to 15 years of satisfactory service. I then removed the old roof which proved to be a longer job than I had predicted because nail heads would break off, making them hard to pull.

After removing the old roof I put the decking in as good shape as possible with the grade of lumber used and replaced the roof of the Museum, getting a job that should weather the storms for some time. There was some overhanging wall on the mission that looked as if it might give away and spoil this new job so I had a little patch work done on this. I think now it will be safe.

I am having some thistles cut out of the trails and around the grounds. By cutting them now, piling, and burning them as soon as they are dry enough, I think we will get rid of lots of seed. The grounds will be more pleasant for ones who wish to venture away from the beaten trail.

On August 24, I had Mr. Willard H. Andrews, Art director, New Mexico State Advertising, visiting the ruins. While here, Mr. Andrews took some pictures of the Mission and the Indian pueblo. He does some writing for the New Mexico State Highway Journal and he said he was planning to write an article on the Gran Quivira for an early issue.

September 18, I was honored by a visit from a party of treasure seekers who are trying to secure a permit to excavate here for the mythical 16 billion dollars in gold bullion. They propose to start their tunnel at the opening on the parking Area and excavate on a level until they intersect the tunnel Mr. Otero was working.

Weather conditions have been splendid for the past month. Nice warm sunny days and cool nights. You can see that autumn is swiftly approaching as the vegetation has about all reached maturity. The gramma grass is fine over the entire country, and it headed out, which insures the stockmen a good winter for their stock. Those in the country who were fortunate enough to raise a crop are busy harvesting beans and saving feed.

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# CANYON DE CHELLY

By Robert R. Budlong, Custodian

Total number of visitors to this National Monument for the month of September, 153. Of this number, 78 drove within the canyons by car; 55 drove to the rim of Canyon de Chelly, and of these, 22 descended the trail opposite White House Ruin. Twenty persons rode horseback within the canyons.

States, represented by Cars:

| | | | |
|---|---|---|---|
| New Mexico | 16 | Oklahoma | 1 |
| Arizona | 14 | Iowa | 1 |
| California | 9 | Maine | 1 |
| Colorado | 2 | South Dakota | 1 |
| Pennsylvania | 1 | Nebraska | 1 |
| | | Total | 47 |

States, represented by visitors:

| | | | |
|---|---|---|---|
| Arizona | 39 | Pennsylvania | 3 |
| New Mexico | 29 | Nevada | 3 |
| California | 28 | Oklahoma | 2 |
| New York | 20 | Iowa | 2 |
| Minnesota | 8 | Arkansas | 2 |
| Illinois | 5 | Indiana | 2 |
| Colorado | 4 | Nebraska | 1 |
| South Dakota | 4 | Kentucky | 1 |
| | | Total | 153 |

Maximum temperature for the month was 95, on the 19th. Minimum temperature, 41, on the 8th. No rain fell at Chin Lee during the month.

This has been a dry month, roads have been very rough, and are badly in need of scraping. The canyon has been moderately dry during

most of the month, and very dry during the latter part of the month. Since the majority of the cars visiting this Monument are equipped with standard narrow tires, the dry, soft sand has either discouraged or prevented many of them from entering the canyons.

Nights are becoming very cool, and we expect killing frosts before the end of the coming month.

The Soil Conservation Service has resumed work within the canyons. They are using a tractor and scraper on the Indian lands in the canyons in their agricultural development work. Fields are being graded and terraced, and some flood control work is being done - the diversion of water from gulleys and arroyos for purposes of irrigation.

Much of the fencing put in last fall has suffered, especially during the spring of this year. Fences have gone down, some fencing has sunk beneath the quicksands. This damage is being repaired. Posts are being pulled, and set to greater depths. By the use of metal caissons, cylinders of rock are being placed around the lower ends of the posts.

I am taking another series of photographs of this fence work, to add to the series I made last year. I also wish to secure photographs showing the agricultural development work being done by the Soil Conservation Service within the canyons, for inclusion in our records at this National Monument.

Our two PW projects here - the construction of the sewer system and water system for the proposed Custodian's residence - have been brought to a halt, due to exhaustion of funds. The sewer system has been completed, with the exception of the filter trench, which has not yet been built. The discharge pipe from the septic tank at the Thunderbird Ranch has been connected with the completed sewer line. The water line is 90% complete. The water storage reservoir is 40% complete. We have no water supply, no well having been drilled. It is hoped that we may be able to get sufficient funds for the completion of these two projects. It would be most unfortunate, not to say highly inconvenient, if, after the completion of the custodian's residence, all those attractive chromium-plated faucets and other fixtures should prove to be merely decorative, and not at all useful.

The Indian School at Chin Lee reopened on September 16, and new pupils are still arriving.

Ranger J. D. Harritt completes this season's work at the end of this month. This will be a real blow, and we will be mighty sorry to lose him. However, we hope he may return next season. By the way, Boss - his uniform arrived some time ago, and he bought a brand new pair of boots to go with it. But the first day he wore those boots he did a lot of hiking on the trail, with the result that for a week

he was limping about most pitifully. One evening about that time we were browsing through some old records concerning the Navajos of this part of the reservation around the year 1902, and found one name that seemed to suit Doug perfectly. We've tried to make it stick, but I'm afraid most people find the pronunciation of it too difficult. It is about as follows: "Hashkae ylth del'is" meaning, "The Warrior who drags his feet over the ground."

The many peach orchards in the canyons have produced a good crop this year, and all during the latter part of this month we have had a steady stream of Indian wagons and cars entering the canyons to buy the peaches. These Indians are not counted as visitors to this Monument.

On the 24th of July Betty and I drove toward the Hopi country, to witness the Snake Dance at Walpi. Two other local cars left about an hour before we did, but we caught up with them about twenty miles from Chin Lee, where one of them was bogged down in deep mud. Our three cars took turns becoming bogged down during most of the afternoon, but we reached Keams Canyon that night.

Next day we attended the Butterfly Dance at Mishongnovi in the morning, and the Snake Dance at Walpi in the afternoon. We were fortunate in being in the front line of the great crowd - in fact, Betty thought we were too close. When the snake ring was made, its circumference passed within six inches of her. She was sitting on the ground, but when the Snake Priests advanced toward the ring, preparatory to casting into it their burdens of snakes, she rose rather hurriedly, and witnessed the remainder of the ceremony standing.

We returned to Chin Lee via Holbrook and Gallup. We also attended the second day of the Indian Ceremonial at Gallup.

This month we complete the travel figures for the year. The estimated number of visitors to this National Monument for the last travel year was 650. Visitors this year, to date (this is only the 22nd of the month), by actual count, 958. Our visitors for the month of September, last year, numbered 102. This year they number 153. Accordingly, we show an increase of over 47% for this year's travel over that of last year; an increase of exactly 50% for this September over actual visitor attendance last September. Business seems to be picking up.

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# BANDELIER

By Earl Jackson, Custodian

VISITORS:

Visitors numbered 1594, arriving in 474 cars, from 32 states, Washington, D. C., and three foreign countries - Holland, England, and

Hawaii. Travel drops just as naturally after Labor Day as leaves do after a hard frost.

The six highest states by travel were: New Mexico, 697; Texas, 295; Oklahoma, 134; Colorado, 109; Kansas, 57; Illinois, 51. Our travel figure compares with 1492 visitors for September, 1934, showing an increase of 102, or nearly 8%.

It is of interest to note that in preparing the annual travel report to September 30, I found an increase of 23.7% over 1934. This increase is approximately 3000.

The largest party of the month was a group of 31, from a girls' 4H club in Farley, New Mexico.

WEATHER AND ROADS:

Precipitation for the month was .40. There wouldn't have been any if stormy weather had not paid a mild visit on the night of the 23rd with a winter-type rain which does considerable good.

As is to be expected during the month-long dry season so customary after the summer rains are over, the roads have been passable at all times, but have become quite corrugated and disagreeable to travel over. I think this condition had very little to with diminution of traffic.

SPECIAL VISITORS:

August 25 - A girls' 4H club from Farley, New Mexico, consisting of 31 persons, arrived late for a visit of two nights and a day. I found them careful campers and a good group on the ruins trips.

September 5 - A party including Congressman J. J. Dempsey and wife, of New Mexico, and Paul Harvey, of the Hotel Paso Del Norte, El Paso, were in for a short visit during the evening.

September 6 - After an annual meeting of the Western Association of Fish and Game Commissioners, representing 11 western states, was held in Santa Fe, a group of 15 delegates and their wives visited Bandelier. Elliot Barker, state game warden, president of the association, and a strong booster for this place, brought them in.

September 7 - Dr. and Mrs. S. M. Adler, of Albuquerque, visited for an afternoon. Both are good amateur archeologists, and quite interested in the archeology of this section.

September 8 - Deric Nusbaum was in for a short while quite late in the evening.

September 10 - Congressman and Mrs. Clark W. Thompson, of Texas, were in for an afternoon, principally to observe C.C.C. activities.

September 11 - Mr. and Mrs. W. J. Winter were in for a brief "hello" on their way to Casa Grande Ruins, Coolidge, Arizona. "Jack" is pretty well known to a number of you fellows in Washington, and he is sure to become well known among the Southwestern bunch. Won't say too much about Jack, for we went to school together at the University of Arizona, and he might tell off on me.

September 15 - Joseph A. Bursey, Director of the State Travel Bureau, was in. He is very much interested in publicity possibilities for the Santa Fe district.

Mike Hollander, Manager Radio Station KIUJ, in Santa Fe, was in, and volunteered facilities of that station for broadcasting general interest features of Bandelier.

Paul Reiter, Curator of the State Museum, and family, were in for a few minutes.

Chuck Richey arrived for a five-day stay.

September 16 - Mr. Pinkley and his daughter, Nancy, arrived for a four-day stay. Jack Diehl accompanied them.

September 18 - Miss Isabelle F. Story arrived, and the Custodian was much pleased to meet the Editor-in-chief for the first time. In her two days here, despite the fact that she had an injured arm, she managed to cover as much territory as anybody else, and to see a great deal.

FOREST FIRES:

We have been so phenomenally lucky this year on forest fires that I put this caption in only to call attention to the conspicuous absence of fires during September. Since October 1, 1934, there has been only one reportable fire on the monument.

NATURE NOTES:

Fall is approaching, cold weather is soon-to-be, and the tent caterpillars are again less numerous. But they got in their unsightly work before they left. The cottonwood trees are stripped almost as badly as they were last year, and some of the Gambels Oaks are affected.

The caterpillar pests are gaining a foothold in this country, it seems. Every year some part of northern New Mexico is devastated by them, and they shift about frequently in intensity. Great areas of quaking aspens north and west of Santa Fe are completely stripped of leaves.

Under a W.P.A. project in Santa Fe it is planned this winter to make an intensive study of the caterpillars. They will be artificially

kept warm this winter and developed in a laboratory, and seven or eight different types of parasites will be tested to determine which is most efficacious. A few days ago I talked with Norman Appleton, the man who is in charge of this test work. He is interested in our caterpillar problem in Frijoles Canyon, and learning of our interest in his work and control possibilities has agreed to keep me posted on developments in their work. Next month it seems we may learn something of interest from him on the experiments.

Deer appear to be growing more numerous of late. Several have been seen in the last week on the mesa levels above Frijoles. A few nights ago a tourist ran into a large buck with his automobile, apparently not seriously injuring it, for it left on all fours with no loss of blood, at great speed; he really side-swiped the creature.

Jim Fulton, forestry foreman, has been busy of late gathering herbarium specimens for permanent keeping here, in anticipation of a museum. A list of botanical types was started here last year, and this list has been gradually growing. A partial listing of Fulton's identifications will be appended to this report each time he has time to prepare more specimens.

Betty Jackson (my better half) is now started on bird-banding, and has been checking birds to see how many of the types observed by Mr. Borell in August are still here in September. Her list is appended.

GENERAL:

This has been quite an interesting and satisfactory month from our standpoint. Ranger Hendron and I have found a very interested run of visitors, as might be suggested by the long list shown of special visitors (which could be much longer).

As a result of the visits of Messrs Pinkley, Diehl, and Richey (fortunately they were all here at the same time) many problems pertaining to permanent development were settled, and other valuable points were also settled by Mr. Pinkley.

Educational progress is well under way again with steadily growing information on flora and fauna of this region.

The Custodian has found time to undertake some experiments in construction of small sections of mud and stone walls with varying admixtures of cement and sand contained. The purpose of this work, done at odd times, is to leave a number of specimens of walls standing under normal weathering conditions until such a time as we may hope for rehabilitation projects on ruins. From all these test sections, we should learn, when we destroy the sample walls, just which mixture is strongest and best in appearance. Reckon it's about time to sign off, and let someone else talk.

# CHIRICAHUA

By Wm Stevenson, In Charge

I herewith submit the following Monument report for the month of September.

Heavy rains during the month of August have left the approach roads to the monument in bad condition. This probably to some degree accounts for a 50% decrease in travel from last month. 576 visitors arrived in 141 cars, bringing the total registration since June 1, 1935, to 3,320. 17 states and Panama were represented.

During the past two weeks freezing temperatures have been noted each morning and preparations for winter are being made.

Mr. Borell of the Wildlife Division was a visitor here this month. He expressed his approval of the Wildlife pool created near the spring Development Area.

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# CHIRICAHUA E.C.W.

By Wm Stevenson, Project Supt.

Echo Canyon Horse Trail is progressing satisfactorily. Only a small crew has been available for half of the month on this project due to a shortage of men. 2800' have been completed to date. 900 feet have been completed this month on Sara Deming Trail.

The Bonita Canyon Campground is complete. Campground roads have been graded and surfaced, fireplaces and parking stubs finished and a few landscape touches added this month. Fireplaces and tables are being shown as 100% complete as the 20 which have been built are adequate for the present Campground. Dip No. 1 in the Campground has been completed.

The headquarters and Campground Water systems are complete. The 4" line from the 10,000 gallon reservoir to the headquarters area has been completed this month.

The spring development area has been fenced this month marking the completion of this project.

The Headquarters Comfort station is complete.

Eight hundred feet of road obliteration has been accomplished this month.

Heavy rains during August combined with several showers this month have necessitated keeping a maintenance crew on Massai Point road the entire month.

The Forest Service cabin at Rustler Park is complete. Materials are all on the ground for the Fly Peak cabin. Mr. Winn, supervisor of

of the Coronado National Forest, has agreed to finish the Fly Peak Cabin and the remainder of the Forest Service projects on our program.

We were visited this month by Mr. Borell of the Wildlife Division and Mr. Diehl and Mr. Tovrea of the Coolidge Office.

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# EL MORRO RANGER By Alfred Peterson, Temporary Ranger

Visitors since August 25, 240.

Since it will be necessary for me to leave for Tucson not later than the morning of the 13th in order to register at the University for the coming year, I shall at this time submit a brief report covering the time since the last monthly report.

For the past week or more, the weather has been dry, but during the last few days in August and the first of September rains damaged these dirt roads and travel was slow. However, we have had some very interesting visitors, among them being Dr. F. W. Hodge, Director of the Southwest Museum, and party including several artists. Dr. Hodge first visited El Morro in 1889, at which time the large arroyo, now filled in with C.W.A. labor, was only a small ditch that one could step across - or at the most a short jump. He was very keen about wanting to spend several days here but could not because of having been chosen as a judge for the Inter-Tribal Indian Ceremonial at Gallup. The party had camped at the Vogt Ranch the night before, and Custodian Vogt treated them to a picnic dinner in our Nine Pine Cove at noon of the day of their visit.

Incidentally, Dr. Hodge wanted a set of my pictures for the Museum, but I am of the opinion that he ought to have a set of those excellent Park Service photographs that Mr. Grant took last spring.

On August 30, the famed writer, Rupert Hughes, and his charming red-headed wife, were here. Mr. Vogt had met them in Gallup and promised them a picnic dinner at El Morro. Mr. Vogt had to leave for his mining job, but Vogtie, Jr., ably carried on and gave a most excellent demonstration of the Vogt hospitality. I never did tell my pal Vogtie what nice things Mrs. Hughes said about him for fear he'd get the swell-head. Their visit was a complete success, I believe, and a most enjoyable one. Mrs. Hughes was thrilled at her first out-door dinner cooked in a dutch oven.

September 5, after a slack spell, was a good day for visitors, and among them were Mr. Ralph Anderson and his wife. Mr. Anderson is Park Service photographer at Yosemite Park, and introduced himself as a member of the family - especially as we both have Scandinavian names. The Andersons expressed themselves as highly pleased with their visit, complimented the ranger, and expressed regret that the end of day made

it necessary for them to be on their way. The Southwestern Monuments report was mentioned, and Mr. Anderson exclaimed enthusiastically that they certainly did enjoy reading it. It would seem, Boss, that your particular branch of the Park Service has a distinctive personality.

The frames I designed for holding translation cards three years ago are still working in fine shape. These particular frames were made in somewhat of a hurry, were not quite completed according to plan, and yet they are giving good service. In order to be a success they should be very carefully made and due observance given to details that might be easily overlooked. For instance, one frame did not have the end pieces carefully fitted and driving rain found a crack - which I stuffed with gum. Of course, some of the cards in the frames were water-stained before being put in the new frames and may give the impression that the present frames are not giving proper protection.

Regarding the water pipe from the Cove to below the Cabin, I plan on leaving it just as it is - with the hose attached and all. Vogtie can keep check on it until freezing weather threatens, when it will have to be taken care of. I would suggest that, at that time, the plug be removed from the "T" fitting at the high point at the dam, and that the hose and everything - including the valve - be removed from the lower end and stored. This will prevent the possibility of water accumulating in the pipe and freezing. Also, the end of the pipe in the water should be raised and held above the water level.

The nights and mornings are growing chilly and a fire in the little wood-burning cook stove does not come amiss. Therefore, I think it best that I put the new Coleman Cabin Stove back in the carton it arrived in and stow it under the table. I think it will be safe, especially since I think most of the local people are friends to the Monument.

As covered by Time Slips already submitted to your office, work has been done on some of the erosion dams in the arroyos cutting the surface of the monument soil. This work was authorized by Custodian Vogt on his last visit at the Monument, and, accordingly, I located a truck and driver and two helpers to haul brush and lava rock from the areas beyond our boundary to build up weak spots in these dams. The job was bigger than anticipated, but I think the dams are OK until next summer. We are learning something about how erosion dams should be constructed.

Any necessary additions to this report will be made in person within a few days when I expect to be in your office on my way to Tucson.

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# EL MORRO CUSTODIAN

By E. Z. Vogt, Jr.

The month of September has been rather quiet around here with the

custodian and ranger both gone and few visitors traveling the El Morro Scenic Highway. The custodian left on the first and Pete left for Tucson on the 15th.

WEATHER AND ROADS:

We are having usual beautiful fall weather, warm sunny days, when the autumn sky looks its bluest above El Morro's towering pinnacles, followed by cold frosty nights, when one can sleep like a million dollars breathing the fresh crisp air.

The roads are in their usual condition---rough but dry and quite passable. A rare specimen of public interest was the county grader that chugged into Ramah one day this month. The people of Ramah ran out their front doors to catch a glimpse of this grader like a bunch of Zuni Indians when they first saw an airplane. The smooth condition of the roads after the passing of the grader was soon ruined by prop haulers and well drillers who traveled the roads with their heavy trucks after the first rainstorm.

VISITORS:

Most prominent visitor of the month to brave the roads and see El Morro was Rupert Hughes, famous author and scenario writer. Mr. Hughes was accompanied by his charming wife, and both got a big thrill out of their half day visit. It was here in the Nine Pine's Cove that they ate their first meal cooked out-of-doors over a camp fire. Mr. Hughes was greatly impressed by the fact that homesteaders hauled the dirty-looking water from the cove as far as 25 miles.

Another eminent visitor was Major-General Van Deman, U. S. Army, San Diego, California. With him was his wife, Irene Van Deman who runs the V and R Ranch in the Jemez Mountains.

FLORA AND FAUNA:

Never before have I seen the gramma grass cure in such fine shape as it is this fall, especially inside the monument fence where the grass is a foot high and has taken on the reddish color of cured gramma. The Rocky Mountain Bee Plant and clover in the reclaimed area have gone to seed and prospects for a luxuriant growth over this area for next year look very promising.

Piñons are scarce this fall, and the numerous flocks of Piñon jays are consuming the whole crop. These jays poke their long beaks into the green cones and extract the piñons before the first hard frosts crack the cones open and permit the nuts to drop to the ground. This method of obtaining the nuts gives the birds a start on the Indian piñon pickers who must wait until frost.

EL MORRO (CONT.)

SIDE-INTEREST STUFF:

One night moonlight night about two weeks ago, I was attending a corn roast near the ranch, when about ten-thirty a Navajo horseman loped his tired horse over the hill past us and on towards Ramah. Ten minutes later Wilfred Ashcroft, the Indian Stockman who has charge of the Ramah Chapter of Navajos, sped by us in his Indian Service car traveling south. We knew that something serious was happening among the Navajos south of Ramah.

Next day was Sunday and enroute to El Morro I stopped at Puerta Gigantes to investigate the matter. In very poor Spanish I was told the story of a thrilling but most brutal fight that took place there the night before. It seems as though Richard Pino and squaw rode into Puerta Gigantes settlement as drunk as lords. The squaw soon became hysterical and frightened her horse which started to run away. In an attempt to stop the horse, Frank Martin grabbed ahold of the horse's bridle. This enraged the squaw and she called her husband. Richard Pino, of course, began to call Frank all sorts of bad names in English, Spanish, and Navajo. Then Frank lost his temper and talked back. Richard soon found a pinon club, and Frank in sheer defense grabbed a similar club from the wood pile. A terrific fight ensued in which Pino was knocked down and lay for two hours unconcious and bleeding badly in front of a hogan, the other Navajos being afraid to touch him. By the time the Indian stockman arrived, Richard had gotten up, and the effects of the whisky having worn off, he was already settling his trouble with Frank.

I was shown the battered combatants sleeping in the shade and large spot of dried blood where Richard had lain unconcious. Where these Indians get their whisky is not known exactly.

GENERAL:

Last Sunday I noticed a few lightly-scratched names above the Martinez inscription on the north face of the Rock. These names belonged to Mexican sheepherders and were soon removed. But it shows that people are violating Monument rules and that such people will have to be watched more closely in the future. It is possible that they can't read the signs forbidding the engraving of names on the rock, in which case they will have to be told and the matter explained to them.

There seems to be little danger of the water overflowing in the cove and washing an arroyo in the reclaimed area. The water is fully two and a half feet below the level of the spillway, and homesteaders are hauling water from it every day. By the first snowfall, if we don't have any heavy fall rains, the water will probably be low enough to prevent any overflow all winter. However, I shall check on it each week and let water run out of the pipe for a day or so if we have any

EL MORRO (CONT.)

rains.

Necessary repair work done by two local men and myself on the erosion control dams in the big arroyo south of the ranger's cabin. With an old Chevrolet truck ten loads of lava rock and six loads of cedar brush were hauled and dumped into the yawning holes in five of the dams, which will now hold until spring and prevent further washing of the arroyo.

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# TONTO

By Woodrow Spires, In Charge

WEATHER:

This has been a very pleasant month. The maximum reached 103, with an average of 95 degrees. The minimum was 65 degrees, with an average of 70 degrees. This gives a mean average of 82 degrees, which is unusually low for the month of September.

Precipitation for the month was 1.49 inches, which is less than a 1/3 of that for last month. Withstanding this decrease, the dam is holding its own which shows more precipitation on the higher drainages.

TRAVEL:

During the month, the Monument was visited by 338 visitors, of which 226 climbed the trail to the Lower Ruin and 22 continued on to the Upper Ruin. This gives 66% of the total visiting the Lower Ruin and 6% of the total visiting the Upper Ruin. All of the visitors to the Upper Ruin first visited the Lower Ruin, so we still have 34% of the visitors who can see the ruins from the parking area only 5/8 of a mile away.

This is about the same as having seen a newspaper on the rack across the street; you could not tell whether it is the Los Angeles Examiner, New York Times, or the local weekly. You cannot tell whether the ruins are constructed of adobe bricks, solid stone, or puddled formation. Yet 34% of the visitors say, "We can see it from here, why waste our time and energy climbing that hill," and drive away, thinking what a sap that fellow was to think we would climb the hill to see that stack of mud, rock, or whatever it is.

When their friends say, "did you visit Tonto National Monument?" They say, "Yes, it surely was interesting, wasn't it?" Probably 10% of the 34% are physically unable to make the trip. That would still leave 30% of the total in this class.

SPECIAL VISITORS:

August 27, Mr. and Mrs. Salon Ayers of Alpine, Texas, which is the

home of Texas State Teachers College, where Mr. Ayers is employed as Professor of Commerce, stopped for a short visit which ended in their spending the night and next forenoon at the Monument. The reason for this extended visit was a high center in the road and the low center of their coupe, a difficulty which could only be straightened out by a mechanic. They said it was a very enjoyable visit and they were well repaid for their delay.

September 1, Mr. John H. Farbes, traveling freight and passenger agent for the Atchison Topeka and Santa Fe Railway Company, accompanied by two Boy Scout teachers, spent the afternoon and night at the Monument, visiting both the Lower and Upper Ruins and left good boosters for the Park Service.

September 14, Mr. J. H. McClure, former Freight and Passenger Agent for the Southern Pacific, arrived at the Apache Lodge for a short visit. Since then he has been over to the Monument twice. Mr. McClure is responsible for the improvements which were instituted on the Monument by the Southern Pacific in 1930-31.

September 25, Dr. C. J. Lieb, one of the leading athritis specialists of New York City, spent a half a day, visiting both the Upper and Lower Ruins.

GENERAL:

Another month without a brass hat; it looks as though this is the forgotten Monument, as Charlie would probably say, "not even a towel inspection!"

I am still waiting for that promised visit of Junior Naturalist King, who is going to help straighten out a few tricks with which I am not familiar.

The rattlesnakes are quite pesky at the present; you have to watch every step in the evenings. I have killed 14 this month. The Fraziers killed two on their back porch. They seem to come out only in the mornings and evenings; as it is probably warmth they are seeking, they coil up in the road basking in the late evening sun mostly.

In the spare time I have worked on the trail, the road, the Ford and the spring, which has kept me fairly busy on the slack days.

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# WALNUT CANYON

By Paul Beaubien, In Charge

1214 visitors registered this month to bring the total for the year to 8356. There are actually more visitors during the whole year as the register sheets for January, February, and March were blown away. Prob-

ably only a few more than a hundred registered during those months due to the bad condition of the entrance roads.

Have also found that many visitors do not register unless I am at the Observation Point to request them. Often only the parents register for a large family and many parties are timid about forcing themselves into the register booth when another party is before them.

There is a bit of fall in the air and I expect but few campers till next June. Two or three Temporary Rangers have passed through recently, and I am thankful for the trail money assigned here. Am digging some garbage pits to get in shape for the more strenuous trail making.

The engineers have finished the topographical maps of the important areas here and are now working at Sunset Crater. Addison Pinkley, Rodman, left to attend the University of Arizona while Cliff London arrived to take his place.

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Andy Clark, topographer, spent two evenings printing some trail-side signs for me. Have received more compliments on their lettering than on the information displayed. Last Sunday Andy talked of substituting for me awhile for the experience. The first party to arrive asked to have their two babies watched while they took the trail to the cliff dwellings. Without hesitation Andy decided to work on his maps.

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# TUMACACORI

By George Boundey, Custodian

Visitors for September, 937.

This has been a month of much rain. Every water hole is filled and not a cattleman complaining.

Flowers which have not been in evidence in several years are now in full bloom; many of the varieties are new to me.

As you know we have a teacher from San Diego and conduct a small school for our children here on the Monument.

With the aid of the bird book Mr. Rose so kindly loaned us, the school has very carefully identified the following birds for this month. I believe the Naturalists will be interested in one or two of those mentioned.

Scissor-tailed Flycatcher. (I spent the summer of 1916 keeping up the water for the McNew and Beard interests at the very edge of the White

Sands opposite Alamogordo, New Mexico, and the Scissor-tailed Flycatchers were fairly common there and in the foot hills of the Sacramento Mountains near Alamogordo. This is the first specimen I ever saw in these parts.)

California Cuckoo
Scott's Oricle
Louisiana Tanager
Cardinal
Arizona Blue Grosbeak
Lazuli Bunting
House Finch
Green Back Gold Finch
Vermillion Flycatcher
Yellow Breasted Flycatcher
Western Red Tailed Hawk
Sparrow Hawk
Ferruginous Rough-leg Hawk
Sharp-shinned
Fox Sparrow
Scott Sparrow
Desert Black-throated
Western Vesper Sparrow
Western Lark Sparrow
Black throated Desert Sparrow
Sage Sparrow
Rocky Mountain Song Sparrow
Black Phoebe
Road Runner
Rocky Mountain Pygmy Owl
Gila Woodpecker.
Phainopepla
Great Blue Heron

Meat is a great delicacy among the Indian population in this vicinity and all during the summer months' nesting time and all the guns have never been silent until this year.

Some time ago, when Mr. Evenstad and I received our appointments as game wardens, we let it be known among the population round about the Mission that we would arrest any one killing song birds that had state protection, or any birds killed out of season. The result is that even the Sonora Pigeons have finished their nesting this year and all birds are much more plentiful than ever before.

A dove and pigeon shoot was scheduled by one of the Dude Ranches near here for Sunday afternoon. It was before the law was out for either dove or pigeon so I sent word over that I hoped I wouldn't have to do anything about it. When the guns began to pop I took a walk over there and we have never had any trouble since.

An item in the Tucson Star this morning is to the effect that some land in the vicinity of this Monument is to be added to the Monument by purchase. If this item is true, it is undoubtedly a strip of land lying to the north and east of the Monument and not only includes foundations of other walls and buildings but also includes a strip of timbered and brush land lying along the river bottom which is a very paradise for birds both nesting in this locality and those in migration. I believe this purchase would be the greatest addition the Monument could receive.

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# WUPATKI

By James Brewer, In Charge

TRAVEL:

171 guests registered at Wupatki Pueblo; 160 registered at the Citadel. 81 names appear on both registers, leaving a total of 250 visitors to this Monument in September, 1935. (September, 1934: 194; September, 1933: 57).

There were two overnight camping parties.

At Citadel a heavy rain on the night of the 25th and another a short time later washed a hole through the roof at Nalakihu and flooded the floor so that some visitors to this group were unable to register.

WEATHER:

Definitely pleasant. High temperature 93 degrees on the 18th; low 55 on the 24th. Precipitation: Unmeasureable traces on the 4th, and 19th; 1.4 inches on 21st and 23rd.

NEWSWORTHY VISITORS:

Rain-gauge inspection brought Dr. Colton and Miss Bartlett through the Monument on August 30.

Mr. and Mrs. Carl E. Schmidt with Addison B. Pinkley, all of Walnut Canyon, N. P. S. topography crew were here September 2. When I write "all" I mean all, because Beth is crew, too. Paul Beaubien and his brother-in-law were also here on that day.

A picnic of 12 on the 3rd was joined by the Brewers on Dr. and Mrs. Colton's invitation. Young America visits Wupatki!

Mr. and Mrs. Horace M. Albright, son Bob, and daughter Marian, were here September 7 with Mr. and Mrs. M. R. Tillotson. None of those folks need any further identification, but your local representative had to remove a film of house building mud before he was recognizable on that occasion.

Mr. E. W. Haury with Mr. and Mrs. L. L. Hargrave on the 13th (see Bowl).

On the 16th Miss Laura Gilpin, noted Southwestern photographer with Miss E. D. Forster, former Indian Service nurse, spent the afternoon taking pictures, the evening visiting our local Navajos, and the next morning photographing Wukoki. Miss Gilpin expressed appreciation of our ruins, and Miss Forster liked our Navajos---two sure ways to our hearts.

Photographer followed photographer---Mr. George Grant arrived on the 21st; we were glad to see him in our part of the Southwest at last.

CHEIROTHERIUM:

For twenty-nine and one-half months I've been drilling our local Indian friends to bring to me everything they see that is unusual--- archeological, geological, or ethnological. On Sunday, September 15, my labors were rewarded when Clyde Peshlacai rode into Wupatki carrying a Moenkopi Sandstone cast of a "dinosaur" track. Not only is this the first occurrence, to my knowledge, of a cast found near the Monument, but also seems to be larger than any found elsewhere. (see Supplement)

Perhaps I should add that the "unusual" offerings are not always so unusual to our unimaginative way of thinking; Clyde's other offering of the same day was a curiously shaped bit of lava which he explained was the throat bone of an animal made of the blood of the "Monster Evil" killed a long time ago by the Holy Twins!

BOWL:

About 80 feet north of the present parking area at Wupatki Pueblo is a "problematical" structure that has been known as both a Bowl and a Reservoir.

It is roughly 90 feet long on its N-S axis (inside dimension), and 40 feet wide on its E-W axis. Its walls rise about 2 feet above the present surrounding surface, and the interior level is now about 7 feet below the top of the massive walls. The thickness of the wall at their base is unknown, but about 5 feet (average) is indicated on the surface, while the walls widen toward the base. No indications of a roof are visible. A depression in the top of the wall, where a N-S axis would cut appears on both the north and south ends.

That's just about the way I described our "bowl" when Sallie and I visited the Snaketown dig where Mr. Haury, Field Director for Gila Pueblo, was working a similar structure.

This Snaketown structure, Mr. Haury believes, greatly resembles the "ball court" known to have been used in Aztec, Toltec, and Mayan cultures. If such a distinct culture trait is found common to Mexican and Central American civilizations, Hohokams, and Pueblcans a very interesting field of conjecture opens. Hence the interest in the Wupatki "bowl" was greatly heightened, and Mr. Haury made a special trip to see it this month. He concluded that we very possibly have a ball park; impressive similarities between this and type structures are the general outline, the massive receding walls, and the end depressions.

We're hoping to have these similarities checked by excavation as soon as possible.

NATURALIST ACTIVITIES:

The first mammal to move into the new specimen case is Catalogue Number Z.100B, a Cottontail: Sylvilagus auduboni. Immature male; Sept.

13, 1935, and he's expecting a lot of company real soon.

Also in the case are three botanical collections of plants bloomed, to date, on the Monument.

A letter from Chief Ansel F. Hall states that the collection I forwarded to his office for identification has been turned over to Dr. Mason.

Three visitors to the Monument on the 19th reported 3 wildcats seen near Heiser Spring. One of the visitors was Dave Pierce, C.W.A. employee, Project 10, Wupatki.

Sallie and I saw a coyote on the 17th in Deadman's Wash.

Looks like I've covered the month to date (9/21), welcomed Louis Caywood this morning, and am all ready to take off for a two week vacation. (What's an Honorary Custodian Without Pay's status while the Custodian is on a vacation without pay?)

Louis is going to round out the report with some of his impressions of Wupatki.

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Rain, rain - go away, come again some other day - Louis and Winnie would like a chance to look over Wupatki. We were royally received by Jimmie and Sallie upon our arrival here Saturday morning, July 21, and given the key to the Pueblo. The day was spent on a hurried inspection of the Monument and explanations of various little details that were to prove helpful.

Sunday dawned bright and clear, (July 28) and we saw the Brewers off on their journey. Quite a busy time was spent showing a total of 16 visitors over the Monument strung over the entire day. The weather from that time on has been very disagreeable - cloudy with rain and wind thrown in. Monday morning I baited the bird traps and put one down by the spring outlet, the other being behind the pueblo, hoping to be able to do a little bird banding while here. So far I have caught one antelope ground squirrel and one SAGE THRASHER. The Thrasher now carries band number 35-130451 of the Wupatki bands. Here's hoping the bird banding business picks up.

Winnie and I are very much impressed with this Monument so far and hope that the weather will permit our seeing more of the surrounding country before we leave here. The Monument shows a great deal of care and hard work. The trails are well laid out, also well kept and the roads into the ruin and within show attention and are certainly well signed. Jimmie and his H.C.W.P. are doing a good job.

We have been expecting to welcome the Boss and his party to Wupatki

for the last few days, but so far they have not arrived. We hope they don't forget us. (Sept. 25)

By Louis Caywood

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# YUCCA HOUSE, HOVENWEEP

By T. C. Miller

Following is the report for Yucca House and Hovenweep National Monuments for the month of September:

TRAVEL AND ROADS:

35 people have registered in our new book for the month of September at Yucca House, coming from the following states: Arizona, California, Colorado, New Mexico, New York, Missouri, and Washington, D. C.

The Monument boundary fence was up and the gates were closed. The roads were dry and passable. It was a great pleasure to inspect Yucca House and Hovenweep with the Superintendent's party.

HOVENWEEP:

I arrived at Hovenweep on the 23rd about noon. It was a pleasant surprise to find the Superintendent's party on the job, with a fine lunch spread out under a big juniper tree. After having our lunch, we looked the place over. We found a few new names scratched on the walls of the Ruins. The new names were dated August, 1935. Boss, do you think it would help if I build a box and establish a register at those ruins? Then the visitors could pay over that, write their names and date their visits. This might help at a Monument where there is no Custodian. I would like to try that with your permission.

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# CHACO CANYON

By T. C. Miller, Custodian.

Activities in the Chaco Canyon National Monument for the month of September were as follows:

GENERAL

Heavy rains during the first part of the month washed out our roads and completely stopped travel from the south for three days. The road to the north was passable but badly washed, and very rough until we got the washouts repaired and the road graded. Custodian Faris, Aztec Ruins, was good enough to loan us his road grader. We already had the Aztec Ruins truck borrowed, so with this equipment we graded and repaired 10 miles of road. We greatly appreciate the loan from our good neighbor. We now have our roads passable, to say the least, and the visitors are coming again.

WEATHER:

Maximum for the month was 89 degrees on the 19th. Minimum 41, on the 11th. Precipitation .92 inch was recorded for the month. The greatest in 24 hours was .54 on the first.

TRAVEL:

875 people arrived in 284 automobiles, coming from 22 states and the District of Columbia. For the same month last year, 670, - an increase of 205 people. Travel from October 1, 1934, to and including September 30, we had 6565, for the same period last year 6068, an increase of 497 people. Over night campers for the month, 116.

SEPCIAL VISITORS:

The Jemez field School headed by Dr. Edgar L. Hewett, Dr. R. G. Fisher, Dr. Donald D. Brand, from the University of New Mexico, Dr. O. E. Bowden, and Dr. F. R. Fairclough, University of Southern California, arrived on the 25th of August and departed on the 26th.

Junior Naturalist and Mrs. Louis R. Caywood arrived September the 4th and departed on the 5th. Park Naturalist Rose arrived on the 8th. Bob's visit was not official, but we were mighty glad to have him.

The Monument was inspected on the 20th and 21st, by Superintendent and Nancy Margaret Pinkley, Miss Isabelle Story, Editor-in-Chief, National Park Service, Washington, D. C., Associate Engineer John Diehl, Southwestern Monuments, and Charles A. Richey, Resident Landscape Architect. We were glad to have this party with us. We hope they come again, and stay longer next time.

GENERAL IMPROVEMENTS AND MAINTENANCE:

On September 18, the north approach to the Chaco Bridge collapsed. We spent the following two days repairing it. It required 12 loads of rocks, 2 loads of brush, and two loads of dirt, to rebuild the approach. We have maintained 9 miles of our approach road to the south, and some of our road here in the Canyon, using the Dodge truck and grader we borrowed from Aztec Ruins. We also put in one box culvert here in the Canyon to the South of Chaco Wash, a bad mud hole where traffic was continually sticking after each rain.

The big signs at Chetro Ketl and Pueblo Bonito have been repainted, also several small ones. Most all of the weeds at Chetro Ketl and Casa Rinconada have been cut and burned. Pueblo Bonito has been cleared of weeds, inside and out; however, we tried to leave all the grass and flowers that we possibly could. We burned most of the weeds, etc. that had drifted in against the fence that incloses Pueblo Bonito.

One ramada, just east of the old one, on the Public Camp Ground, has been built during the month. The old ramada was good, but too small for the big parties that we have handled this season.

PERSCNNEL:

Temporary Ranger McKinney's appointment expires September 30. Before he signs off I want to thank him publicly for the splendid manner in which he carried out all assignments given him. Mr. McKinney has made the Service many friends here at the Chaco this summer. He has proved to be one of the best men I have had the pleasure of working with during my ten years in the Service. We regret very much to lose him; we can only hope to have him back again next season.

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# PIPE SPRING

By L. Heaton, Acting Custodian

At the close of another travel year, I have been thinking of what success or failures I have made with the public in giving them information and courtesies expected from a custodian. I think we have had a very successful year, with few complaints and a little praise and a lot said half way between. There seem to have been more people interested in the fort than last year as our figures show there were more tourists this year than last and less local travel.

My greatest problem in handling the visitors is when some local friend brings some relative or other person out to see the Monument, and in their enthusiasm to show the place off they do all the talking. There are lots of interesting points that are missed and some mistakes made which I can hardly get corrected if at all. Maybe I don't have the knack of capturing the interest of these local people who think they know all about the place. If there is any one in the Service who can help me out in this matter, I would thank them a lot.

Travel this month came in as usual with only a day or so that the roads were washed out in places, but several parties stated that they would not have missed the Monument for anything.

Our visitors came from the following states: Utah, 102; California, 6; Oklahoma, 8; Wyoming, 6; Texas, 2; Ohio, 4; Montana, 3; Washington, D. C., 1; Arizona, 108; N.P.S. 15; U. S. Army, 16; N.F.S., 4; C.C.C., 10; Nevada, 2; local travel,184; total 472. The last 7 days, I estimate at 105 making a total of 576 for the month of September.

We have had 11 campers here---the most that we have had for months; in addition, there were 15 or 20 workmen on the CCC camp construction.

Weather records show that the month has been rather dry, getting colder as the days go by; last week there have been several storms in the mountains.

Trees and plants are making ready for their long winter's sleep; the late flowers are giving us their beauty as a last farewell for the summer season.

I have a very good start on the plant collection end of this Monument that I intend to study this winter and maybe with the help of the good wife we can get them named and a report sent some time before spring. There is surely a good field to work in plant life in this Monument, as I have upwards of a 100 plants now, and I am sure that I have not collected all species.

Some local news that might be of interest to you and to be included in the report:

The stockmen are out gathering their cattle for sale. Some loan outfits are asking for their money, and, as prices are good, the cattle will be sold.

After today there will be no CCC's or Army officers here in camp for a while, as this outfit has been ordered to Pinto, Utah, to build another camp. Who will take their place, we don't know. A Mr. Crane will be superintendent of the ECW projects. The other Foremen, I have not heard from.

I think we have work outlined for the boys for the two weeks that they are conditioned here if the ECW has the equipment to work with. Mr. Cowell came out on the 21st, and we went over the program and outlined the work that we thought would best be done first, such as the cleaning out of the drain, filling up of the wash, fencing and road grading.

I am in hopes that the campground program will be approved so that we can get it ready for the planting of the trees this fall or winter.

I have had to return three more pieces of Pioneer relics to their owners.

I am beginning to think that the Park Service is going to have a hard time to collect the furniture that will be needed to furnish the fort as it was in the early days. There are several organizations in the country that call themselves The Daughters of the Pioneers, and their project is to preserve the pioneer relics, and each town has a place to show them to the public. We may be able to get them to see the benefit of having their stuff placed in the Fort here, as it is the Monument to those early Pioneers.

As the school year is here and I have children attending, I am moving the family to Moccasin for the year at least during the coldest part as I find it is rather hard on them to make the trip and it is a large expense to make the trip twice a day for me. So I think it best that they live closer to school. By the time the next report is written I will have to do my fall clean-up of dead weeds, leaves, and what not. So will continue my report next month.

# MONTEZUMA CASTLE

By Martin Jackson, Custodian

Another month has rolled around as well as another travel year. We made a fair showing in way of visitors for the month, with 1782 compared with 1839 this month last year, but even so we are off for the year compared with last year. Will not offer any reasons at this time for our being off in number of visitors as I dwelt quite in detail on this subject in the past months.

The roads leading into the monument have been and are at present in the worst condition in years due to unusually heavy rains during the summer, and believe it or not, visitors do not fail to inform me of the fact and a big percentage seem to be under the impression that it is entirely my fault or negligence, and some seem to be quite surprised when I inform them that we have no say whatever about the roads outside the Monument boundary.

While the rains have brought about bad road conditions, they have produced very fine range conditions for the stockmen. One of the old timers told me a few days ago that he had lived in the district for 50 years and had never seen as much grass as can be seen this year. Cattle are at a good price and buyers plentiful. With the Phelps Dodge smelter at Clarkdale turning out copper again and adding more men to their pay rolls the outlook for the district is better than it has been for some time.

Our old friend and booster, Charley Bell, who has a cattle ranch to the north of us recently drilled a well for stock water. At a depth of 185 feet he got a good flow of artesian water. This well is about 3-1/2 miles almost due north of the Monument. I think this rather strengthens my argument in favoring an attempt for artesian water here instead of a pump or water ram which has been suggested. Will take this matter up with you at another time.

We had a visitor during the month that had put in quite a bit of time in some of the national parks. He remarked that at times the bears had the bad habit of entering tents and making themselves quite at home by helping themselves to any and everything in the place to eat. He said that he had gotten a bad burn before entering the park and that he had been using Sloans Liniment in treatment of the burn. He admitted that he was a great believer in the liniment. He was not strong for the smell and that he could see no reason why even a wild bear would be. So he saturated a rag with the liniment and hung it out in front of his tent. He further insists that the bears took off and stayed off. Am perfectly willing for any one to take this information for what they think it is worth. As for myself, will simply say that it is not an argument for or against Sloans Liniment.

Norman Jackson, who has been taking an active interest in birds

of the southwest, reports having seen the following on the Monument for the first time.

| | |
|---|---|
| Egret | Western Blue Grosbeak |
| Green Tailed Towhee | Ferruginous Rough Leg Hawk |

Will add in closing that Gambel Quail, White wings, and Mourning doves are more plentiful than they have been for several years.

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# CASA GRANDE

By W. J. Winter, Custodian

The report this month is written in collaboration with Ranger Charlie Steen, who was Acting Custodian until September 16. In fact, I am told that by that time the outfit here was beginning to doubt if a man named Jack Winter really existed, as my date of reporting for duty was deferred several weeks past that originally planned. However, we finally managed to get here the night of the 15th and were most hospitably received. Our furniture was days overdue, as freight shipments are liable to be, and we shall always be grateful to Hugh and Christine Miller for taking such excellent care of us until we could move into our own quarters.

Our visitor count for the past month totals 1691, a substantial increase of 262 over September of last year. It is also an increase of 315 over last month.

Among visitors worthy of notice we find Dr. and Mrs. E. W. Haury of the Gila Pueblo, Globe, Arizona, accompanied by Dr. and Mrs. F. H. H. Roberts, Jr., of Washington, D. C. Dr. Roberts is with the Bureau of American Ethnology, Smithsonian Institution. September 23 the ruins were viewed by Dr. Lad Cutak and his assistant, Mr. Arthur Christ, of the Missouri Botanical Gardens in St. Louis. They were on a field trip taking pictures of desert flora and were en route to the Thompson Arboretum. September 26, we received a call from Arizona's Congresswoman, Mrs. Isabella Greenway, with a party from Tucson.

Last, but by no means least, we yesterday had the pleasure of greeting Director Cammerer. This was Mr. Cammerer's first visit here in a long time, and we were all sorry that he could not stay longer. After a brief inspection, he left for the south to visit Saguaro, Tumacacori, and Chiricahua.

Our summer weather is leaving us. The maximum temperature this month was 107 on the 16th, with a minimum of 55 on the 9th. Precipitation was .59.

An unusual number of Indian visitors is recorded for this month. Among the tribes represented were the Pima, Papago, Yaqui, Flathead,

Hualpai and Mohave.

With the cool evenings volley ball games have been resumed, promoted by Bob Cole, star athlete of the Chief Clerk's office (voice from office, "How about the Chief Clerk?"). Oh, well....

Bird banding activities have been resumed, though we still lack an adequate supply of bands. Our first Gila woodpecker and another roadrunner were caught this month, as well as the usual number of cactus wrens. Ranger Steen was bitten by a ground squirrel caught in a bird trap. The squirrel will recover. Traps for catching nocturnal mammals are planned. These may be banded, if feasible, or perhaps marked in some other way.

The boys in the ranger quarters are feeling more civilized now, since a new bathroom has been installed. Perhaps the unaccustomed luxury will aid in keeping them home nights. Charlie alleges that he took baths anyhow.

Fortunately the deadline for printing this report is at hand. I can now claim that I would have written more if I had time. Anyhow, here endeth my first attempt at a monthly report. May the future show improvement!

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# AZTEC RUINS

By Johnwill Faris, Custodian

It is always a little hard to write the September report, because it seems that there is always a little sad touch to the thought that the visitor count will drop until next season. This particular September, however, has held up remarkably well and surpasses considerably any like month since my term as Custodian. The number visiting the Monument during the month of September total 1891. These people were on the whole a very high type and in looking back over the month we feel that we may mark up an exceptional month all the way around.

Several important changes have taken place, one of the most important being the establishment of a permanent ranger. Oscar Tatman served very efficiently until the 15th of the month when Robert W. Hart, Jr., arrived to fill the position. Mr. and Mrs. Hart are certainly fitting into the harness in splendid shape and already he has caught the spirit of the place and is putting out a brand of service that is superior to even our standards. Mrs. Hart has already decided that Aztec Ruins is far ahead of any other ruin and that the town is the best in the Southwest, so you can see that they have the right idea already, and one that all the other Rangers and Custodians will sooner or later realize. Already I hear strong voices raising in protest, but who should know better than we folks? I might say at this time too, that I shall deny any allegations in connection with the above.

Louis Caywood, Junior Park Naturalist, and Winnie were with us a portion of the month and we certainly did profit by and enjoy them both. Louis has taken hold of the museum plans and worked up several cases which we have on display at the present time in our new lobby. While the plan is by no means complete and we have worlds yet for Louie to do, we have a definite start and will add to this nucleus as our exhibits arrive and our time will permit installation. We hated very much for Louie to leave us and wish him all the luck in the world at Wupatki or wherever he may go.

Bob Rose stopped in on his way east and gave Louie and me some points on the collection we were working on. We appreciated his giving the time when he was on vacation. Chuck Richey was in for a few minutes the early part of the month and then was in again just the other day. He has some fine things in mind for Aztec and we are looking forward to the time when it will all come to pass. Cal Miller was in on a couple of his trips by and not being satisfied with taking back the Dodge after giving it to me, he has taken my grader. I think that giving me that Dodge was a frame-up in the first place.

On the 12th, we were honored with a very nice visit from the Governor and his party. He was most interested and promised us his cooperation in getting a road from the highway to our Monument. He placed his position at our service and insisted that we call on him for any help that he might extend. The 21th, the Boss, Miss Story, Nancy Margaret, Jack Diehl, and Chuck Richey all stopped in with us. It is not often that any but Chuck get around, and we are glad to have them when they come. Miss Story was one of my first official visitors upon entering the Service six years ago, and it seems mighty good to have her drop in. We also had an opportunity to go over several problems of vital interest to the Monument, and feel that we have profited materially from the visit of these folks.

Preceeding this visit a day or so, we were honored with a visit by Apostle Richard Layman and party from Salt Lake City, and Mr. Hart tells me that it was one of the most interesting parties it has been his privilege to ever show through a ruin. We hope that they enjoyed their trip as much as we enjoyed having them and that they will return at every opportunity.

Monument problems have not been of any special magnitude this month, in fact everything has moved along in fine shape. Hart is taking hold of things in a way that is most pleasing and is taking quite a worry of our minds.

The Goodman Paint Company of Durange Colorado, repainted our unit, since the first application on the administration and museum building was fading, and they did not feel that they wanted that type of advertising. They gave us an excellent job and we certainly appreciate their

interest and action. The building now presents a very uniform appearance and we have the assurance of the Goodman Paint Company that if it does not remain so, they will come down and repaint it as many times as is necessary.

We are indebted also to these people for a very nice bit of advertising in the recent Spanish Trails Fiesta held in Durango. They have one of the nicest windows in the city and very graciously allowed us the use of it for the Fiesta. Louie Caywood and myself took up a display that seemed to prove very popular and has caused a lot of favorable comment.

After being up in this section of the country for over six years, I made my first trip to Yucca House and Hovenweep this month. Custodian Miller on one of his inspection trips invited me to go with him, and I enjoyed them both very much. I am ashamed to have waited this long to get to them, but the opportunity never presented itself until now.

The Gallup Inter-tribal Ceremonial, I understand, was one of the most successful since the affair started and we are indebted to the Independent of that city for a very nice writeup on our attraction and the great Kiva in particular.

We notice in the papers that Mr. Leavitt is leaving Mesa Verde. It has been a pleasure to have worked with him, and we regret his leaving very much. We wish him success wherever he may go, and are looking forward to as pleasant relations with his successor as we experienced with Mr. and Mrs. Leavitt, so saying endth September.

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# BANDELIER ECW

By H. B. Chase, Project Supt.

The headquarters comfort station has been completed this month with portal connection to headquarters office building. The final painting is being done on the interior at this time, and the entire building will be open to the public by October 1.

The stone guard rail along entrance road will be completed to the point of termination by October 1. Footings for the entire project are completed at this time. The finished project will include 963 lin. ft. of guard rail constructed.

Fireplaces of the new approved design have been constructed at all camp sites in the camp ground.

All excavation for the remaining buildings in the utility area has been made this month; the project now is 100% complete.

The warehouse building has been completed with exception of the

carpenter work on window and door openings, and painting. This crew is now working on that work and the building should be ready for occupancy by October 5.

With receipt of approval of shop and gasoline house a large crew immediately started construction. The shop roof sheathing is being placed today and the gasoline and oil building is 50% complete. We hope to move into these buildings not later than October 15.

The landscape crew has spent most of the month obliterating worn areas and roads by scarifying and moving in rocks and duff in preparing for the coming planting season.

The rock quarry has again been one of the largest operations of the month.

Construction of the wall around the utility area connecting the buildings was completed about the 20th of this month.

Even though the office building has been occupied the past four months, it has only been until recently that it has been 100% complete with the installation of electrical wiring and fixtures.

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# NATURAL BRIDGES

By Zeke Johnson, Custodian

I hope this report won't be late. I have been at the Monument the last six days and how it has rained! Never stopped for 36 hours, and I had to come in today as we were out of provisions. And talk about mud ---I was six hours coming in.

Dr. W. H. Hopkins of Salt Lake City and a friend had been there for several days waiting for the rain to stop but decided it would not, so they left at one p.m. yesterday. I left at 7:45 this morning and found them stuck on the hill; they had been there all night. I helped them up to Maverick Spring, a distance of five miles. It took us until 11:00 a.m., and I left them there and arrived here at 2:00 p.m. I will go back early in the morning. The three men are taking topography of camp sites and because of delay will be there for three or four days yet.

There have not been as many visitors this year as there were last, but many more from other states. Utah nor San Juan have had any excursions but never in the history of the Monument have there been so many interested people.

Among the number was George Grant, the Park Service photographer. He spent the best part of three days getting what he was after. The above-mentioned Dr. Hopkins was more than pleased with his eight-mile

hike in the rain. I took him to the Bridges 18 years ago in mid-winter and he said he just had to come back. He is the man who took the first automobile through the Monument Valley to Kayenta, and he named the valley.

There have been 87 visitors this month, making 567 that have registered, and I am sure that there have been more than 100 others that failed to do so. A large number visited the Monument in the last days of May when I was not there to take care of the book. Then some said they did not care to register, and others came to Edwin and went back while I was hiking with previous parties. So I think we are safe in calling the number 676.

The oldest man who ever hiked to all the Bridges did it on the 20th of this month. Joseph McCuin, age 77 years and nine months. He said he never enjoyed anything more in his life than that eight-mile hike, and said, "I may come again."

Because of so much rain there may be no more visitors this month, but there will be a lot of them in October. Regards to all the bunch.

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# ENGINEERING

By John H. Diehl, Park Engineer

At Bandelier National Monument and Chiricahua National Monument, the CCC camps have been busy attempting to complete their individual work programs for the fifth period; somewhat handicapped by new enrollees and their total below normal. Projects in each monument will no doubt be incomplete and will have to be continued in the next period as supplemental projects.

Engineering needs for ECW projects in the monuments have been attended to by the engineer foremen attached to each camp with enrollee assistants.

Topographic work on the headquarters area at Walnut Canyon National Monument has continued, and boundaries of Sunset Crater Monument have been checked by the survey crew with A. E. Clark. Rodman Pinkley resigned from this crew the middle of the month, in order to enter Arizona University, and was replaced by Rodman London from the field office at Coolidge.

At the Coolidge office, J. H. Tovrea, chief engineering aide, has prepared sketches, maps, and survey data, to be submitted either to the Superintendent or to the Branch of Engineering.

The first part of the month, official trips were made to Chiricahua National Monument, Carlsbad Caverns National Park, from whence we brought back another Chevrolet pickup and the memory of a gigantic spectacle. Also

White Sands National Monument was visited with Superintendent Pinkley, Chief Clerk Miller, Custodian Charles, Mr. Borell of the Wildlife Division, and Mr. Richey of the Branch of Plans and Designs. A program was formulated for development subject to purchase of the Garton property, and the allotment of additional funds.

On September 15, in company with the Superintendent and his daughter, we left Coolidge, Arizona, for Santa Fe, New Mexico, where on the 18th we met Miss Story from the Washington Office of the Park Service, who is to visit the Southwestern area.

Up to date (26th) we have stopped at Bandelier, Chaco Canyon, and Aztec Ruins National Monuments, Mesa Verde National Park, Hovenweep, Yucca House, and El Morro Monuments, and as this is being written, we are floundering around some of the scapiest mud existing at Canyon de Chelly. Actually some spots are so slick that you just can't stay put on them and I wouldn't endeavor to prophesy which direction we go next, although plans call for us to reach Petrified Forest on the 27th, where Miss Story will stop for a couple of days while Superintendent Pinkley and myself either squirm through the mud to Navajo Monument, or take the more promising route to Flagstaff, Arizona, and the Monuments in that vicinity.

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# NATURALIST DIV.

By Dale S. King, Jr. Park Naturalist

Staff

Park Naturalist Rose has been on annual leave during the latter 20 days of the month. Junior Naturalist King has been at Headquarters during the entire month except for a trip to Safford, September 23, which has been the subject of a special report to the Director. Junior Naturalist Caywood was on relief duty at Aztec Ruins National Monument until September 22 when he assumed relief duty at Wupatki National Monument.

Supplies Received

450 cactus labels from the Field Division of Education, Berkeley.
112 Lantern slides from the Field Division of Education, Berkeley.
Small supply of entomological preparation materials.

Junior Naturalist Dale King Report

OFFICE WORK: Wrote 47 letters
Finished listing Headquarters library
Sent office materials and books to Walnut Canyon
Prepared annual travel figures
Copyread, lettered Monthly Report material

EDUCATIONAL: Shipped eight bird traps to fibe Monument banding stations
Continued Casa Grande banding activities in absence of Custodian
Shipped Navajo National Monument entomological material to

University of California for identification.
Prepared annual animal census report for Washington Office.

GUIDED: Remainder of time.

Junior Naturalist Louis Caywood Report

During the past month I spent a profitable and enjoyable stay at Aztec Ruins.

Upon arrival, July 27, I found that Johnwill had left on his vacation and the Ranger, Oscar Tatman, was up to his neck guiding visitors. I plunged in and for a week Oscar and I hardly saw one another. He would take a party and by the time he returned I would have left with a party and was in the ruins. He would then leave with a waiting party so when I arrived back to the Lobby he would be gone and so on throughout the day.

After Johnwill returned I took a couple of days off - my first in quite a while - and spent one day and night at Chaco where Cal certainly showed Winnie and me the works. Mrs. Cal treated us like old friends, that is the grand part of this Southwestern Monuments Family, one never feels like a stranger when visiting the Monuments for the first time, and we had a most enjoyable time. We took the Millers a few pears (only 90 pounds) to can. People say that isn't many, but I bet that after Cal had peeled half of them he was wishing the Caywoods hadn't come to see them. Another day was spent going over the trails and the Museum at Mesa Verde National Park.

Johnwill's place of business looked like a storage house when we arrived. There were crated cases and huge crates of plate glass all over the place. In fact, some of it was too heavy and big to get inside the Administration Building. So after Johnwill returned from the San Diego Fair it fell our lot to unpack the cases and start putting them together. There were nine cases in all. They came all knocked down so it proved quite a job. By the end of my stay we had stained and assembled six. In one was placed the Stratigraphy or The Story of the Trash Layers. It was successfully installed after much labor in getting it fitted and fastened into the proper case. This exhibit indeed gives visitors a better understanding as to the method used in determining relative ages of peoples from the stratified debris left by them. A second exhibit installed was Exhibit No. 2 - a large archeological map of the Southwest showing the various culture areas with small water color sketches of the various monuments. A third case was temporarily installed consisting of four large water color pictures of pueblo life. In a fourth case was placed representative pottery of the Aztec Ruins.

Mr. Goodman of Durange, who was repainting the Administration

Building asked Johnwill if he would put an exhibit in his store window in Durango as part of the Spanish Trails Fiesta, September 21 and 22. Such a display was made and consisted of the following sections: (1) Three large water color paintings depicting pueblo life. These were hung in the back of the window. (2) A child burial covered by matting. (3) Two pueblo baskets. (4) A selection of Mesa Verde pottery found at Aztec Ruins. (5) A selection of Chaco pottery found at Aztec Ruins. (6) A tree ring exhibit of a section of log from Johnson Canyon cut in 1909. Cards telling of a number of interesting dates and events were tied into the proper tree ring by cords of the year each event took place. (7) A number of stone axes and arrow points. (8) Typical bone awls. (9) A pueblo sandal and (10) A large cooking jar of corrugated ware. The day after the display was put in, the first party of visitors to the Monument mentioned they visited Aztec only after seeing the interesting display in Durango. Mr. Goodman of the Goodman Paint Company, who was so kind as to ask us to fix up his window seemed well pleased.

A new Ranger, Mr. Bert Hart and bride, Adeline, are recent comers to the Monument, and I am sure that I will be joined by the rest of the folks in Southwestern Monuments in wishing them many years of happiness in our Southwestern Monuments Family. Bert comes well prepared after several seasons of temporary work in Mesa Verde National Park. His home is in South Carolina, but I am sure he will like the West for his new home just as well if not better.

While at Aztec I banded two SAY PHOEBE, Nos. 35-38210 and 35-38213. They were both caught on a screen porch as there are no bird traps at Aztec Ruins.

I left Aztec September 20 to report at Wupatki National Monument as relief for the Custodian over the period of his vacation. So ends another month of the traveling Junior Park Naturalist of Southwestern Monuments. A third episode, "Wupatki National Monument" will continue next month.

With kindest regards to all from Winnie and myself. By the way - Winnie asks that I add that she enjoys thoroughly being the wife of a traveling Naturalist and thinks the Southwestern Monuments are grand places.

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# CAPULIN MOUNTAIN

By Homer J. Farr, Custodian

Reporting for Capulin Mountain National Monument for September, 1935:

Beautiful warm weather thruout the month except the past few days. We have had some rain winding up with a two-inch snow. A light frost occurred on the night of the eighth but did no damage. Then, of course, we have had a good freeze this week. Corn, beans and other crops matured

fair this season and was about a third average crop.

The tourist crop has been extra good this season and are still coming plenty. The road and trails stay in fair condition with a little donation of a day or so now and then from the Custodian cleaning rock from the road. We have probably had about five thousand visitors this month and many whom I happen to talk to appeared to enjoy the trip very much, and I am learning that many many of the visitors have been here before. They seem to enjoy returning over and over again.

The Custodian is planning on placing the road and trails in splendid condition this fall for the 1936 travel.

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# MAIL COUNT

Mail count for the month of September:

| | |
|---|---|
| Incoming, personal | 652 |
| Incoming, official | 991 |
| Total incoming | 1643 |
| Outgoing, official only | 1660 |
| Total pieces of mail handled | 3303 |

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# CLOSING

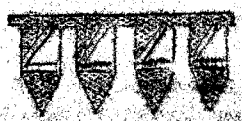
Superintendent Pinkley is in the field as this report is closed, hence his usual sprightly closing comment must be omitted.

Hugh M. Miller
Acting Superintendent

# THE SUPPLEMENT TO THE MONTHLY REPORT FOR THE SOUTHWESTERN MONUMENTS



WHERE WE ARE SERIOUS
-BUT NOT TOO SERIOUS



SOUTHWESTERN
NATIONAL PARK SERVICE
LIBRARY

# LIBRARY LIST

Following is a listing of volumes in the Southwestern Library, which, you will notice, is nothing more than a listing, since there has been no cross index, or detailed listing of articles in some of the volumes. This work will be done later.

However, we are running this list so that the men in the field will have a fair idea of the material that is available to them. Order books by name and number. You may keep volumes as long as you wish or until another man makes a request for the same volume.

We have also a large number of reprints, separates, and periodicals which will be listed in a future Supplement as soon as the work of tabulating them is finished.

PLEA TO ALL INTERESTED PERSONS HAVING BOOKS ON THE SOUTHWEST: You will note that although we have more than 400 volumes, our Library is very incomplete. If you have books on the Southwest or other volumes which deal with our problems, we will appreciate all donations of books you feel free to give. Eventually we hope to build up a library which will be of very great value to our personnel and visiting students.

## AMPHIBIANS AND REPTILES

218a. Differential Characteristics of Southwestern Rattlesnakes Allied to Crotalus Atrox. Bulletin No. 6 of the Zoological Society of San Diego.
By L. M. Klauber, San Diego, Calif., May 21, 1930. 72 pp.

219. New and Renamed Subspecies of Crotalus Confluentus Say, with Remarks on Related Species. Transactions of the San Diego Society of Natural History, Vol. VI, No. 3, Pp. 95-144.
By Laurence M. Klauber, San Diego, Calif., Feb. 28, 1930.

218b. A Statistical Survey of the Snakes of the Southern Border of California. Bulletin No. 8 of the Zoological Society of San Diego.
By L.M.Klauber, San Diego, California, June 20, 1931. 93 pp.

222b. The Reptiles of Western North America. Occasional Paper X of the California Academy of Sciences. Vol. II, Snakes and Turtles.
By John Van Denburgh, San Francisco, Nov. 23, 1922. pp. 618 to 1028.

362a. b. Report on Amphibians and Reptiles of the Navajo Country. Based upon Field Work with the Rainbow-Bridge---Monument Valley Expedition During 1933. Bulletin 3.
By Theodore H. Eaton, Jr., Berkeley, California, June, 1935. 20 pp.

68. Navajo Weaving (Its Technic and History)
By Charles Avery Amsden. Foreword by Frederick Webb Hodge. The Fine Arts Press, Santa Ana, California, in cooperation with the Southwest Museum, 1934. 260 pp.

69. The Artifacts of Pecos
By Alred Vincent Kidder. Papers of the SW Expedition Nu. 6, Published by the Yale University Press, New Haven, for Phillips Academy, 1932. 314 pp.

70. The Pottery of Pecos, Vol. I. The Dull Paint Wares.
By Alfred Vincent Kidder. With a Section on the Black-on-White Wares by Charles Avery Amsden. Published for Phillips Academy by the Yale University Press, New Haven, 1931. 166 pp.

137a. Thirteenth Annual Report of the Bureau of American Ethnology, Smithsonian Inst. 1891-92
Government Printing Office, 1896. 462 pp.

137b. 27th Annual Report of the B.A.E. of the Smithsonian Institution, 1905-06
Government Printing Office, 1911. 672 pp.

137c. 28th Annual Report of the B.A.E. of the Smithsonian Institution, 1906-07.
Government Printing Office, 1912. 290 pp.

137d. 48th Annual Report of the B.A.E. of the Smithsonian Institution, 1930-31 General Index, Annual Reports, Vols. I thru 48.
Government Printing Office, 1933.1220 pp.

138a. Hopi Katcinas Drawn by Native Artists. Extract from the 21st Annual Report of the BAE of the Smithsonian Institution.
By Jesse Walter Fewkes. Gov. Ptg. Office, 1904. 126 pp.

138b. Antiquities of the Upper Verde River and Walnut Creek Valleys, Arizona. Extract from the 28th Annual Report of the BAE of the Smithsonian Institution.
By Jesse Walter Fewkes. Gov. Ptg. Office, 1913.

138c. The Ethnogeography of the Tewa Indians. Extract from the 29th Annual Report of the BAE of the Smithsonian Inst.
By John Peabody Harrington. Gov. Ptg. Office, 1916. 636 pp.

138d. Ethnobotany of the Zuni Indians. Extract from the 30th Annual Report of the BAE of the Smithsonian Inst.
By Matilda Coxe Stevenson. Gov. Ptg. Office, 1915.

138e. Designs of Prehistoric Hopi Pottery. Extract from the 33rd Annual Report of the BAE of the Smithsonian Institution.
By Jesse Walter Fewkes. Gov. Ptg. Office, 1919.

138f. Localization of Tusayan Clans. Extract from the 19th Annual Report of the BAE of the Smithsonian Inst.
By Cosmos Mindeleff. Gov. Ptg. Office. 1901.

139a. Mexican and Central American Antiquities, Calendar Systems and History. Translated from the German by Charles P. Bowditch. Bulletin 28, BAE, Smithsonian Inst.
Gov. Ptg. Office, 1904.

139b. Handbook of American Indians, North of Mexico Bulletin 30, BAE of the Smithsonian Inst. Part I
Edited by Frederick Webb Hodge. Gov. Ptg. Office, 1912. 972 pp.

139c. Handbook of American Indians, North of Mexico Bulletin 30, BAE of the Smithsonian Inst. Part 2.
Edited by Frederick Webb Hodge. Gov. Ptg. Office. 1910 1221 pp. N-Z.

139d. Physiological and Medical Observations Among the Indians of Southwestern United States and Northern Mexico. Bulletin 34, BAE of the Smithsonian Inst.
By Ales Hrdlicka. Gov. Ptg. Office, 1908. 460 pp.

139e. Skeletal Remains Suggesting or Attributed to Early Man in North America. Bulletin 33, BAE of the Smithsonian Institution.
By Ales Hrdlicka. Gov. Ptg. Office. 113 pp.

139f. Antiquities of the Upper Gila and Salt River Valleys in Arizona and New Mexico. Bulletin 35, BAE of the Smithsonian Inst.
By Walter Hough. Gov. Ptg. Office, 1907. 96 pp.

139g. Tuberculosis Among Certain Indian Tribes of the United States Bulletin 42, BAE of the Smithsonian Inst.
By Ales Hrdlicka. Gov. Ptg. Office, 1909. 48 pp.

139h. Preliminary Report on a Visit to the Navajo National Monument, Arizona. Bulletin 50, BAE of the Smithsonian Institution.
By Jesse Walter Fewkes. Gov. Ptg. Office, 1911. 35 pp.

139i. Antiquities of the Mesa Verde National Park Cliff Palace. Bulletin 51, BAE of the Smithsonian Institution.
By Jesse Walter Fewkes. Gov. Ptg. Office, 1911. 82 pp.

139j. The Physiography of the Rio Grande Valley, New Mexico, in Relation to Pueblo Culture. Bulletin 54 BAE of the Smithsonian Institution.
By Edgar Lee Hewett, Junius Henderson, and Wilfred William Robbins. Gov. Ptg. Office, 1913. 76 pp.

139k. Ethnobotany of the Tewa Indians. Bulletin 55 of the BAE of the Smithsonian Inst.
By Wilfred William Robbins, John Peabody Harrington, and Barbara Freire-Marreco. Gov. Ptg. Office, 1916. 124 pp.

139n. Ethnozoology of the Tewa Indians. Bulletin 56 of the BAE of the Smithsonian Inst.
By Junius Henderson and John Peabody Harrington. Government Printing Office, 1914. 75 pp.

139o. The Maya Indians of Southern Yucatan and Northern British Honduras. Bulletin 64 of the BAE of the Smithsonian Inst.
By Thomas W.F.Gann. Gov. Ptg. Office, 1918. 146 pp.

139p. Archeological Explorations in Northeastern Arizona. Bulletin 65 of the BAE of the Smithsonian Inst.
By Alfred Vincent Kidder and Samuel J. Guernsey. Gov. Ptg. Office, 1919. 228 pp.

139q. Recent Discoveries Attributed to Early Man in America. Bulletin 66 of the BAE of the Smithsonian Inst.
By Ales Hrdlicka. Gov. Ptg. Office, 1918. 67 pp.

139r. Prehistoric Villages, Castles, and Towers of Southwestern Colorado. Bulletin 70 of the BAE of the Smithsonian Inst.
By J. Walter Fewkes. Gov. Ptg. Office, 1919. 79 pp.

139s. Excavations in the Chama Valley, New Mexico Bulletin 81 of the Smithsonian Inst.
By J. A. Jeancon. Gov. Ptg. Office, 1923. 90 pp.

139t. Archeological Observations North of the Rio Colorado. Bulletin
u. 82 of the BAE of the Smithsonian Inst.
By Neil M. Judd. Gov. Ptg. Office, 1926. 171 pp.

139v. Antiquities of the Jemez Plateau, New Mexico. Bulletin 32 of the BAE of the Smithsonian Institution.
By Edgar L. Hewett. Gov. Ptg. Office, 1906. 53 pp.

140. The Indians of Pecos, A Study of their Skeletal Remains. Papers of the Southwestern Expedition Number 4.
By Earnest Albert Hooton, Yale University Press, 1930. 391 pp.

141a. Excavations at Zacatenco. Anthropological Papers of the American Museum of Natural History. Volume XXXII, Part 1.
By George C. Vaillant. The American Museum of Natural History, New York, 1930. 197 pp.

141b. Excavations at Ticoman. Anth. Papers of the American Museum of Natural History. Vol. XXXII, Part II.
By George C. Vaillant. The American Museum of Natural History, New York, 1931. 439 pp.

141c. Excavations at Tiahuanaco. Anth. Papers of the American Museum of Natural History. Volume XXIV, Part III.
By W. C. Bennett. The American Museum of Natural History, New York, 1934. 494 pp.

141d. Archaeological Material from the Village Site at Hot Springs, Port Muller, Alaska. Anth. Papers of the American Museum of Natural History. Vol. XXXI, Part IV.

141e. Pueblo Bonito. Anth. Papers of the American Museum of Natural History, Volume XXVII.
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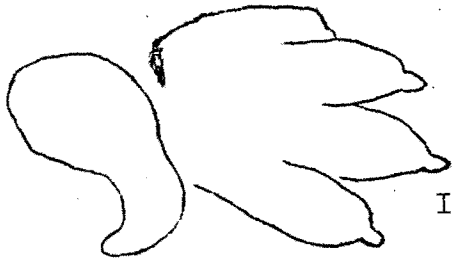
315m. Trailside Actions and Reactions, The Nature Trails and Trailside Museum at Bear Mt. N. Y. School Service Series No. 5, the American Museum of Natural History.
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315j. Trailside Conversations, Parts One and Two. The Nature Trails and Trailside Museum at Bear Mt., N. Y. New School Series No. 4 American Museum of Natural History.
By William H. Carr, N. Y., 1930, 36 pp.

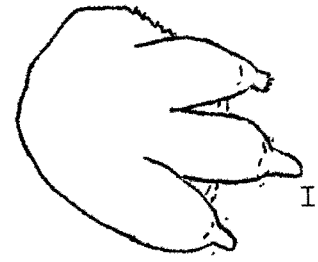
# CHEIROTHERIUM

A weathered natural cast of the foot-print of a large reptile was found recently near Wupatki National Monument and has been referred to the Museum of Northern Arizona by Mr. J.W. Brewer, Jr. for comparison with similar material.

The specimen which was found on the surface probably came from a layer about 140-150 feet above the base of the Moencopi Sandstone, a formation of Lower Triassic age. It measures 15.5 x 15.5 cm, and shows only the impressions of four digits--the fifth having probably been broken off. All the digits are armed with powerful claws and the depth of the impression (4.5 cm) indicates an animal of heavy build.



I.



II.

The imprint appears to be that of the front part of the left hind foot of an unusually large Cheirotherium, the print of the "palm" of the foot and of the recurved fifth digit being missing. If this is so, the entire length of the original imprint, by comparison with specimens in the collection of the Museum of Northern Arizona, would have been over 27 cm---considerably greater than that of Ch.Barthi, the largest of the species of this genus from the Bunter Sandstone of Europe.

Tracks of this type, which have been known for a long time from the European Triassic beds, have not been described from the Moencopi Sandstone, although a paper on these and other tracks recently collected by the Museum of Northern Arizona is now in preparation.

The tracks in question were for many years supposed to have been made by an amphibian, but are now referred to the rentilian order, Thecodontia, an order which is probably ancestral to the crocodiles on the one hand and the dinosaurs on the other.

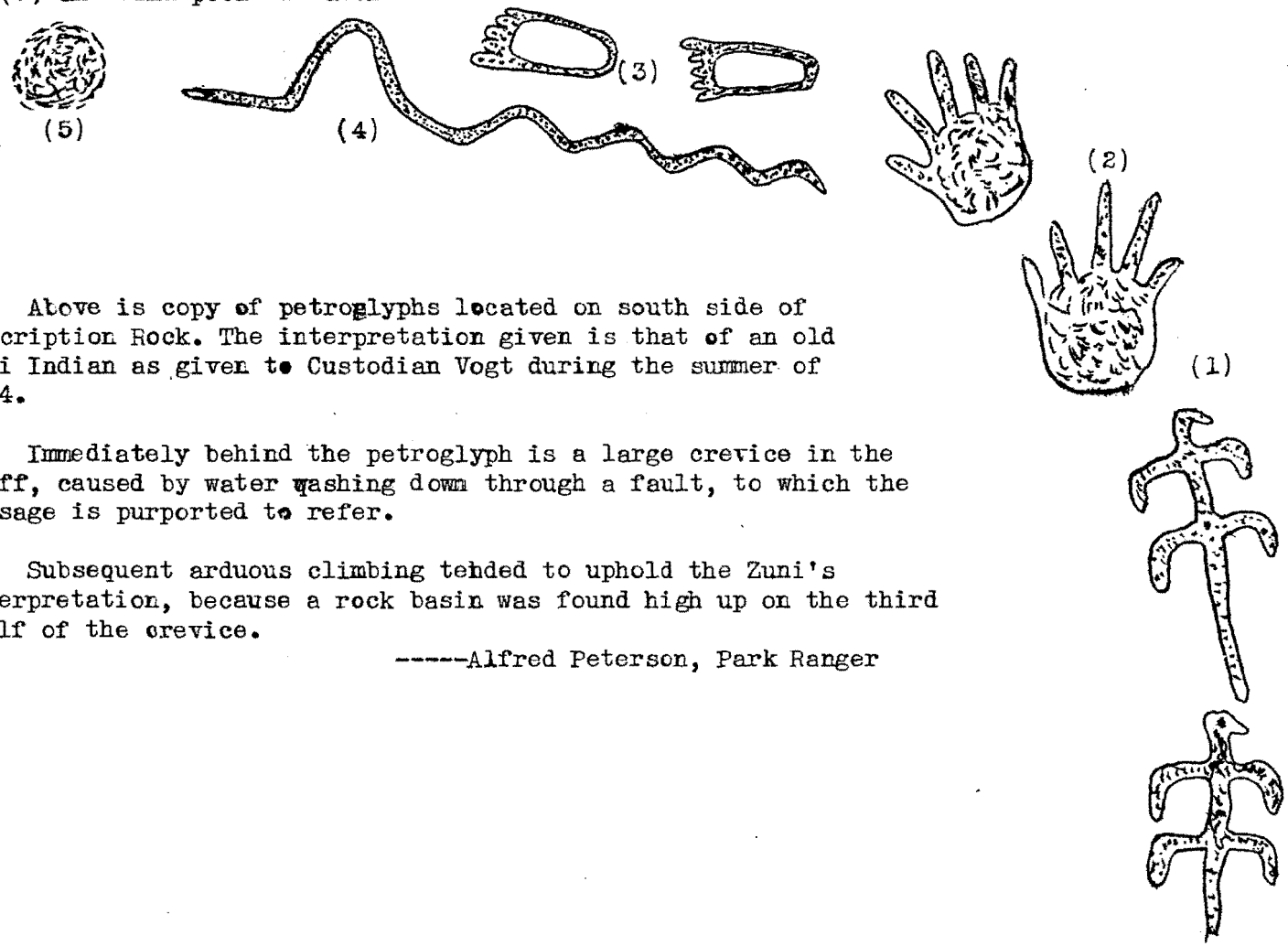
The most striking point about the complete tracks of Cheirotherium is the small size of the front feet, and the strongly recurved fifth toe, which causes the imprint to resemble that of a large fat human hand.

L.F. Brady, Curator of Geology, M.N.A.

(I have supplemented Mr. Brady's description with the above sketches. Fig. I is a complete track as shown in Vol. 8, No. 2, Museum Notes, and Fig. II is outline of "Wupatki" cast. JWB)

Read from bottom upward and to left. The trend of the successive petroglyphs follows the general direction of the climb.

(1) Up where the birds fly (2) by hand and (3) foot trail (4) Surmount these obstacles (5) and find pool of water




Above is copy of petroglyphs located on south side of Inscription Rock. The interpretation given is that of an old Zuni Indian as given to Custodian Vogt during the summer of 1934.

Immediately behind the petroglyph is a large crevice in the cliff, caused by water washing down through a fault, to which the message is purported to refer.

Subsequent arduous climbing tended to uphold the Zuni's interpretation, because a rock basin was found high up on the third shelf of the crevice.

-----Alfred Peterson, Park Ranger

# BANDELIER FLORA LIST

| | | |
|---|---|---|
| | Salicaceae | |
| Populus Angustifolia | - | Narrowleaf Cottonwood |
| Populus Freemontia | - | Freemont Cottonwood |
| Populus Tremuloides | - | Quaking Aspen |
| | Pea Family | |
| Robinia Nec-mexicana | - | New Mexican Locust |
| Thermopsis montana | - | Thermopsis |
| | Aceraceae | |
| Acer glabrum | - | Dwarf Maple |
| Acer negundo | - | Box Elder |
| | Rutaceae | |
| Ptelea crenulata | - | Hop Tree |
| | Geraniaceae | |
| Geranium caespitosum | - | Geranium |
| | Drupaceae | |
| Prunus melanocarpa | - | Choke Cherry |
| Prunus Americana | - | Plum |
| | Oleaceae | |
| Forestiera nec-mexicana | - | |
| | Hydrangeaceae | |
| Philadelphus microphyllus | - | |
| Jamesia americana | | |
| | Betulaceae | |
| Alnus tenuifolia | - | Mountain Alder |
| | Fagaceae | |
| Quercus Gambellii | - | Gambel Oak |
| Quercus undulata | - | Wavy-leaf Oak |
| | Ulmaceae | |
| Celtis Occidentalis | - | Hackberry |
| | Moraceae | |
| Humubus lupulus necmexicanus | - | Hop Vine |
| | Loranthaceae | |
| Phoradendron juniperinum | - | Lesser Mistletoe |
| | Labiateae | |
| Monarda menthaefolia | | |

| | | |
|---|---|---|
| | Solanaceae | |
| Datura metelcides | - | Thorn apple |
| | Onagraceae | |
| Onagra Hookeri | - | Evening primrose |
| Onagra albicaulis | - | Mountain evening primrose |
| | Loasaceae | |
| Mentzelia decapetala | - | Mentzelia |
| Mentzelia multiflora | - | Mentzelia |
| | Rosaceae | |
| Cercocarpus parvifolius | - | Mountain mahogany |
| Fragaria americana | - | Strawberry |
| Fallugia paradoza | - | Apache Plume |
| Rosa Fendlerii | - | Fendler's Rose |
| | Nyctaginaceae | |
| Mirabilis multiflora | - | 4 o'clock |
| | Violaceae | |
| Viola blanda | - | White sweet Violet |
| Viola nephrophylla | - | Purple violet |
| | Vitaceae | |
| Vitis vulpina | - | River Bank Grape |
| Parthenocissus vitaceae | - | Virginia Creeper |
| | Grossulariaceae | |
| Ribes cereum | - | Currant |
| Ribes leptanthum | - | Gooseberry |
| | Anacardiaceae | |
| Rhus cismontana | - | Sumac |
| Rhus Rydbergii | - | Poison Ivy |
| Rhus trilobata | - | Skunk Bush |
| | Caprifoliaceae | |
| Sambucus canadensis | - | Elderberry |
| Sambucus melanocarpa | - | Elderberry |
| | Ranunculaceae | |
| Oquilegia elegantula | - | Red Columbine |
| Clematis ligusticifolia | - | Virgin's bower |
| Thalictrum Fendleri | - | Meadow Rue |
| Pulsatilla hersutissima | - | Pasque Flower |
| | Ericaceae | |
| Arctostaphylos uva-ursi | - | Bearberry |

Orchidaceae

Corallorhiza multiflora - Coral root

Compcsite

Taraxacum officinale - Dandelion

---- James Fulton.

(I copied this from Jim's longhand, and part of it I couldn't read. Therefore: maybe some mispellings.)

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# BANDELIER BIRD LIST

The birds that were seen in the canyon this month were as follows:

Mourning Dove - Zenaidura macroura carolinensis (2)
Red-shafted flicker - Selasphorus platycercus (1)
Rocky Mt. Black Headed Grosbeak - Hedymeles melanocephalus papago (1)
Sharp-shinned Hawk - Accipiter velox (Wilson)(1)
Broad-tailed Hummingbird - Selasphorus platycercus (1)
Long-crested Jay - Cyanocitta stelleri diademata. (Many)
Pygmy Nuthatch - Sitta pygmaea pygmaea (1)
Woodhouse Jay - Aphelocoma californica woodhousei (Many)
Rocky Mt. Nuthatch - Sitta carolinensis nelsoni (4)
American Raven - Corvus corax sinuatus ( 4 ?. May be more)
Western Robin - Turdus migratorius propinquus (3)
Rocky Mt. Hairy Woodpecker - Dryobates villosus monticola Anthony (2)
Rock Wren - Salpinctes obsoletus obsoletus (3)
Canyon Wren - Catherpes mexicanus conspersus Ridgway (1)

These are all included in Adrey Borell's list of birds seen here August 5-12. There is also a huge flock of small birds in the cottonwoods of the camp ground which I have been unable to identify. They move constantly and have a remarkable ability to get on the other side of leaves and branches from the observer. They look somewhat like a Canyon Towhee, but that is admittedly a wild guess.

The large total of birds banded since I started, is one, a Long-crested Jay.

In the Detached Section were seen the other day about six large flocks of Pinon Jays, more than I have ever seen in such a small area. Does that indicate a good pinon crop for this fall? There were also two Red-shafted Flickers and some Rocky Mountain Nut-hatches.

-- Betty Jackson

# WALNUT CANYON BIRD LIST

By Russell Grater, Wildlife Technician

1. Violet Green Swallow.
2. Red-shafted Flicker.
3. Red-backed Junco.
4. Long-crested Jay.
5. Broad-tailed Hummingbird.
6. Rocky Mountain Nuthatch.
7. Pygmy Nuthatch.
8. Chestnut-backed Bluebird.
9. Common Rock Wren.
10. Canyon Wren.
11. Ash-throated Flycatcher.
12. Traill (?) Flycatcher.
13. Woodhouse's Jay.
14. Rufous-backed Hummingbird.
15. Western Red-tailed Hawk.
16. Golden Eagle.
17. Mountain Chickadee.
18. Green-backed Goldfinch.
19. Black-throated Gray Warbler.
20. Spurred Towhee.
21. Western Chipping Sparrow.
22. Western Robin.
23. Western Tanager.
24. Lewis Woodpecker.
25. Mearn's Woodpecker.
26. Rocky Mountain Woodpecker.
27. Cassin's Vireo.
28. Pinyon Jay.
29. Mourning Dove.

List of birds observed at Sunset Crater National Monument on August 16.

1. Long-crested Jay.
2. Pinyon Jay.
3. Traill (?) Flycatcher.
4. Pygmy Nuthatch.
5. Rocky Mountain Nuthatch.
6. Common Rock Wren.
7. Canyon Wren.
8. Rufous-backed Hummingbird.
9. Broad-tailed Hummingbird.
10. Common House Finch.
11. Mourning Dove.
12. Chestnut-backed Bluebird.

# IMPRESSIONS OF A "TEMP"

By J. W. Hendron

The "Boss" has asked me to write a sketch of my first impression of Frijoles Canyon, but I can't decide whether to write it in the form of a human interest story as would concern the general run of tourists or as an archeological sketch so I think I will include a little of both.

I made my first visit to the Rito ten or twelve years ago, having lived in New Mexico the greater part of my life. That visit created within me the desire to return at a later date and that was not until June, 1934, shortly after Earl Jackson took over the duties as Custodian. I shall never forget that incident as long as I live.

It so happened that the car I drove carried a California license plate and upon arriving at Frijoles Earl immediately began to inquire if we had enjoyed our trip. The logical answer was "Yes" and so we were asked if we intended to visit the ruins. Again the answer was "Yes" and so Earl proceeded to tell us something of New Mexico. The young lady who accompanied me shoved an elbow in my ribs which almost made me burst out laughing. At any rate, we didn't want a guide and perhaps Mr. Jackson was glad of it.

The Ranger station at that time was situated across the river from the hotel almost a quarter of a mile up the canyon from the present Ranger station, and so upon arriving at Frijoles in July, 1935, I was very much twisted around. I was amazed at all the improvements upon the Monument since my previous visit. My first impression was, "Gee, but this is a swell place," and after having been here for more than two months I still think it is a swell place.

My first day on duty consisted of roaming around the Monument gathering up what little knowledge I could by observation and so I spent the whole day just wandering around, going in the caves, picking up potsherds, and discussing things of an archeological nature with Earl. On the second day I began escorting tourist parties through the ruins and this proved most interesting. Each time that I have made the rounds of Frijoles canyon, I have tried to notice something different that might help to interest the people with whom I came in contact with.

Placing myself in the position of a visitor either from the west or from the east I am able to understand the reason why the Rito fascinates them. Bandelier is a delightful place, its scenic beauty enchants the visitor, the quiet and solitude seems to help them to be natural, and the primitive culture which existed here many years ago is almost inconceivable to them. All in all, everyone I have come in contact with has been more than pleased with their short visit and some have returned with their friends in order that they too might

enjoy and experience the atmosphere and environment of the canyon.

I have never found a place, during all of my travels over New Mexico, that has interested me more than Bandelier; perhaps I am fascinated by it in the same manner as the visitors are and even after having been away from it for a few days I have a desire to return.

It has been more than a pleasure working with the Park Service these few summer months, and I will always cherish it as an experience never to be forgotten.

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# ADOBE STABILIZATION

Extract from letter of Chief Engineer Kittredge to Director Cammerer:

Last Friday, September 7, Research Engineer Martius, Architect Nickel, and I reviewed experiments in adobe brick which have been under way in both the laboratories of the National Park Service at Stanford and those of the Bitumuls Corporation in San Francisco.

The Bitumuls Corporation have been carrying on experiments in the stabilization of adobe by the use of Bitumuls asphalt. We wrote you regarding this matter recently and told you of the hopefulness that the Bitumuls people had found something which would sufficiently stabilize new adobe brick being used in new adobe houses in the national monuments of the Southwest which would make it unnecessary to use any exotic plaster coat such as the Portland cement concrete coat used on the adobe houses of Casa Grande.

The experiments in the use of these stabilized brick have been carried on jointly by the Bitumuls people and the National Park Service, but the Bitumuls people are the designers and were the prime movers in the experiments for the stabilized emulsified asphalt adobe brick.

The experiments indicate that the brick are all that we and they had hoped for, except possibly in the matter of coloring. The brick, both stabilized and unstabilized, were placed under exactly identical conditions. At the end of eight days, all being subjected to continuous capillary attraction as well as moist atmosphere, the stabilized brick showed practically no absorption, while the unstabilized brick were completely saturated under the various severe conditions at the end of the first day.

It is believed that in the brown soils there will be practically no discoloration. In the light soils they will be made slightly browner by the use of the stabilization material.

The use of Bitumuls in no way changes the method of workmanship of

the materials involved excepting the addition of a small percentage by weight of the quantity of the adobe. This quantity of Bitumuls to be added varies from a minimum of 6% to 15% of the material passing a 200 mesh screen. Practically, under ordinary adobe conditions, this would amount to only between 3% and 10% of the weight of the entire adobe in asphalt. Thus it will be seen that the cost of the structure is increased very little by the introduction of this material.

We realize that adobe buildings have stood for many years without stabilization. The ancient ruins of course have collapsed until the collapsed material buries the lower portion of the building. These buildings which have been buried but now excavated are fast deteriorating under rain and wind erosion. Buildings which have been constructed during the last half century in many instances are standing well but require external maintenance and plastering to keep them in good repair. Recognizing these complications and deterioration under weather, the Park Service in some of its buildings, as at Casa Grande, have tried to overcome them by plastering the adobe external walls with concrete laid on chicken wire mesh. We fear, however, that the difference in rate of expansion between the adobe and the concrete under varying weather conditions will eventually separate the two materials and thus cause the cracking and spalling off of the concrete, Although there has been no spalling so far as I know to date, it is too soon to know the extent of the danger involved in this process.

It seems, however, that the need for a concrete plaster coat has been done away with by the use of the stabilized brick and that we now are able to build adobe walls which will not have an artificial plaster which will crack off, and walls which will be more in keeping with the local surroundings in some of the monuments.

We think the Bitumuls Corporation are to be congratulated upon their working out of this stabilization process and believe that it will have a very material bearing upon construction in the Southwest, generally.

Mr. Nickel is going into the architectural features of these brick and their use in the National Park Service, and doubtless will give his reactions.

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# MORE CACTUS LABELS

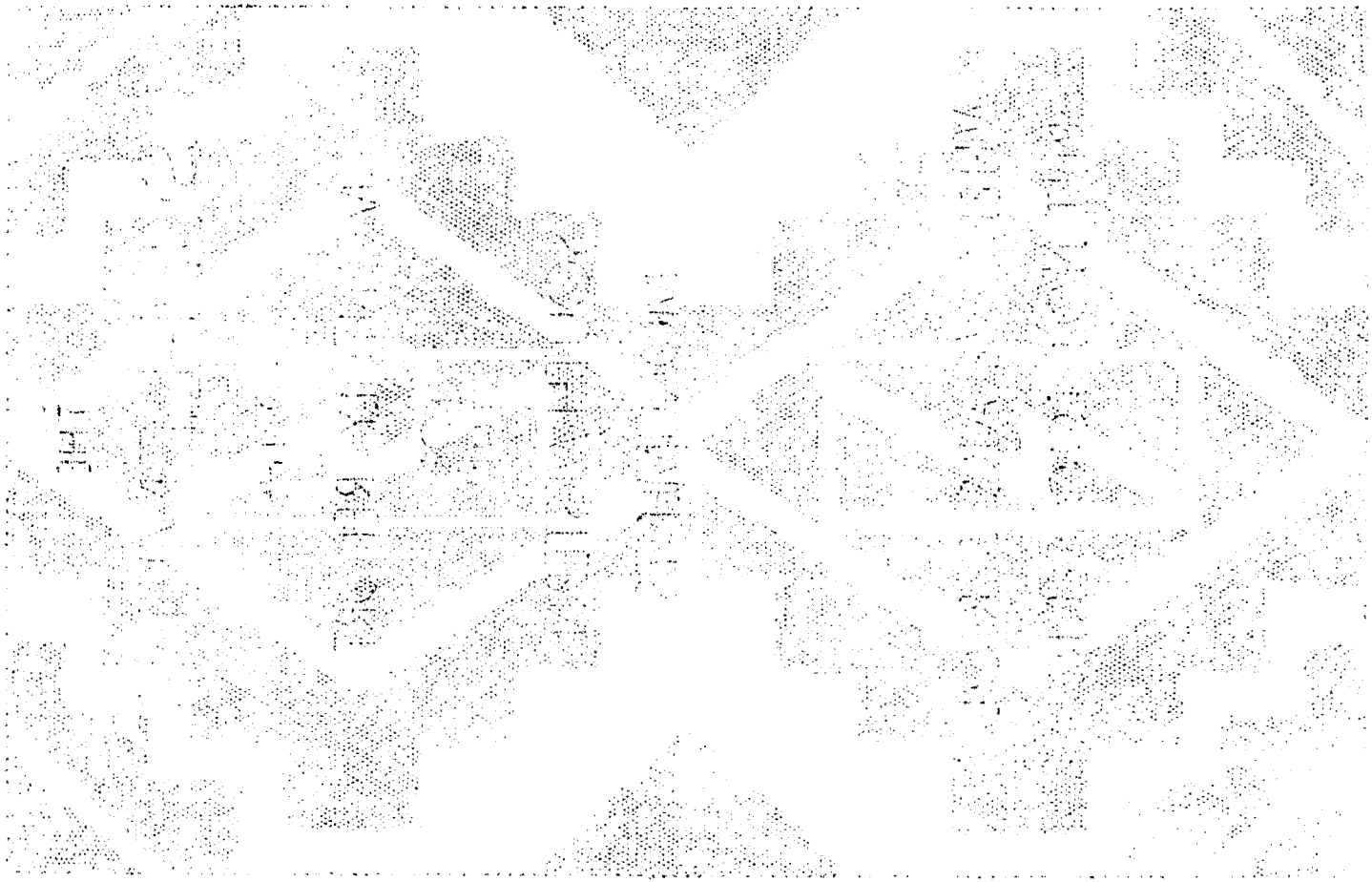
Headquarters is in receipt of an additional 450 cactus labels made of aluminum painted an earth-tan color. These may be ordered from Headquarters. We now have a rather complete set of cactus labels as well as enough metal standards to affix all botanical labels issued in the past.

The following are the new species labels received:

| | |
|---|---|
| Opuntia parishii | Lemairecereus thurberi |
| " spinosior | Coryphantha arizonica |
| " ramosissima | Ferocactus lecontei |
| " stanlyi | " johnsonii |
| " fulgida | " covillei |
| Echinomastus intertextus | Rathbunia alamosensis |
| " erectocentrus | Sclerocactus whipplei |
| Peniocereus greggii | |

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THE
SUPPLEMENT
TO THE
MONTHLY REPORT
FOR
THE
SOUTHWESTERN
MONUMENTS
WHERE WE ARE SERIOUS,
-BUT NOT TOO SERIOUS-



# THE KIVA AND ITS FUNCTION

By Earl Jackson

When we write or talk of kivas we give, of necessity, great freedom to our imaginations. Reliable data on actual kiva ceremonials is very difficult to obtain, so that the smatterings of information we get come from widespread and sporadic sources. While we are quite familiar with actual construction in kivas, the symbolism and use of the structures is problematic.

Religious ceremonial began just as soon as the first man saw something he didn't understand; life was surrounded with harsh, destructive agencies, and when man saw the inexplicable he feared it and then attributed supernatural powers to it. His first actions in relation to it were propitiatory.

At first only wicked or destructive powers were recognized, and placatory rituals were largely used. Later, with the development of more elaborate theism, came acknowledgement of benevolent spirits as well, and thus the balance of deities.

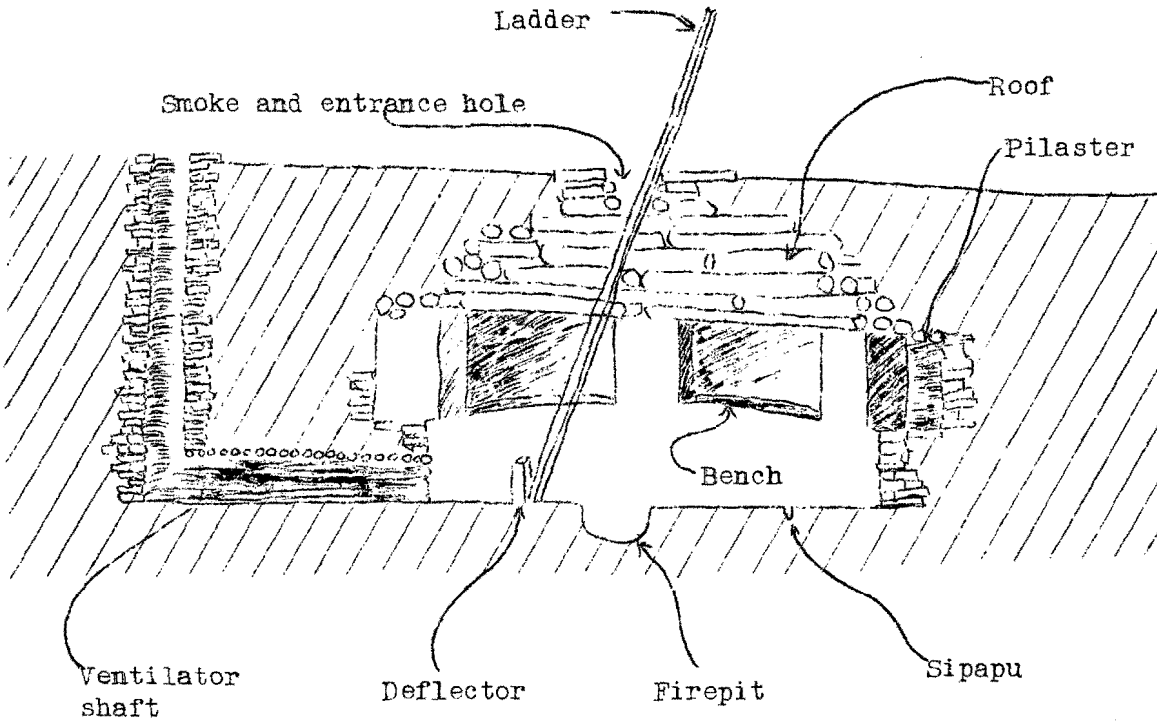
Superstition indicated that certain places were more suitable for performance of deeds of worship than others, and through habit these particular locations became acknowledged as holy spots. Such a spot could be an open space, a protected glade, a mountain top, an edifice above ground, or an underground chamber.

Undoubtedly all of the American Indians from the dawn of their civilization used particular places for ceremonial. With elaboration of southwestern civilization certain types of ceremonial sites became standardized, and so easily recognized wherever found. The most enduring of these were the kivas. Kivas have been continuously used from very early prehistoric times, for 1500 years at least.

The kiva is characteristically a circular chamber, either partially or completely subterranean. A few exceptions in form are seen, particularly among the Hopi Indians of Northern Arizona, where the rectangular kiva is used. The commonest roof style has a flat or slightly conical shaped timbered ceiling, covered with twigs, sticks, or grass, or all three, with mud on top. A square hatchway in the center serves for a door, with a ladder going on an angle down to the floor. In the center of the floor, directly beneath the door and ladder, is the fire pit or fire box. The entrance serves as a smoke hole.

A small door-shaped tunnel is constructed through the wall of the chamber, usually on the east side. It is sometimes large enough for a man to crawl into. It extends on the average of three feet back, on floor level, then contacts a vertical shaft which comes out on ground surface. This tunnel arrangement is usually called the "Ventilator shaft," because it is thought by some that is is intended

to bring a continual downdraft of fresh air to the kiva floor and to the fireplace. More likely it seems the shaft should be called a spirit passage, as will be explained later.



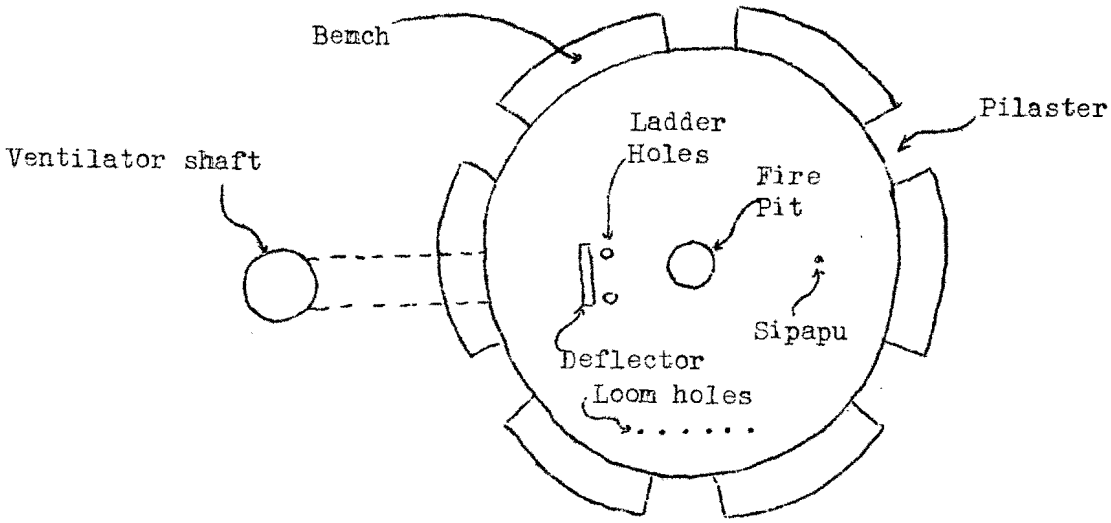

SECTION THROUGH SMALL KIVA

Between the inside tunnel entrance and the fireplace is usually found a "deflector stone" or "altar." Sometimes this is a single slab of rock set up on edge, suggesting an apparent function as a windbreak for the fireplace. In other instances the stone is represented by a box shaped construction of mud and stone, and has space on top for placement of ceremonial articles.

So we have a spirit passage, an altar stone, and a fireplace, all on one axis in the kiva chamber, and usually running east and west. One other important detail belongs on this axis. It is the Sipapu, or "Shipapu", as known by the Queres Indians of the Rio Grande Valley. This is a small hole, about three inches in diameter by five inches in depth, located in the floor between the fireplace and the wall opposite the spirit passage. Sipapu is commonly designated as the spirit connection with the Underworld.

The points described are the most essential to a kiva, but other features were frequently added. In some we find a masonry bench or "banquette" circling the room, extending out perhaps two feet from the wall, and sometimes two feet above the floor. Frequently

pilasters, usually about six in number, (probably symbolizing the six directions) were built out, at even spacings, from banquette to ceiling. These were ornamental as well as useful in supporting ends of ceiling timbers. Sometimes wall pockets or caches were made in these pilasters or in the kiva walls, often concealed. These caches were for ceremonial offerings.



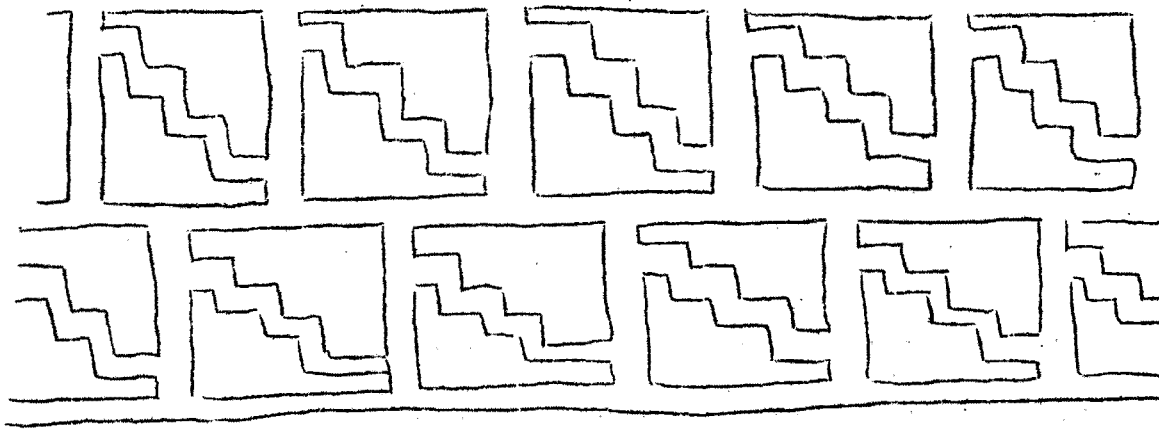

PLAN OF SMALL KIVA

It is known that among several of the tribes the weaving was done by the men in the kivas. In the Pajarito Plateau region of north central New Mexico the kivas have wall sockets which were intended to support the framework for looms. Beneath the crosspiece of the loom, on the floor, is usually a row of seven small holes, and in these holes were planted willow loops, to which thongs holding the lower crosspiece of the loom in position were attached.

Sometimes elaborate paintings were placed on kiva walls. Several kivas in Frijoles Canyon have remnant of fancy colored designs on the wall surfaces. The Snake Kiva here has an excellent emblem of the Plumbed Serpent (the mythical Awanyu, or water god) in black on the wall. The design was probably originally in red.

Kivas are usually located quite near to the homes of the Indians. Most Pueblo villages have their houses grouped either about an enclosure or partial enclosure facing south or southeast, and in these courts or patios are the ceremonial chambers. In the case of cliff houses the kivas are sunken in the talus slope in front of the dwellings, as at Mesa Verde. Only in the Pajarito Plateau region do we

find the phenomenon of kivas built in the same locations as the cave houses.



Kiva dado found by Dr. Paul Martin in the Lowry Ruin, southwestern Colorado.

Kivas serve two important functions:

1. T hat of religious centers. Here the men gathered (women were not allowed in kivas) for ceremonial purposes, to hold clan or tribal council, to meditate, to commune with the spirits of the earth or of their ancestors, or to initiate many of the sacred dances and other ceremonials which were completed above ground.

2. That of club rooms. Frequently the men would gather as in a lodge or secret fraternal gathering, to loaf or have talk fests, and, as a result, to formulate polices.

Weaving of cloth was also done in these chambers. Probably the origin of weaving in kivas could be traced to the beginning of loom work among the pueblo Indians. The first pieces of cloth made may have been considered so rare and unusual that they were used only for sacred purposes, as for a robe for a priest, or a wrap for the dead. And, of course, holy cloth must be made in a holy place, therefore that holy of holies - the kiva.

As one browses through Indian legends and archaeological opinions he comes to the conclusion that there are three principal lines of thought in regard to the symbolism of kivas:

1. The kiva is a passage from the Underworld.
2. It is a survival of the most ancient house types.
3. It is a means of getting near to the heart of the Earth Mother and her eternal secrets.

Number 1 could be divided thus:

1a. Illustrative of migration of civilization from one world to another.

1b. Illustrative of evolution of Indian life from a lower form of life.

The explanations of Indian belief which follow are not consistent to legends of any particular tribe or tribes; they are advanced only because they represent the boiled-down traditions of many Indians insofar as we can obtain them. Because these fragments of thought center about essential root beliefs, they have been woven together to present a logical but unproved pattern.

1a. Most Pueblo Indians believe their remote ancestors came from the Underworld, or land of darkness. In their effort to attain to more light they climbed upward through some sort of cave or crater opening in the sky and finally reached the sunlight of the upper world. Those Indians who were strong enough to make this arduous climb became the forebears of the Indian race of today.

In the effort to keep in spiritual contact with the ancestral dead, living Indians build their places of worship to symbolize the passageway through which they came into this world. The kiva, the sipapu, and the ventilator shaft represent the three stages of gradation from darkness into light through which the ancestors climbed.

From the darkness of the Underworld they climbed into Sipapu, or the stage of twilight; from twilight they forged upward into moonlight, symbolized in the kiva itself; from moonlight, after their eyes became accustomed to the increasing illumination, they went up through dawn light, shown by the ventilator shaft; from there they climbed into the sunlight outside.

So in the kiva, the half-way stage between the two worlds the medicine men and other wise men gather to talk to the spirits of their ancestors. The spirits respond to the elaborate rituals performed there, and come up through sipapu and confer with the men, giving them advice on how to regulate their earthly affairs. As a result of the kiva ceremonials the medicine men become very wise, for when one talks with the dead he plumbs the stored-up knowledge of all the ages. With this wisdom they go from the kivas to the people and tell them how best to regulate their lives.

1b. Some of the Rio Grande Indians hold to the belief that the kiva represents the stages in their evolution from a lower form of life. Originally Indian life existed in the Underworld in a very vague and nebulous state. It had not yet risen from the cosmic coze just this side of utter nothingness.

Without clearly defining the stages of development, they picture the sipapu, the kiva, and the shaft as representing the three intermediate stages between these elementary beings and the highly complex human organisms of today.

2. One of the theories common in archaeological thought today

holds that the kiva is nothing more than the survival into late times of the most ancient house type of the Indians.

It is known that some of the earliest artificial homes of the aborigines of the Southwest were circular pithouses. These were sunken chambers with clay or slab walls and timbered dirt-covered roofs. Entrance was through one of the walls, usually to the east. The firepit was in the center or front center of the floor, in front of the door. Storage chambers and baking pits were dug below floor level, with a small opening at the top. In some of these pits were stored food supplies, in others were placed hot stones on top of which vessels of food could be cooked or baked. The sipapu is a perfect miniature in form of these ancient pits.

As Indians developed house building and surface structures, we find the beginning of kiva construction as we know it in its modern style. Most of the early kivas had side openings instead of the later type of ceiling entrance. So the belief is held that the first house type was carried over only for ceremonial purposes, that the fireplace is the same as in the pithouse, that the side door opening was gradually moved to the center of the roof, so as to provide smoke exit as well as human entrance, that the ventilator shaft now symbolizes the original side opening, and that the sipapu is a survival of the old storage or cooking pits.

The idea of this survival being used for ceremonial purposes hinges on the fact that Indians hold so much reverence for that which is old or primitive. Age lends wisdom and mystery. The ancient house would provide a proper environment for communication with the spirits of their forefathers, and in such manner could the wisdom of the old come to the new.

3. Another opinion, less widely held, is that the kiva is used only for the purpose of getting nearer to the heart and secrets of Mother Earth. Its subterranean location gives greater possibility of being surrounded by the spiritual presence of the earth and understanding her wishes.

This recognition of the earth as a mother is based on the facts of life. Indians are children of nature, and as such they recognize everywhere the essential duality of things and the great association of existence. Everything is either male or female, and the motivating forces of the two create life. Their deities are all designated by sex.

Perhaps the two commonest deities which are recognized as of prime importance and power are the Sun Father and the Earth Mother. The sun and heavens represent that great masculine force which covers the female or fertility force of the earth.

The Indians all sprang from the womb of Mother Earth in some way or another. Since she is the mother of all things she must know all things, and therefore, when they must know something or have counsel, they go into the kiva and meditate or pray that they may hear her voice.

In general, it may be said that the kivas are the most important spots in any Indian village. Legislative matters are frequently settled in them, as well as spiritual matters. Usually each clan has at least one kiva, for clan meetings, and then there will be a large tribal kiva in which representatives of clans may gather for tribal assembly.

There seems to be little distinction as to what men or boys may enter a kiva; however, it is tacitly understood that only those men of sufficient attainment and knowledge may regulate ceremonial or religious policies. Boys are known to undergo certain rituals of initiation into manhood in the kivas of several tribes.

Among the Pueblo Indians, while the chief or governor by popular vote is acknowledged as the secular head of the tribe, the ecclessiastical head, or head medicine man or cacique is usually the most influential. For a governor will seldom dare attempt anything of grave import without spiritual sanction, and this causes the priest to be the power behind the throne.

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# NOTES ON THE PROPOSED E.C.W. PROGRAM IN S.W. MONUMENTS

By Robert H. Rose

## GENERAL

Recent correspondence indicates that work along geological lines will be performed among some of the monuments of this district. The principal features of the different monuments vary a great deal running the gamut from geology through history and archeology. Where geology is the principal feature present the objectives we should strive for are quite clear. Where archeology and history are the leading features geology becomes secondary. However, in nearly all cases the geology of the regions in which the historical and archeological monuments are located bears an important relationship to the principal story to be told.

Popular demand is a first consideration in determining monuments where a geological program should be pursued. Visitors to Canyon de Chelly, for example, usually find the archeological story covering

approximately 2,000 years of time, the most important story of interest at that monument. There are many visitors, however, who express interest in the sheer colorful cliff walls and their origin. This interest frequently dominates their interest in all other phases of the monument. Thus geology comes at once into the scene at an archeological monument.

In many cases the physiography of the region actually determines the presence of the archeological or historical features. In such instances the geology must be woven into the fabric of the archeological or historical story exemplified at such monuments. This suggests that we must determine those relationships between geology and the other features present. Physiography amd topography made the region of Casa Grande favorable for human habitation by sedentary peoples during prehistoric times. These same factors are largely responsible for the prosperity of the region today. When we think of physiography and geology in terms of their contribution to human welfare, they become a vital part of the story of the ancient peoples themselves.

The ECW program must be given careful thought in order to insure tangible results. Worth while investigations will not be accomplished by visits of a few hours or even a few days at a monument like Chiricahua or Bandelier. Only the major outlines of the geological story can be worked out in such short times and frequently already there is more information available in U. S. Geological Survey bulletins and other sources than can be gleaned through cursory investigations. It is detailed work that is most needed. (1) The faults, folds, contacts between formations and other geological relationships in the immediate vicinity of the monuments must be mapped; and (2) specimems must be collected, identified, catalogued, and interpreted in non-technical language. There is also (3) the important problem of physiography as related to human welfare to be determined at historical and archeological monuments. If all of this work is carefully done, a clear record made, and the results in the form of maps and reports made available to the monuments personnel, we will then have collected data not already available in the geological literature.

Summarizing the above discussion, I believe that the Southwestern Monuments ECW geological program should be designed along the following lines:

(1) In monuments where the primary features are not geological, the relationship of geology, physiography and topography to the major features should be worked out. In the case of archeological monuments, introduce geology and physiography to show the adaptability of these localities for human habitation. Climate, physiography and topography have actually determined the type of life led by ancient peoples in these areas.

(2) Local geological relationships such as faults, contacts among formations, intrusions, folds, etc., not shown in detail in existing references, should be worked out thoroughly under this program and the results be made available. All of these relationships must be explained as to their significance in interpreting the geology of the region as a whole.

(3) A thorough program of collection, identification and non-technical description of geological specimens should be completed.

(4) A careful study of possibilities on exhibits in place should be made and reported upon.

(5) Attention should be given to the application of all of these studies to the problem of geological exhibits in the museum.

## MISCELLANEOUS NOTES ON INDIVIDUAL NATIONAL MONUMENTS

### Arches:

No development is contemplated in the immediate future at this monument. Geological projects in many other monuments are needed just now. After work has been done at monuments having priority over Arches, it would be highly desirable to institute a program of geological work there. The following projects would greatly facilitate the present and future educational program at Arches:

(1) Mapping of all geological relationships on a large scale vicinity map. This map should be supplemented with a good discussion of the significance of these local relationships to the geological story of the whole region.

(2) A program of collection of rock and fossil specimens should be instituted. Identifications, non-technical descriptions, etc., should accompany all geological specimens. These specimens should be made of value long after the program is completed, therefore the recording, identification, etc., must be done carefully and systematically.

(3) Possibilities for exhibits in place, trailsides, etc., should receive attention.

### Aztec Ruins:

The Archeological story at Aztec takes precedence over other educational features. Geological work at several monuments should take priority over Aztec. When such program is attempted at Aztec, it should be formulated along the following lines:

(1) The physiography of the region as related to human welfare in ancient times should be stressed.

(2) The types of stone, shell, etc., used in tools and ornaments should be identified. These stone materials should be correlated with their locality of origin.

(3) From various references supported by field observations the geological relationships present in the nearby hills and valleys should be mapped and discussed.

Bandelier:

Bandelier has a highly important geological story awaiting interpretation. Bandelier should take priority over all monuments with the possible exception of Chiricahua and Capulin Mountain as to the program of the immediate future. Bandelier's program should be designed along the following lines:

(1) That interesting relationship between physiography and adaptation to human habitation should be stressed at Bandelier. Physiographic events of the past have made the Bandelier region what it is today.

(2) There is a geological story at Bandelier which is constantly arousing visitor interest. The contacts, types of formations, work of erosion and the volcanic geology are phases that should be given attention at Bandelier. The significance of these details to the whole geological story of the region should be clearly set forth.

(3) Collection, identification and non-technical description of specimens should receive much attention.

(4) Bandelier seems to offer a number of possibilities for exhibits in place and trailsides. This most important study should receive careful thought in the program at Bandelier. Recommendations as to the best exhibits in place should be made.

(5) The matter of interpretation of geology by means of museum exhibits should receive attention.

Canyon de Chelly:

The vividly colored mesas and canyons of the de Chelly region never fail to arouse interest. The need for work at de Chelly takes high priority over the need for geological studies in most of the monuments. De Chelly's geological program should be fashioned along

the following lines:

(1) A bibliography of the geology of that region should be prepared. There should follow a report on the geological work done thus far. The various theories regarding the origin of the de Chelly Sandstone should be explained.

(2) Specimens should be collected, identified and described in non-technical language.

(3) The physiography of the region as related to human habitation should be given consideration.

(4) The matter of interpretation in the museum and along the trails should receive study.

(5) Possible locations for trailsides and exhibits in place should receive attention.

Capulin Mountain:

The main story to be told at Capulin Mountain is the story of volcanism. The following program should be completed at that monument:

(1) A geological map of the immediate region should be prepared on a large scale.

(2) Specimens should be collected, identified and described in non-technical style.

(3) The lines along which museum exhibits should center out to receive attention.

(4) The processes that are at work in volcanism generally ought to be discussed. A suggested outline of the important geological facts and inferences regarding Capulin, should be prepared.

Casa Grande:

Casa Grande receives heavy winter travel. The valleys and mountains nearby are typical of those found in a vast area in the Southwest, particularly southern Arizona, southeastern California, Nevada and parts of Utah. These facts would make it desirable ultimately to develop something of a regional center of information on geology at Casa Grande. The size of the region involved does not mean that exhibits along this line would be extensive. Following is an outline of suggested geological work that should be done at Casa Grande:

(1) The relationship between physiography and human habitation should receive attention and be stressed.

(2) Rock and shell materials used by the early inhabitants should be identified and discussed in terms of physical properties that made the use of these materials for certain purposes desirable.

(3) Rock materials should be identified and discussed in terms of localities from which they came.

(4) A general geological map of the region should be prepared and discussed in such manner as to be available for the information of visitors.

(5) Geological work performed by the forces of nature in the desert should receive attention.

Chaco Canyon:

The program in geology at Chaco Canyon is not pressing at the present time. Collection, identification, and description of specimens; working out local relationships and interpretation of their significance; and physiography in terms of human adaptation, are phases of geology for the monument that should receive attention.

Chiricahua:

Chiricahua probably ranks first in priority of need for a geological program. The area is of high rank scenically and geology is the principal interest there. The program is outlined for Chiricahua as follows:

(1) There is great need for a large scale map of the local geology showing contacts, faults, etc. The completion of the contour mapping makes possible the use of a good contour as a base map.

(2) Specimens should be collected, identified and accompanied by a non-technical description. These should be made available for the museum of the future.

(3) The physiographic story should be clearly outlined.

(4) Emphasis on the regional geology would not only be desirable but it would lend interest to the local Chiricahua story.

Several weeks will be required on the ground at Chiricahua in order

to do the detailed geological work needed. The general outlines of the story are known from existing references. Detailed work of the types mentioned above will contribute something that cannot be had in any other manner.

El Morro:

There is no pressing geological problem at El Morro. There should in time, however, be a program of collecting, local mapping and physiographic study carried on. All work should be done with the idea of aiding the educational program of the present and contribute to the museum of the future.

Gila Cliff Dwellings:

No development is planned at present at Gila Cliff Dwellings. The work at this monument ranks near the last in priority and should be done only after the completion of the program at other monuments. Collection and identification of specimens; local mapping of geological features; and the preparation of a report involving available references and original field work, will just about cover the work that ought to be done at Gila Cliff Dwellings.

Gran Quivira:

It is desirable that geological work be done at Gran Quivira but the need is not urgent for the immediate future. Collection, identification and description of specimens collected in the region; mapping regional geological relationships; and the study of physiography of the region as related to human habitation, are among the problems to be worked out at Gran Quivira.

Hovenweep:

No development is planned in the immediate future. However, a geologic project similar to that outlined above for Gila Cliff Dwellings, will apply for Hovenweep.

Montezuma Castle:

Montezuma Castle is situated in a region of considerable geological interest to visitors. Questions arise about the limestone cliff in which the Castle is situated; the formations of Oak Creek Canyon; the presence of the salt mines and of Montezuma's Well in the locality; and the origin of the mountains in which the mining operations are centered. All in all, a geological program for Montezuma Castle National Monument would be very desirable and would fill a real need. The project at Montezuma would consist of the following phases of study:

(1) The mapping of the geology of the immediate locality relating it to the geolcgy of the region as a whole.

(2) The collection, identification and non-technical description of a great variety of rocks and fossils. This will be a real task for all types seem to be represented in the general region.

(3) Physiography related to adaptation for human habitation is of great interest at Montezuma Castle.

(4) The matter of just what should be presented in the museum along geological lines should be considered.

Natural Bridges:

Geology is the major story to be told at Natural Bridges. General material is already available there and the story is not suffering there badly for the want of knowledge of its broader outlines. It would be desirable, however, to institute a detailed project of collecting, identification and description of specimens; mapping of a local area; and planning the story which a museum of the future should tell. A good clearly written report should be made available to the part-time custodian.

Navajo:

The geological story to be told at Navajo ranks high in importance. By popular demand geology must enter into the educational program there. Gregory has done extensive work in the region and the broader phases of the story there are not suffering. Therefore it is the detailed collecting, identification and description of specimens that is most needed at Navajo. Physiography as related to adaptation for human habitation comes in for a place of high importance at Navajo. Navajo is fortunate in having had close contact with Gregory and having fine works covering the general region.

Pipe Spring:

The basic geological data for this monument are to be found in various published works of the U. S. Geological Survey. There is a real need for a locality geological map and for a general resume of the literature. A good report applying to the locality would then be available to personnel at Pipe Spring. Some collection, identification and description of specimens should be attempted. The geology should be tied in with the region as a whole. There is a close relationship with North Rim of Grand Canyon and with Zion and Bryce. The need for work at Pipe Spring places its priority rather high.

Rainbow Bridge:

No development is contemplated in the near future at Rainbow Bridge. There is available in the literature enough material for a pretty good report of that monument. Study of the literature combined with a field trip there of short duration would enable one to produce an excellent report on Rainbow Bridge. Rainbow Bridge, North Rim, Zion and Bryce and that entire region can be correlated in an interesting way. The tie in which Rainbow Bridge has with that whole region would place priority pretty high on a project in geology.

Saguaro:

The working out of local geological relationships and the collection, identification and non-technical description of specimens, occur to me as projects that are needed in the immediate future at Saguaro. Saguaro cactus growth is very delicately related to temperature, topography, soil, etc. It might be possible to weave into the botanical story the facts on soil, climate and topography that make this world's finest stand of Saguaro possible in this area. There is genuine need for some geological work at Saguaro and hence the relatively small project there is given rather high priority.

Sunset Crater:

Robinson's famed U. S. Geological Survey paper on the San Francisco Volcanic Field gives basic material for Sunset Crater. Attention has also been given this monument by the Museum of Northern Arizona. From these sources it will be possible to draw up a map on large scale for our use. There is need, however, for the collection, identification and non-technical description of geological specimens. This material should be available to the personnel at both Walnut Canyon and Wupatki, and later to the personnel which Sunset Crater might have. In view of considerable work already done on Sunset locality, geological work at other monuments is more badly needed.

Tonto Cliff Dwellings:

Tonto is peculiar in that it is an example of a monument primarily archeological in interest but in which geology must be given an important place. Scenery of the region is spectacular and visitors seek information from the Tonto personnel about regional geology. The priority of need for a geological program at Tonto is placed high. At this national monument I would outline the geological projects of importance as follows:

(1) Regional physiography as related to human adaptation should be worked out. Here is an example of a region having nomads and sedentary people living in close proximity to each other.

(2) Regional physiography as related to the presence of mountain valleys at high elevation and to climate, topography, etc. The story of the origin of all of the great rivers of the plateau and desert provinces of the Southwest is exemplified in the story of the origin of the Salt River. The physiography of the Tonto region ties in with that of the Colorado River Plateau and the lower desert region.

(3) Geologic relationships are varied and rather complicated in the Tonto region. Field work and mapping on large scale locality map should be done. This should be interpreted as to its significance in the story of the geology of the whole region.

(4) The Tonto region offers a splendid field for the collection of geologic specimens. These rocks and fossils should be collected, recorded, carefully identified, and explained by non-technical description. In this way these specimens will serve as a guide in devising museum displays for the future.

Tumacacori:

It is desirable that a geologic program for Tumacacori be worked out. The immediate need for a geologic project however is greater at many other monuments where such studies would immediately amplify the lectures and field trips. A suggested outline for geologic work at Tumacacori would include the following points:

(1) Samples of all ores mined by the padres ought to be collected, identified and described. As much on early mining methods should be described as is known. An attempt should be made to photograph any old smelters which might still be in operation in northern Sonora.

(2) The immediate locality should be mapped geologically and the significance to regional geology explained.

(3) The physiographic account of the Tumacacori region should include northern Sonora.

Walnut Canyon:

Regionally, Walnut Canyon is related to the Sunset Crater-Wupatki-Grand Canyon-Montezuma Castle geological story. Thus, a geological project at Walnut Canyon is highly desirable in that the results would benefit a large group of monuments closely allied in geology. For Walnut Canyon the following program is suggested:

(1) A large scale geologic map should be prepared of the immediate locality. Sections should be made tying this into the region of San Francisco Peaks and Grand Canyon. Sections would also be interesting connecting the Walnut Canyon with Oak Creek region to the south. The Museum of Northern Arizona already has available much material which will be of assistance in this project.

(2) Specimens should be collected, identified and described, and be made available for future museum exhibits.

(3) A physiographic account of Walnut Canyon should be made available emphasizing the Canyon region in relation to its adaptability for human habitation.

(4) A study of proposed trailsides and exhibits in place should be made. Impressive geology is exhibited in the Canyon walls making it possible to bring people in contact with the real thing.

White Sands:

The geology of the region as a whole has made the strange environment there today. This environment has strangly influenced coloration, of animal life while plants show unusual ability to adapt themselves to abnormal conditions. Projects at White Sands should include the following:

(1) Sources of information now available should be consulted and significant material used in a White Sands report.

(2) Specimens should be collected, identified and described. These should come from the locality as a whole.

(3) Local geology should be mapped with special reference to the problem of indicating the origin of the sands.

(4) Characteristics of the White Sands environment in relation to adaptation of plant and animal life should be stressed.

White Sands stands high on the priority list. The available information has not been coordinated and no field work has been done. A good project at White Sands will result in basic information that has been needed for some time and which will be indispensable when it comes to installing museum exhibits in the proposed museum building.

Wupatki:

The Museum of Northern Arizona has done much work in the Wupatki-

Sunset Crater region and their publications and material should be consulted. There is also available at Grand Canyon the results of work involving Wupatki geology. From existing references there is available sufficient material to work out a good story of the Wupatki locality and to draw almost all needed locality geological maps and cross sections. Hence at Wupatki I would suggest the following projects:

(1) Consult all existing references and complete the bibliography from various incomplete lists available.

(2) From field work and references prepare the needed sections and locality geologic maps.

(3) Initiate a comprehensive program of collection of specimens and see that they are identified, catalogued and carefully described. Make them available for the museum planned there for the future.

(4) Emphasize the relationship between physiography and topography and adaptability for human habitation.

(5) Canvass the area thoroughly for good exhibits in place, trailsides, etc.

Wupatki is unique in that it lies along the margins of the plateau and the San Francisco Volcanic Field. This has had an interesting effect on vegetation, animal life and adaptation of the region for human occupation. Wupatki can be developed into a station serving as the connecting link between Grand Canyon and San Francisco Volcanic Field geology. All the more important is the fact that at Wupatki visitors will be able to see these relationships first hand. On account of this unique position of Wupatki, I would place rather high priority on a geologic project for that monument.

Yucca House:

No development is contemplated in the near future at Yucca House. A geologic project performed under this proposed ECW program would, however, be of permanent value and would make results available when development is carried out at this monument. Following are suggested points to include in such a project:

(1) Make a complete collection of specimens of the locality, catalogue and identify them, and accompany each with a good description. Always keep in mind the significance of single specimens as means of interpretation of regional geology.

(2) Correlate all available references into a bibliography of

Yucca House region.

(3) Effect a close tie-up of Yucca House-Hovenweep-Mesa Verde in the work to be done. After all, geologic conditions of similar character persist from locality to locality without regard to boundaries of individual parks and monuments as long as the same formations and the same physiographic events apply.

(4) Prepare a locality geological map making all geological relationships clear so future personnel will have an easily read source of information.

(5) Consider the physiography and topography in the light of adaptation of the locality to human habitation.

## MONUMENTS PRIORITY LIST ON GEOLOGIC PROJECTS

The Southwestern Monuments are listed below under three headings. These headings show (1) monuments where geologic projects are urgently needed in the educational program at the present time; (2) monuments in which geologic projects would be highly desirable but where the need is hardly as urgent as it is in monuments of the first list; and (3) monuments where the need is not urgent now but where such projects would be desirable making results available for future use.

| Geologic Projects Urgently Needed | Geologic Projects Highly Desirable | Geologic Projects Desirable for Future Educational Development |
|---|---|---|
| 1. Chiricahua | 1. Montezuma Castle | 1. Casa Grande |
| 2. Bandelier | 2. Wupatki | 2. Tumacacori |
| 3. White Sands | 3. Walnut Canyon | 3. Navajo |
| 4. Capulin | 4. Pipe Spring | 4. Rainbow Bridge |
| 5. Canyon de Chelly | 5. Sunset Crater | 5. Natural Bridges |
| 6. Tonto Cliff Dwellings | 6. Chaco Canyon | 6. Saguaro |
| | 7. Arches | 7. Gran Quivira |
| | | 8. El Morro |
| | | 9. Yucca House |
| | | 10. Hovenweep |
| | | 11. Gila Cliff Dwellings |

It is difficult to assign priority numbers within each group. In Group (1) for example, Tonto and Canyon de Chelly in some respects need a project worse than Bandelier and Chiricahua because at the former two monuments the problems are more controversial or complex. Therefore the need for projects at monuments under the first list is almost equally urgent.

Priority numbers for list (2) are almost equally hard to assign. In some respects, Walnut Canyon, Wupatki, Sunset Crater and Montezuma Castle should be lumped together under the list of monuments urgently needing geological projects. The reason for this lies in the fact that all can be correlated and projects at any one will supplement or complement projects at all of the others thereby covering a vest region having similar or related geology.

From (1) to (9), inclusive, Group (3), the needs are about equal. The remaining three in this group belong definitely at the bottom of the list.

## SUMMARY

Preparation of geologic maps on large scale for each locality; collection, identification and description of specimens; and solving problems relating physiography and topography with adaptability to human habitation, carry through as desirable projects at practically all monuments. Pursuing these detailed projects, it is believed that tangible results will be achieved. The data and reports compiled will yield detailed information not already available in existing publications.

The compilation of a bibliography on the geology of Southwestern Monuments is going to be possible as studies are completed at several monuments. Each report will be appended by a bibliography of the particular monument with which it deals. These monument bibliographies will suggest reference material for monuments personnel.

It is clearly seen that these results can be achieved only by assigning geologists to each monument for sufficient time to really complete the projects. For monuments like Bandelier and Chiricahua several weeks - perhaps months - will be required while the time required at others will be perhaps somewhat less. At any rate, each project should be thoroughly done once it is started.

Through all of this work the fact should be remembered that the purpose behind it all is the improvement of service to monuments visitors. This is achieved through making the information available to monuments personnel and to the visitors themselves. The reports, maps and other data will become the basic source of information in geology for the present and future educational services.

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# GREEK LETTERS ON THE CASA GRANDE

The following correspondence will be of interest to those who have noted the Greek letter inscription on the west wall of the west room of the Casa Grande:

"Dear Sir:

"In 1878 I traveled with a party of prospectors from northern Arizona en route to the newly discovered Tombstone mines which were then putting Arizona on the map. At Florence we laid over three days awaiting a clear up from a rain that we had experienced for many hours. One of those days there was a partial clear up and taking advantage of it in company with my partner Bill Hartt visited the historic Casa Grande. The date was December 31, 1878 or New Years day following. I was barely twenty-one years old, fresh from an eastern college and full of enthusiasm for my college and fraternity.

"My son and daughter report stopping off at the ruins one day last week and listening with interest to your story of the structure. You were at a loss to account for certain characters on a wall, when my son remarked "My Dad must have put them there in 1878. They are the Greek letters Delta Psi. -- the name of his college fraternity." I presume I must plead guilty to vandalism for I have a faint recollection of using the point of a small prospectors pole pick which I carried to scratch $\Delta\ \Psi$ on the wall. Among the objects found was a short piece of round pine pole charred at one end, the other showed the cuts made by some dull instrument probably a stone axe. This piece about twelve or fourteen inches long and perhaps five or six inches in diameter must have been the end of a vega or roof timber. We carried this away and later sent it to Mr. Lewis Morgan of New York the eminent collector of Indian relics.

"Last year the Acme Publishing Company of Tucson published a book by me entitled "Log of An Arizona Trail Blazer." On page 28 I refer to the wet journey southward and the side trip to the Casa Grande.

Very truly,

(Sgd) J. A. ROCKFELLOW"

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"Mr. J. A. Rockfellow
Cochise Stronghold Ranch
Cochise, Arizona

"Dear Mr. Rockfellow:

"Your letter of October 7 was received today and occasioned great interest in this office. I remember your son's visit here and his mention of the possibility of your having put the letters Delta Psi

upon the wall of the Casa Grande. We are glad to get this definite information regarding the inscription.

"Your mention of your partner's name, Bill Hartt, raises the further question of the possibility of his having had something to do with the outline of a heart carved in the wall to the left of the Delta Psi. This heart looks as though it had been put in with the same tool and at the same time as the Delta Psi. In relation to each other they look something like this:  Can you throw some light on this also?

"We are also interested in your mention of securing a piece of pine roof timber and sending it to Mr. Lewis Morgan of New York. Do you know if there would be any chance of getting that timber back, either as a loan or as a gift for our monument museum? We would particularly like to get hold of it to ascertain its tree-ring date. As you probably know, Dr. Douglass of the University of Arizona has carried his tree-ring research to the point where he can accurately date nearly any piece of pine grown in this part of the country. Unfortunately the tree-ring method of dating was perfected after most of our Casa Grande timbers had disappeared. Consequently we have been unable to place an exact date on the building. If we had more timbers this might be possible. No original wood can now be seen in the ruins.

"Could you furnish us with Mr. Morgan's address so that we might get in touch with him?

"We were very glad to hear from you and your further cooperation would likewise be highly appreciated.

Sincerely yours,

(Sgd) W. J. WINTER
Custodian"

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W. J. Winter
Coolidge, Arizona

Dear Sir:

Your surmise is correct and has brought to mind many amusing recollections in regard to Bill Hartt (William A.). We were boys together in Rochester, New York, and came west together as partners. He used the customary figure of a heart in which were inserted eyes, nose, and mouth, his trade mark he termed it. It appeared on the fly-leaf of all his books and other belongings and was cut or scratched on many objects, and finally on the walls of the Casa de Montezuma as you see.

By the way, this name was what the Mexicans applied to the Casa

Grande in that day. I was five feet five while Bill was six feet two, hence as we stood on the pieces of debris his long arm reached higher up on the wall than mine. Hartt became quite prominent in mining circles but died while in the early forties.

Regarding the piece of roof timber: We discussed its use and the disposition of it. Bill wanted it to go to the Morgan collection, and I had in mind the University of Rochester. So good naturedly we split it lengthwise each taking half. Unfortunately my piece was lost on the way back to Florence. I planned going back for it but our party was ready to move at an early hour next morning and we took the road to Tucson. The Morgan half of the timber was sent on and duly acknowledged with appreciation. I have no idea what has become of the Morgan collection, possibly Dr. Cummings of the University of Arizona might be able to learn of its disposition.

Very truly yours,

(Sgd) J. A. ROCKFELLOW

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Mr. J. A. Rockfellow
Cochise Stronghold Ranch
Cochise, Arizona

Dear Mr. Rockfellow:

We have your letter of October 17 and are interested to hear that Mr. Hartt did put the heart on the wall of the Casa Grande.

Upon closer inspection I notice that the name of W. A. Hartt appears further up on the same wall. Beneath it is the barely decipherable name of Rochester. The heart also appears on the wall of the South room.

Many thanks for your further information regarding the timber.

Sincerely yours,

(Sgd) W. J. WINTER
Custodian

# NEW BOOKS IN THE LIBRARY

Following is a list of new books received in the Headquarters Library. Clip this list and add it to the list published on Page 205 of the September report.

165p. American Anthropologist, Vol. 37, No. 4 (Part 1) American Anth. Assoc. 450-4 Ahnaip St., Menasha, Wisc. Oct.-Dec., 1935.

189a. American Antiquity, Vol. I, No. I, July, 1935. Society for American Archaeology.

1. Certain Bluff Mounds of Western Jersey County, Illinois, By P. F. Titterington
2. Archaeological Field Work in North America during 1934 (Part I).

450-454 Ahnaip Street, Menasha, Wisconsin.

190. Yuman Tribes of the Gila River
By Leslie Spier. University of Chicago Press, Chicago, Ill., 1933. 433 pp.

191a. The Ethnobotanical Laboratory at the University of Michigan. Occasional Contributions from the Museum of Anthropology of the University of Michigan, No. 1.

By Melvin R. Gilmore. U. of Michigan Press, Ann Arbor, Mich., June 7, 1932. 36 pp.

191c. Standards of Pottery Description. Occasional Contributions from the Museum of Anth. of the U. of Michigan, No. 3.

By Benjamin March, with an Introductory Essay by Carl E. Guthe. U. of Michigan Press, Ann Arbor, Feb. 10, 1934. 55pp.

192a. Kinship Systems and the Forms of Marriage Memoirs of the Am. Anth. Association, No. 45.

By Bernard Willard Aginsky. 1935. Am. Anth. Assoc., Menasha, Wisc. 102 pp.

223. The Reptile Book
By Raymond Lee Ditmars. Doubleday Doran and Co., New York, 1935, 472 pp.

224. Insects of Western North America
By E. O. Essig. New York, MacMillian Co., 1934. 1035 pp.

225a. How to Collect and Preserve Insects. Am. Mus. of Nat. Hist.
b. Guide Leaflet No. 39. Seventh Edition. By Frank E. Lutz April, 1930. 27 pp.

226a. The Preparation of Rough Skeletons. Am. Mus. of Nat. Hist. Guide Leaflet No. 59.
By Frederick A. Lucas. 15 pp.

227a. The Preparation of Birds for Study. Am. Mus. of Nat. Hist. Guide Leaflet No. 58. 2nd Issue, revised.
By James P. Chapin. 1929. 48 pp.

228a. The Capture and Preservation of Small Mammals for Study. Am. Mus. of Nat. Hist. Guide Leaflet No. 61.
By H. E. Anthony. 54 pp.

229. Field Book of North American Mammals
By H. E. Anthony, G. E. Putnams Sons, New York, 1928. 625 pp.

230. The Small Mammals of Colorado. Colorado Mountain Club Publication No. 7.
By Edward Royal Warren. Colorado Mountain Club, Denver, Colorado, June, 1921. 31 pp.

231. A Handbook of Reptiles and Amphibians of the Pacific States
By Joseph R. Slevin. San Francisco Academy of California Sciences, 1934. 73 pp.

232a. Bird-Banding. Vol VI, Bulletin of the Northeastern Bird-Banding Association. No. 4.
October, 1934. River Crossroads, Peterboro, N. H.

233a. b. Biological Investigations in Alaska and Yukon Territory. U.S. Dept. of Agric., North American Fauna, No. 30.
By Wilfred H. Osgood. Gov. Ptg. Office, 1909. 96 pp.

233d. A Systematic Synopsis of the Muskrats, U. S. Dept. of Agric., North American Fauna, No. 32.
By N. Hollister. Gov. Ptg. Office, 1911. 47 pp.

233e. f. Revision of the American Marmots, Bureau of Biol. Survey, U. S. Dept. of Agriculture, North American Fauna, No. 37.
By Arthur H. Howell. Gov. Ptg. Office, 1915. 80 pp.

233g. A Review of the American Moles, U. S. Dept. of Agric., Biol. Survey, North American Fauna, No. 38.
By Hartley H. T. Jackson. Gov. Ptg. Office, 1915. 98 pp.

233i. A Systematic Account of the Prairie Dogs, U. S. Dept. of Agric., Biol. Survey., North American Fauna, No. 40.
By N. Hollister. Gov. Ptg. Office, 1916. 37 pp.

233k. Life Zone Investigations in Wyoming, U. S. Dept. of Agric.,
l. Biol. Survey, North American Fauna, No. 42

By Merritt Cary. Government Printing Office, 1917. 95 pp.

233m. Revision of the American Pikas, U. S. Dept. of Agric., Biol.
n. Survey., North American Fauna, No. 47.

By Arthur H. Howell, Government Printing Office, 1924. 57 pp.

233o. Alaska-Yukon Caribou, U. S. Dept. of Agric., Biol. Survey, North
p. American Fauna, No. 54.

By Olaus J. Murie. Government Printing Office, June, 1935. 93 pp.

363. Conservation in the Department of the Interior

By Ray Lyman Wilbur and William Atherton Du Puy, Government Printing Office, 1931. 253 pp.

364. "Mormonism" and Masonry

By E. Cecil McGavin, The Desert New Press, Salt Lake City, Utah. 1935. 87 pp.

400a. Rocky Mountain Flowers
b.

By Clements and Clements. H. W. Wilson Co., New York, 1928. 390 pp.

401a. Forest Trees of the Pacific Slope. U. S. Dept. of Agriculture,
b. Forest Service

By George B. Sudworth. Gov. Ptg. Office, 1908. 441 pp.

402. Manual of the Grasses of the United States, U. S. Department of Agriculture, Misc. Publ. No. 200.

By A. S. Hitchcock. Government Printing Office. 1935. 1040 pp.

403a. Arizona Cacti. Biological Science Bulletin No. 1, Vol. IV,
b. No. 3, University of Arizona Bulletin.
c.

By William Palmer Stockwell and Lucretia Breazeale. University of Arizona, Tucson, Arizona. April 1, 1933. 116 pp.

# SEVENTEEN YEARS AGO —

(Note: In view of the recent hullabaloo about ball courts at Snaketown and in the Flagstaff region, it is interesting to find that Mr. Pinkley, 17 years ago, stated he thought the oval mounds were for "ceremony, games, "or festivals." - DSK)

Blackwater, Arizona
December 2, 1918.

Dear Mr. Mather:

I beg to make the following report of conditions at the Casa Grande Ruin National Monument during the month of November, 1918.

During the month 146 visitors and 101 automobiles entered the reservation. I feel sure that health conditions throughout southern Arizona has interfered with our usual number of visitors. On account of Spanish Influenza several towns have been under quarantine most of the month and people living in the few uninfected spots have hesitated to move around because of the restrictions.

I had intended making a trip to the Tumacacori Mission early in the month and had my plans all laid when Tucson and towns near the border began taking strict measures on account of the Influenza and I have had to postpone the trip again. I trust you will not think me remiss in this duty for I am much more anxious to go than you are to have me, but until the epidemic abates, I think it would be unwise to make the trip.

FINANCES

Income. There has been no income from any source during the month.

Disbursements. Total expenditures amounted to $70, all for the pay roll for the cleaning and repair work we have underway. I mailed two pay roll sheets under date of November 10, amounting to $30, and am mailing another under separate cover amounting to $40. This brings the total expenditures so far from our allotment of $500 (Service letter of September 9) up to $276.04.

CLEANING UP

Compounds A and B are now entirely free of brush with the exception of a few clumps which we have left in some of the plazas where they can do no harm and where they relieve somewhat the bareness of the walls. The improvement is quite marked.

We have also started clearing up the underbrush and trimming some

large mesquite trees between Compounds A and B to make some suitable camping and picnic grounds. While some of the mesquite trees on the reservation are quite large, they tend to grow close to the ground and we have never had good places for parties to camp and eat lunches. None of the desert growth can be made to give an ideal shade, but this clearing up will greatly improve matters and can be made to answer present needs until increased traffic demands further improvements in the way of developing a water supply sufficient for irrigation. We can then park some of the ground and start grass and trees which require more water than our normal rainfall supplies.

During the latter part of the month we have been constructing a bathroom and porch addition to the Custodian's quarters. We were greatly hampered in this work by bad weather, but have the roof on now and will finish the addition with a few more days work. This addition will be so satisfactory that instead of putting a new custodian's quarters somewhere near the head of our needs for this monument, it may now be dropped down toward the last things to be provided. With a few minor repairs now and then, the present house will do until Compound A is entirely cleaned up and protected, which may be several years.

FENCE NEEDED

The early part of November was very dry and range stock drifted in on the reservation hunting feed and water. They have damaged some of the walls and have caused an infinite amount of bother and some extra work cleaning up after them. The rains in the latter part of the month provided relief by filling water holes out on the desert, but I was strongly reminded of the need of fencing the reservation with a good woven wire fence, while the condition existed.

DISCOVERIES

I have recently discovered an error in Padre Font's diary which was written in October, 1775.

After his description of the Casa Grande he proceeds to describe a two story to the east. This description is so good that, though the building had all fallen in except a piece of one wall, when we excavated the base of it in 1906-07 we had no difficulty in recognizing it as the one Font described and it was named the "Font Room."

After describing it, he drew a ground plan and in that plan figured the door in the south side. When we opened the room we examined the south wall very carefully but were never able to locate the door. Recently the east wall of this room got saturated with rain water and sloughed about a hundred pounds of material. Upon examination I found a disintegrated mesquite lintel buried in the

wall and further investigation disclosed the doorway in the center of the east wall instead of the south wall as Padre Font figured it.

I suppose the Father took his measurements and made some rough notes while he was here at the Ruin but wrote up his diary that night at the Pima village which was several miles down the river. After writing his description from his notes, he probably decided to draw the plan and then made the error of putting the door in the wrong side of the plan.

ELLIPTICAL MOUNDS.

Centrally located in the Casa Grande group of mounds occurs an elliptical mound measuring about 125 feet by 80 feet and having a depressed center, the bottom of which is approximately on the level of the outside desert. This mound is quite distinct from all other classes of mounds and should be classed as a separate type. Others of this type occur in some of the other groups of mounds in the Gila and Salt River valleys.

The following are some of the characteristics of these elliptical mounds.

I. SHAPE. Roughly elliptical, longer axis northerly and southerly.

II. Location. Centrally located in the village.

III. Elevation. Never sunk flush in the desert level but raised above it.

IV. Size. Varies.

V. Occurrence. Never more than one to the village, but some villages do not have one.

I have heard the following theories advanced about these elliptical mounds.

1. Reservoir
2. Well
3. Threshing floor
4. Corral to hold stock
5. Dew Ponds
6. Ceremonial chambers

For some time I have thought the investigation of these mounds one of the most interesting problems we could undertake to solve. The investigation will not be very expensive, can be carried on as opportunity offers, and the results may develop a new idea of the

culture of the people who inhabited the Gila and Salt River Valleys.

On page 112, of the 28th Annual Report of the Bureau of American Ethnology, Dr. Fewkes, speaking of these mounds, says:

> "Similar areas inclosed by artificial circular ridges of earth are found in several of the clusters of mounds in the Gila and Salt River Valleys, among which may be mentioned the one in the group near Adamsville, and the reservoir at Casa Blanca. The Escalante group situated near the Phoenix-Florence Railroad, also contains a similar reservoir."
>
> ***
>
> "On the southwest side of the large reservoir (Casa Grande) is a depression from which were obtained the sand and earth out of which walls were made, and a similar depression on the east side may have been due to a similar cause."
>
> ***
>
> "Here and there, especially near the large mounds, occur numerous depressions in the earth's surface, some of which are possibly reservoirs, or places where the water was stored for irrigation, drinking and other purposes. Most of these depressions are surrounded by a ridge of earth, by which their capacity was increased and the chances for overflow diminished. Their prevailing shape is oval. The indications are that they have been filled to a considerable extent with drifting sand since Casa Grande was deserted. The largest is situated about midway of a line extending from the northwest corner of Compound A to the southeast corner of Compound C. It was supposed that this reservoir was lined with a cement wall, but a section exposed through the rim on the south side, which was solid sand throughout, revealed no such condition. It is interesting to note that the floor of this reservoir is now thickly overgrown with trees and bushes, although without Water."

It will be seen from the above quotations that Dr. Fewkes, at the time, 1906-07-08) thought these mounds were reservoirs. The same conclusion is reached by about 80% of my visitors but I find upon examination their logic is that in this desert country anything which could hold water must have been used for storage purposes. This mound would hold water, ergo, it must have been a reservoir.

I have long opposed the reservoir theory. Why should reservoirs be elliptical and their longer axis lie northerly and southerly? If they are reservoirs, why were they not sunk flush in the desert where the water could run into them instead of building them up above the desert level from four feet in some instances to about eight feet here

at the Casa Grande? Having the rim of the reservoir that high above the desert level, how is the water to be introduced into it? No signs of dyked ditches ever occur near these mounds.

While Dr. Fewkes speaks of these mounds in the text as reservoirs, note that in the map inserted opposite page 37 in the report above cited, the mound is labelled a "well."

The theory here is that instead of digging a small shaft and letting down a bucket with a rope, as we would do today, these people dug a funnel shaped hole deep enough to reach water and then walked down the sloping banks and dipped their ollas into the water at the bottom.

The following objections can be brought against this theory: a. Too much dirt in the bank. If it is a well, we must say it has been filled up to the present desert level by the slipping of the banks and small amounts of wind drift material. It is already filled inside to about the desert level outside and we still have enough earth left in the banks to fill another such hole. b. The dirt in the bank did not all come from the inside of the mound. Dr. Fewkes speaks of a depression on the southwest and east sides, on the outside of the mound and I am inclined to think the dirt was not removed from these pits so far as to be used in walls of buildings, but simply thrown up into the mound a few feet away, thus helping to raise the mound. If this surmise is true, why raise the bank of a well by bringing earth from the outside? c. The dirt in the bank is not of the right character to have come from the formation in which we find the water under the desert. The desert formation in this section of ground consists of from twelve to sixteen feet of sand, loam and caliche, and then straight sand and gravel with some boulders six inches in diameter down to the water level at about 43 feet. No gravel or boulders occur on or in this bank as is shown by the cross-cut made by Dr. Fewkes in 1907-08. d. This type of mound does not vary as the depth to ground water varies. Instead of doing so, cases can be shown where the variation is inverse instead of direct.

The next theory is that these mounds were the threshing floors.

Now the Pima Indians, with five miles of this proposed threshing floor, are still threshing small grain as the Hebrews did 2500 years ago, - tramping it out under the hoofs of animals. They use a circular space about 30 feet in diameter with no bank over a foot or two high around or near. They want a clear space so the wind will blow across from any direction and winnow the grain when it is thrown into the air. Why then, if this mound is a threshing floor, should the people go to the trouble to erect a seven or eight foot bank around it, thus making a dead air pocket where the grain would not winnow well?

The next theory is that the mound was a corral to hold stock. Bartlett proposed this in 1852. Granting that the people had domestic stock of any kind, why should they not build a wall to corral their animals instead of throwing up a bank of earth seven or eight feet high and sloping inward and outward at such an angle that any animal could walk out over the top at any place?

The next theory is that these mounds were dew ponds. In the thousands of visitors I have talked with here at the Casa Grande, only one man ever proposed this. Yet is not beyond the bounds of possibility, is a very interesting theory, well worth reading up, and with certain chances of publicity if it were handled in connection with the dew ponds of the old world. Of course, the objection which rises at once, is that in this desert country we don't have enough dew to amount to anything.

The last theory is that these mounds were ceremonial chambers. This seems to have been Mrp Cushing's conclusion as reported by Dr. Fewkes on page 112 above cited.

For several years I have leaned toward a variation of this theory as being the most logical answer for the various characteristics above mentioned. My idea is that the mounds were gathering places for the people for ceremony, games or festivals.

Their shape, elliptical with long axis northerly and southerly, might have been a ceremonial matter and not a need of construction.

They are centrally located so that the whole village might get to and from them easily.

Their banks are elevated above the plain so the sloping inside might be used to seat a congregation in ranks one above the other.

Their size varies, not with depth to ground water, but with the size of the village, the large population needing more seating capacity than the small one.

They occur never more than one to the village because one satisfied the need of the whole village, and some villages have none, possible because they could join at such times with the neighboring village.

This theory is the only one of the six examined which seems to satisfy the five fundamental facts of the typical elliptical mound.

The above arguments cover the known facts up to the first of last month, but during November I have experimented a little on the elliptical mound between Compounds A and B. I have sunk some test

pits and have determined as a fact that the bottom of the depression in the mound was covered with a caliche floor, well packed down, and that at least the west side and the north end have sloping caliche surfaces at least part way to the top.

I am making a contour map of this mound and intend to sink some further test pits and make this a matter for a special report during December. This type of mound has never been played up for what it is worth. Almost any article on southwestern archaeology goes into the details of the kiva and cultural areas are built upon it, while here is a type of gathering place which, I feel sure, may be akin to it, and which has been entirely overlooked.

Cordially yours,
Frank Pinkley
Custodian, Casa Grande Ruin.

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

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## THREATENING ROCK

Extract from letter of Mr. & Mrs. John Keur, Long Island University, Brooklyn, N. Y.

When I wrote you last your may recall that I stated in my letter the unsatisfactory way in which we have been trying to detect movement of Threatening Rock at Chaco Canyon. On my return from the Southwest, I visited several engineering concerns here in New York City to find out if they could suggest some sort of an instrument that would detect small movements. The firm of Keuffel and Esser proposed the installation of a vernier scale at the base of the rock near the back mesa wall near the east end. As you know there is a large horizontal split there, extending from the back of the rock toward the front. The width of this crack near the back wall is about 3/4 inches and an enlargement of that gap would show that the rock is slowly settling forward. No firm here could suggest a way, however, to measure any widening that might occur of the gap between the top of the rock and the mesa.

Now I just read Engineer Hamilton's suggestion in the October Monthly Report (yes, I read the report from soup to nuts), and am greatly interested to find out if his suggestion will receive your approval. My only criticism of his proposed installation is the qestion: Can the two rods be grouted firmly enough and will they indicate vertical movement. The rock is not just moving forward--if it moves at all--in a horizontal plane, but it tends to lean and tilt forward. Any arrangement of rods should be constructed in such a way as to catch this increasing forward lean.

Therefore, may I suggest that in addition to Mr. Hamilton's

installation the placing of a vertical vernier might be considered to show any widening of the horizontal crack near the base of the rock. You see that the rock is still very much on our mind. Dot and I propose to give a short talk at Andover in December when the American Association of Anthropologists meets and tell them something about the engineering methods of the prehistoric Indians - as well as some other interesting features about Southwestern Monuments. We hope to do justice and be a credit to your organization.

In retrospect every summer seems to give us more enjoyment, the more contacts we make with the monument personnel the nicer they treat us. We regret that we didn't see you the past summer - but maybe next year.

In closing may we extend our heartiest congratulations to you for completing thirty-five years with the Southwestern service. Maybe Bob Rose will tip us off and tell us the exact date. We hope that you may enjoy many more years of service.

With best wishes of the season and best regards to all our friends.

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# BIRD BANDING

By Dale S. King

On a following page is the first recorded compilation of birds banded at Southwestern Monument stations during our recently begun activities in this line. Since all stations, except Casa Grande, ~~have been established only recently, and have been~~ handicapped for lack of bands, we feel that a total approaching the 500 mark is a distinct accomplishment.

Bandelier

Betty Jackson, a capable observer, has just started banding at this Monument. The constantly-flowing Rito de los Frijoles makes water traps relatively unattractive, so banding probably will progress at a rather slow rate, depending on experimentation in attractive baits. As yet, birds there have not become accustomed to the feeding places, but totals will increase cumulatively soon.

Casa Grande

This station was established last March, but banding was retarded by meager band supply. We are learning rapidly the capabilities of our traps and baits, and have banded a satisfactory number of species, some rather unusual at banding stations.

Encouraging is the number of returns already obtained---15. These include a Say Phoebe, several Cactus Wrens, and mostly Gambel Sparrows which were banded last spring. After three or four years, these and other similar records will prove extremely valuable.

Montezuma Castle

Norman Jackson, Research Associate in Ornithology, Museum of Northern Arizona, has been given permission to band at Montezuma, and started operations the middle of the month. He was forced to desist, due to inroads of dogs and house cats, as well as bait robbing by rock squirrels.

Placing of traps on platforms supported by posts equipped with catguards probably will help his situation. A poultry wire guard fence encircling the trapping station, as explained by the Biological Survey manual, will also aid.

Mr. Jackson has also run into the peculiar Junco situation which has been bothering Milt Wetherill at Navajo. Jackson confidently identified a specimen as Montanus, only to have L. L. Hargrave at the Museum of Northern Arizona express grave doubts. Hargrave believed the bird might be Oreganus.

Milt some months ago aided a visiting ornithologist collect specimens of the four types of Juncos that were supposed to inhabit Betatakin Canyon. All four proved to be hybrids!

The Monument stations better be careful when banding juncos!

Navajo

Milt Wetherill, Trail Foreman, has been banding on his own time since last spring at this Monument, chiefly in the vicinity of Betatakin Ruin. No report has been received of his activities in this line since August, so the tabulation is only partially complete. Recently he has been equipped with more traps, so next season should bring excellent results.

Walnut Canyon

This Monument, where Paul Beaubien is banding during his spare time on days off, is the prima donna of Monument banding stations. Lack of bands limited Paul's total to 55 birds during October. Then bands arrived, Paul banded four days, AND BANDED 237 MORE BIRDS!!! He has, with the help of Wildlife Technician Russell Grater, rigged up a trap which controls the only available water supply, and one pull of the trigger string may catch about 20 birds. December may not be such a profitable month, since snow will decrease effectiveness of the water trap, but next spring should see Walnut Canyon becoming our finest station, and one of the major amateur stations of the country.

# S.W. MONUMENT BIRD BANDING TOTALS

(Not including Repeats and Returns)

| | Bandelier | | Casa Grando | | Montezuma | | Navajo | | W'n't Cany | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Prior | Nov | Prior | Nov | Prior | Nov | Prior | Nov | Prior | Nov | |
| Bluebird, Ches-backed | | | | | | | | | 27 | 188 | 215 |
| Crossbill, Bendire | | | | | | | | | 7 | 10 | 17 |
| Chickadee, Mt. | | | | | | | 6 | | | 3 | 9 |
| Dove, Western Mourning | | | 2 | | | | | | | | 2 |
| Finch, House | | | | 25 | | | | | | | 25 |
| Flycatcher, Ar. Crested | | | 2 | | | | | | | | 2 |
| Goldfinch, Green-backed | | | | | | | | | 2 | | 2 |
| Jay, Long-cr. | 5 | 3 | | | | | | | | | 8 |
| Jay, Woodhouse | | | | | | | 4 | | | | 4 |
| Junco, R-backed | | | | | | | | | 3 | 2 | 5 |
| Junco, Shufeldt | | | | | | | | | 1 | 1 | 2 |
| Nuthatch, Pyg. | | | | | | | | | | 20 | 20 |
| Owl, W. Horned | | | 1 | | | | | | | | 1 |
| Phoebe, Say | | | 12 | 2 | | | | | | | 14 |
| Quail, Gambel | | | | | | 5 | | | | | 5 |
| Road Runner | | | 2 | 1 | | | | | | | 3 |
| Robin, Western | | | | | | | | | 4 | 3 | 7 |
| Sapsucker, R-na. | | | | | | | | | 3 | | 3 |
| Sapsucker, Rocky Mt. | | | | | | | | | 2 | | 2 |
| Siskin, Pine | | | | | | | | | 1 | | 1 |
| Solitaire, Townsend | | | | | | | | | | 7 | 7 |
| Sparrow, Gambel | | | 30 | 5 | | | | | | | 35 |
| Swallow, Rough-winged | | | 3 | | | | | | | | 3 |
| Thrasher, Bendire | | | 3 | | | | | | | | 3 |
| Thrasher, Crissal | | | 4 | 2 | | | | | | | 6 |
| Woodpecker, Gila | | | 2 | | | | | | | | 2 |
| Woodpecker, Mearns | | | | | | | | | 5 | 3 | 8 |
| Wren, Cactus | | | 23 | 2 | | | | | | | 25 |
| Sub-total | 5 | 3 | 84 | 37 | | 5 | 10 | | 55 | 237 | |
| Total | | 8 | | 121 | | 5 | 10 | | | 292 | |

Grand total 436

# RUMINATIONS

Chief, as I looked over this report as the pages were gradually accumulating I was struck with two big little things which are recorded in it.

The first is Jimmie Brewer's report on the results of his questionnaire thus far. It is a little thing pretty well buried in these pages; not many people will notice it in reading this report, but it deals with one of the most vital problems which we have before us. Our basic problem is of course protection and then next after it comes the problem of the visitor.

The second big thing, which few if any of the readers will notice is the increased number of officials who are visiting the reservations under our care this fall. Looking back over the November Report of a year and two years and three years ago, I am struck with the increased number of men who are coming around to advise with us and to whom we must refer this detail and that detail for approval.

I am not bringing this to your attention in any attitude of criticism, for they are all good men and true and are working hard to earn their various salaries. We like to have them come around and enjoy getting their specialized angle on our work. It is true there are times when we think they take themselves a trifle too sericusly--a little humor being a fine thing in these trying times--and it is also true we sometimes get exasperated at the long gauntlet of approvals we have to run before we can turn our waiting workers loose on the job, but these after all are minor matters and we can survive them as we have all our other growing pains.

Rather than do away with these specialists, I am wanting to add one more to their tribe, -- and here is where I tie back into Jimmie's study of visitors.

We have enough of these specialists now to -- dropping into the picturesque vernacular of the one and only 'Gene Baird -- "Patch Hell a Mile," but we have not a one working on the problem of the visitor so far as I know. This is, I submit, not as it should be.

If we consider it necessary to band the little birds as they come and go and study their habits and customs; if we conduct research problems into the private lives of the chipmunks and deer and bears and other things which impinge somewhat upon our basic duties; if we can wag our finger and bring a flock of specialists to our aid when we find a few strange bugs on our trees, and another wag will bring another set of specialists who will tell us how not to handle our trees; doesn't it seem reasonable to you that we ought to call on some one who can tell us how to handle and how not to handle the visitors who make up one of the two legs upon which we stand?

Here we are in the midst of a campaign of museum planning. We are talking about five or six new museums and the revamping of some old ones; we are planning to place this exhibit here and that exhibit there, to lead the visitor from this phase of the culture to that phase; we are planning in the long run the disbursement of a hundred or more thousands of dollars, and this expenditure is all being based on what the specialists who are planning the arrangement think the visitors think about museums. My contention is that if it takes a specialist to know what a bug thinks, or to know why a chipmunk wags his tail up and down instead of sidewise, and we wouldn't expect a specialist in that line to be a specialist in the reactions of visitors as well; perhaps we had better consider calling in a specialist in visitors to do some research work among the more than two hundred thousand visitors we are going to have this year.

I am perfectly aware that nothing is more uncertain than the actions of an individual visitor and no one can predict with certainty what he is going to do under a certain set of conditions in a museum or in a monument or part; but I believe thoroughly that one group of twenty thousand visitors will react almost precisely the same as the next group of twenty thousand, and, by detailed analysis and tabulation and study, we can predict certainly what that action will be and I do not think the specialist in birds or bears or taxidermy or museum arrangement is competent to judge it on what he thinks a visitor thinks.

We ought to have a specialist who is just as able to analyze that problem as the life insurance specialist is able to tabulate for you the mortality rates in a million visitors.

For several years I have been as a voice crying in the wilderness on this matter, the general replies that I get being: 1. We are doing that very thing now; 2. It is an impossibility, - it just can't be done; and 3. Why don't you go ahead and do it yourself if you know so much more than these museum arrangers and visitor wranglers?

As to the first reply: If they know all about visitor reactions now and need no specialists along that line, will they please tell me ahead of time what additional percentage of visitors they will stop or lose and how many seconds they will add or subtract from the average stop by changing the third case from the left of the entrance door for asking such a question, yet the United Cigar Stores specialist solves problems like that by the dozen as a matter of every day routine.

The second reply is answered in the above sentence; it is being done day after day in ordinary business procedure.

As to why we don't do this research work ourselves, I might point out that to run a real monument a man has to be an expert in about six lines and be able to keep four balls and two sticks of dynamite in the

air at the same time and he just hasn't time to become a specialist in this particular problem.

We hold that a visitor is at least as important as a bug because, if on nc other grounds, he can do as much or more damage than the bug and it is against the regulations to exterminate him; you can only use preventive and protective measures. We think, therefore, our request for a visitors specialist is not out of order.

This specialist should come to us through the regular appropriation if that is possible, otherwise we will take him E.C.W.

My reason for this is that we all know well that the present group of E.C.W. specialists are going to fold up and disappear within a twelve month or at most a couple of years, and this job I am appealing for ought to run at least for a couple of lifetimes.

Johnwill Faris has done some study along these lines at Aztec, Jimmie is doing it at Wupatki, and We have made about a year and a half of time studies at Casa Grande. The next result so far is that we are convinced that the visitor is our second greatest problem and that no one knows very much about him.

Cordially,

The Boss.

# SOUTHWESTERN MONUMENTS

# MONTHLY REPORT

## OCTOBER 1935




DEPARTMENT OF THE INTERIOR

NATIONAL PARK

SERVICE

SOUTHWEST REGIONAL OFFICE
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# SOUTHWESTERN MONUMENTS
# OCTOBER REPORT
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# SOUTHWESTERN MONUMENTS
# PERSONNEL

HEADQUARTERS Southwestern Monuments, Coolidge, Arizona: Frank Pinkley, Superintendent. Hugh M. Miller, Acting Assistant Superintendent. John H. Diehl, Associate Engineer. Robert H. Rose, Assistant Park Naturalist. Dale S. King and Louis R. Caywood, Junior Park Naturalists. Robert L. Cole, ECW Clerk. Luis Castellum, Temporary Clerk-Stenographer.

GENERAL FIELD MEN: Charles A. Richey and Harry Langley, Resident Landscape Architects. J.B.Hamilton, Associate Engineer. Andrew Clark, Topographer. J. H. Tovrea, Chief Engineering Aide. C. E. London, Carl Schmidt, Rodmen.

FIELD STATIONS:

1. Arches---Moab, Utah. J. M. Turnbow, Custodian.
2. Aztec Ruins---Aztec, New Mexico. Johnwill Faris, Custodian. Robert W. Hart, Ranger-Archeologist.
3. Bandelier---Box 669, Santa Fe, New Mexico. Earl Jackson, Custodian.
4. Canyon de Chelly---Chin Lee, Arizona. Robert R. Budlong, Custodian.
5. Capulin Mountain---Capulin, New Mexico. Homer J. Farr, Custodian.
6. Casa Grande Ruins---Coolidge, Arizona. W. J. Winter, Custodian. Charlie R. Steen, Park Ranger.
7. Chaco Canyon---Crownpoint, New Mexico. Thomas C. Miller, Custodian.
8. Chiricahua---Willcox, Arizona.
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. Milton Wetherill, Trail Foreman.
16. Pipe Spring---Moccasin, Arizona. Leonard Heaton, Acting Custodian.
17. Rainbow Bridge---Rainbow Lodge, Arizona. No Custodian.
18. Saguaro---Tucson, Arizona. No Custodian.
19. Sunset Crater---Flagstaff, Arizona. J. W. Brewer, In Charge.
20. Tonto---Roosevelt, Arizona. Woodrow Spires, In Charge.
21. Tumacacori---Box 2225, Tucson, Arizona. George L. Boundey, Custodian. Martin Evenstad, Park Ranger.
22. Walnut Canyon---Flagstaff, Arizona. Paul Beaubien, In Charge.
23. White Sands---Alamogordo, New Mexico. Tom Charles, Custodian.
24. Wupatki---Flagstaff, Arizona. J. W. Brewer, In Charge.
25. Yucca House---Cortez, Colorado. No Custodian.

# CONDENSED REPORT

Coolidge, Arizona
November 1, 1935

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

Dear Mr. Director:

The Condensed Report for Southwestern Monuments for October, 1935:

TRAVEL:

| | October, 1935 | October, 1934 | October, 1933 |
|---|---|---|---|
| Aztec Ruins | 1,155 | 645 | 528 |
| Bandelier | 659 | 803 | 340 |
| Canyon de Chelly | 64 | 129 | --- |
| Capulin Mountain | 1,200 | 1,000 | --- |
| Casa Grande | 2,281 | 1,825 | 1,751 |
| Chaco Canyon | 615 | 826 | 532 |
| Chiricahua | --- | --- | --- |
| El Morro | 160 | --- | --- |
| Gran Quivira | 239 | 288 | 361 |
| Montezuma Castle | 666 | 1,080 | 991 |
| Natural Bridges | --- | --- | --- |
| Navajo | --- | --- | --- |
| Pipe Spring | 220 | 420 | 694 |
| Sunset Crater | --- | 107 | --- |
| Tonto | 332 | 259 | --- |
| Tumacacori | 711 | 1,155 | 614 |
| Walnut Canyon | 687 | 499 | --- |
| White Sands | 3,507 | --- | --- |
| Wupatki | 100 | 141 | 77 |
| Yucca House | 12 | --- | --- |
| Actual Reported Registration | 12,608 | 9,177 | 5,888 |

The 13 Monuments which reported both in 1934 and 1935 showed a decrease from 9,177 to 8,929---248 visitors, or 2.7%.

The nine Monuments which reported both in 1933 and 1935 showed an increase from 5,888 to 6,646---758 visitors, or 12.8%.

Thus, it would appear that October, 1935, as a travel month was 2.7% poorer than the same month in 1934; 12.8% better than the same month in 1933. This is an unusual condition, for recent months have shown strong increase in travel. Cold and unsettled weather even in the southern portion of the area seems to be the cause.

WEATHER:

Most of the northern Monuments are experiencing a more than ordinarily cold Indian summer with an occasional light snow. Precipitation has not approached last year's figures. Tonto has received a couple of thunder storms, but the southern part of the area has been very dry. Tumacacori's visitor total dropped quite markedly, apparently due to one of the coldest Octobers in years.

FIELD TRIPS:

The first part of the month found Superintendent Pinkley among the northern Monuments on an inspection trip with Miss Isabelle Story, Editor-in-Chief, National Park Service, and John H. Diehl, Park Engineer. He returned to Headquarters October 7 and then left again on the 11th for a swing through the southern Monuments, returning to Headquarters Saturday, October 26. During the trip Superintendent Pinkley covered 5,546 miles of travel and visited 19 Monuments.

With this trip added to her previous experience, Miss Story has seen more of the Southwestern Monuments than any other of the Washington personnel with the exception of Assistant Director Tolson and Chief Architect Vint.

Park Naturalist Rose and Chief Engineering Aide Tovrea left Headquarters October 10 with the National Park Service reconnoissance party which studied the Kino chain of missions to gather information to be used in museum development plans for Tumacacori National Monument. The party, which stayed in the field in southern Arizona and Sonora, Mexico, until the end of the month, consisted of Scofield DeLong, Architect, Leffler B. Miller, Architect, Arthur Woodward, Historian, George Grant, Photographer, Rose, and Tovrea.

An enormous amount of information was collected by this party, which will make a separate report to the Washington Office.

Junior Park Naturalist Louis Caywood was on duty at Wupatki, Walnut Canyon, and Sunset Crater National Monuments until October 14, when he arrived at Casa Grande to relieve Ranger Charlie Steen for 12 days. Ranger Steen accompanied Superintendent Pinkley through the southern Monuments. Since October 26 Caywood has been occupied with Headquarters Naturalist detail.

ENGINEERING ACTIVITIES:

Engineer Diehl spent almost the entire month in the field in the Southwestern Monuments and Carlsbad National Park.

After checking boundary lines and feature locations at Sunset

Crater National Monument, the engineering crew under Andrew Clark spent 10 days on road survey at Canyon de Chelly and then moved to Chaco Canyon to reset fence line stakes.

J. H. Tovrea, chief engineering aide, was occupied with office work the first ten days of the month; he then accompanied the reconnaissance party into Mexico where his knowledge of Spanish and architecture made a valuable addition to the party.

Engineer J. B. Hamilton facilitated the construction of a cattle guard and parking area at Aztec Ruins, inspected recent work at Canyon de Chelly, and spent considerable time with the fence project at Chaco Canyon. He also supervised the repair of stone steps at El Morro, and sent in a Natural Bridges map for tracing. Altogether, Mr. Hamilton was kept rather busy during the month by his duties in the Monuments and at Mesa Verde National Park.

E.C.W. ACTIVITIES:

Bandelier:

1. Completion of the warehouse, shop and gasoline-oil house--- an improvement which will result in much saved time, inasmuch as these shelters previously were on the canyon rim at a distance from the scene of operations.

2. Garage building walls 40% complete, and timber cut and delivered.

3. Headquarters area graded and ready for planting.

4. Excavation for CCC camp sewer outlet 80% complete.

5. Road maintenance continued with small crew.

6. Rock quarrying crew in operation all month.

Chiricahua:

1. Ranger station and bathhouse foundations poured and stone delivered to site.

2. Additional foctage on trails: 1,000 feet on Echo Canyon; 1,100 feet on the Sara Deming trail.

3. Nine-stall garage and a large machine shop of corrugated iron constructed for protection of E.C.W. equipment.

Work has progressed rather slowly at this camp because of delayed enrollment, but this situation has been cleared up and November will see the camp at full strength.

PERSONNEL:

Paul Beaubien, former Temporary Ranger at Walnut Canyon, assumed duties as Trail Foreman at the same Monument October 1. On the same date James W. Brewer, Jr., became Trail Foreman at Wupatki National Monument. While working on trails, these men will afford a certain measure of protection at these important Monuments.

Otherwise, no personnel changes were effected this month.

VISITING PARK SERVICE OFFICIALS:

Park Service visitors to Headquarters during the month of October have included: A. C. Kuehl, resident landscape architect; J. Barton Herschler, custodian of Muir Woods National Monument; Vincent W. Vandiver, regional geologist; Richard W. Sias, inspector of State Parks, E.C.W.; Miss Isabel Story, editor-in-chief; George Grant, photographer; Arthur Woodward and Leffler B. Miller, of the Field Division of Education; and Scofield DeLong, of the Branch of Plans and Design.

MAIL COUNT FOR OCTOBER, 1935:

| | |
|---|---|
| Incoming, official | 1,204 pieces |
| Incoming, personal | 726 pieces |
| Outgoing, official only | 1,648 pieces |
| Telegrams, incoming | 36 |
| Telegrams, outgoing | 48 |
| Total number of pieces handled | 3,662 |

Cordially,

Frank Pinkley

Frank Pinkley
Superintendent

# REPORTS FROM MEN IN THE FIELD

## WHITE SANDS

By Tom Charles, Custodian

White Sands National Monument has acquired its first real contribution to the proposed museum. We now have a pair of the celebrated buhrs from Seine-et-Maine, France. They are loaned to us by the Alamogordo Chamber of Commerce which recently acquired them from Mr. A. N. Blazer whose father homesteaded in this vicinity in the middle sixties and used these buhrs at Mescalero during the days of Victorio, Geronimo and Billy - the Kid.

The buhrs have a long history, from Mexico City to Old Mesilla, and were closely associated with the White Sands, being in fact built up with the "excellent quality"of gypsum many times during their years of use in this section.

Mr. Blazer says that their French origin is definitely known and that they were brought to Vera Cruz by a wealthy Spaniard to whom a large "hacienda" had been ceded by the King of Spain. There, within a day's journey of Mexico City the buhrs were first installed in America. The owner had brought with him a miller by the name of Nunez and this miller erected the plant and operated it, supplying the flour for Mexico City for many years.

The capacity of this mill was twenty "fanegas" a day, approximately 2,000 pounds of flour. The product was known as "despajada" and contained all the wheat except the bran which was bolted through a cloth made from horse-hair and woven by hand. In time the capacity of this mill was too small to meet the demand of the growing city and a new and larger pair of buhrs were imported.

Juan Nunez, son of the miller had learned the milling trade, and he took these old buhrs, moved them to Chihuahua, and set them up there. This was about 1810 or 1811. Juan Nunez was then past middle life, but he married in Chihuahua and raised a son, Luis, who also learned the miller's trade, and after the death of his father Luis moved the buhrs to Old Mesilla, then the capitol of Southern New Mexico and Arizona. The new mill was equipped with silk bolting cloth and was in operation about 1840.

It was Luis Nunez who told the story of these buhrs to Mr. Blazer, and according to him the buhrs were in active operation at Mesilla when the American flag was officially raised there over the Gadsden Purchase in 1853. The means of transportation for these buhrs from Vera Cruz to Mexico City, thence to Chihuahua and Old Mesilla was no doubt the high wheeled bullcart or carreta which was the customary mode of travel in this country at that time. Mr. Blazer says that Luis Nunez discovered the value of White Sand to fill or back the buhrs when they were still at Chihuahua. They used the White Sand plaster to hold the scraps of

iron and add weight, and the White Sand was still used during the time that the buhrs were in operation at Mescalero. The buhrs are still "backed" with White Sand plaster which Mr. Blazer and his father put on them nearly 50 years ago.

Mr. Blazer recalls that when his father bought these buhrs in 1882 he traded two loads of lumber for them. He hauled the lumber to Mesilla in a four days' trip, camping on the present site of the White Sands Monument, returning some days later with the buhrs.

It seems proper that the rest of this report should be addressed to Hugh Miller for it deals directly with the Boss and his party, consisting of himself, Miss Story, Miss Nancy Pinkley and Charlie Steen.

Every member of the force had been impatient and anxious for Miss Story to arrive, - even the Sands had been restless and had shifted until the face of every hill was clean and spotless and white. The first frost had touched the scattering cottonwoods and great clumps of brilliant yellow stood out against the hills. The recent rains had brought forth a profusion of gold and purple flowers in the low valleys. I will confess to you, Hugh, that this child of ours was at its best for the visit of our favorite sister. The sand was not too dry nor too wet, the rolly-coaster ride was safe and the surf-board seemed to glide along a little better than usual, to the delight of the younger members of the party, (confidentially, Charlie Steen liked it so well that he wants to move headquarters to White Sands).

I was fortunate in getting Gene Baird - the Will Rogers of the White Sands - to act as guide into the Big Lake country, the Bad Lands. Gene Baird and the late Gene Rhodes were buddies in this under-privileged country for 20 years or more. Baird was a favorite character in many of Rhodes stories and most of his Saturday Evening Post stories centered in this vicinity.

Baird pointed out the site of the old dugout and the corral, pictured in "Pasc Por Aqui" where Gene caught the wild steer and rode him 12 miles to escape from the peace officer, the celebrated Pat Garrett of Billy-the-Kid fame. Then there was the Old Spanish trail from Chihuahua to the salt lakes north of the sands where the carreta wheels were found. In the dim distance, can be seen the location of the Giant's tracks in the rock at the edge of the old lake bed where lie the fossil bones of the mastedon.

A little south and in the rugged San Andreas mountains, Gene points out the site of Hospital Springs where Victoria and his band practically annihilated the company of U. S. colored soldiers. It was to these springs that the wounded were taken for recuperation and rest. A little further south is the more rugged country, the range of the Mountain Sheep and that mooted home of the "American Ibex," maintained by the

local men and questioned by the Wildlife men. What wonder that Gene Rhodes wrote with inspiration, here certainly is the color and the background. And there in Rhodes Pass, at the top of the hill, Gene Rhodes lies to inspire and look after our feeble efforts.

Gene Baird was but an incident of the trip. We Were in search of the mysteries of the big lake of which M. A. Otero, Governor of New Mexico wrote in 1903; "This is the playground of the mirage, and here it plays its greatest pranks with distance, perspective, and color. Sometimes it raises the White hills high above the surrounding flat country, making them exceptionally conspicuous, and at other times covers them with verdure and nodding shadows, and again hides them behind an opaque wall."

We approached this lake with fear and trembling. Ten days before it was mostly under water. When it is wet it is a bottomless hog-hole, when it is dry it is a kaleidoscopic race track with a new mirage at every turn of the road. We did not venture far out but we got onto the edge of the lake and found a life-sized mirage or two. There was really little left to be desired. We even had a black widow spider with the unmistakable red spots, and a hundred or more little spiders, and the poor "hubby" in the bottom of the bottle nearly eaten up. We even found the pictographs after being lost for a time and threatened with dire calamity. If I could have found a red lake out there some place it would have been the end of a perfect day. I grumbled considerable last year when I could not find a red lake bigger than six feet across for Bob Rose, but I would have been well satisfied with one half that size this time. The only thing that saved me was the word "seasonal" which my wife had me put in a year or two ago when she thought I was too enthusiastic in describing them.

Our registration has dropped around 50% from what it was in August. Among the Park Service officials whom we have had the past month are Jimmie Brewer and his "better half," Sallie; from Wupatki National Monument; Mr. and Mrs. Olaf Hegen, Natchez, Miss.; Paul Nesbit, Canyon City, Colorado; Mr. and Mrs. Don Stauffer, Platt National Park; and Rufus G. Poole, Solicitor of the Department of the Interior, Washington.

**********

# TUMACACORI

By George L. Boundey, Custodian

Visitors for October, 711.

This is one-third less than the number of visitors for October of last year. The only way I can account for it is that it has been the coldest October we have experienced on the desert. We have not had killing frosts but the thermometer has hovered around 36 and 38 above.

TUMACACORI (CONT)

Quite a few of our friends among the Tucson winter visitors are back as well as many new faces. The Indians all predict a very cold winter and seem to be making preparations accordingly.

Miss Story from Washington office, Superintendent Pinkley, and a party from Casa Grande National Monument paid us a visit during the month. The party left here hoping to visit some of the Kino Missions to the south of us and into Mexico.

A party of six from the San Francisco and Headquarters offices paid us a visit. The party was headed by Scofield DeLong, architect for the National Park Service, and included Leffler B. Miller, Architect, Authur A. Woodward, Historian, George Grant, Photographer, Robert Rose, Park Naturalist, Southwestern Monuments, and J. H. Tovrea, Engineer. They were on their way to make a study of the Kino Missions both above and below the Mexican Border. They were somewhat delayed after crossing the border by the unsettled condition in the State of Sonora.

This seems to have been a month with many visitors from both the Army and the Navy. I notice in the list one General from the Marine Corps, General J. T. Myers and wife, Washington, D. C.

Aside from a cleaning up campaign on the monument things have been very quiet. We hope to start the wall construction soon and make a few repairs on the mission before the freezing weather comes.

During the six years we have been stationed at Tumacacori, the wife and I have driven away in the night time at least 50 different parties of treasure hunters who were trying to excavate or try out some new apparatus for locating treasure. One evening, or rather night, this month parties actually succeeded in excavating quite a hole under one of the walls of the main alter. They also made a small excavation in the bapistry. The fact our German police dog failed to make a fuss leads us to believe it was somebody who was well acquainted with the dog.

Since our new telephone was installed a short time ago We have considered the constant ringing of the telephone bell, quite a nuisance but two or three times this month it has proved a great blessing to the people round about and we shall no longer let it annoy us.

**********

## NAVAJO

By Milton Wetherill, Trail Foreman

Report for August 16, 1935, September 17, 1935, Be-ta-ta-kin 44; Keet Zeel, 6.

Wire that we had on hand for the fence is in place and the rest of

the South side is ready for wire.

Mr. Grant, National Park Service, Washington, D. C., spent September 16 at Be-ta-ta-kin; September 17, at Keet Zeel taking pictures.

**********

# NAVAJO

By John Wetherill, Custodian

Enclosed your will find a list of birds seen during the summer. Milton has the posts set at Betatakin for the wire when it comes.

The work this month:

800 feet of post, 8 feet apart.
Trail work to Keet Zeel. The trail was washed out in many places.
Clearing the trail around Betatakin.
Taking care of tourists.

Birds seen and noted August 18 to September 17, 1955:

Turkey Vulture
Sharp-shinned Hawk
Least Sandpiper
White-throated Swift
Costa Hummingbird
Red-shafted Flicker
Say Phoebe
Long Crested Jay
American Ravin
Clark Nutcracker (Unusual large number in the canyon and on the mesa.)
Lead-colored Bush-tit
Rock Wren
Western Gnatcatcher
Green-backed Goldfinch
Spurred Towhee
Western Red-tail
Desert Sparrow Hawk
Western Mourning Dove
Broad-tailed Hummingbird
Black-chinned Hummingbird
White-breasted Woodpecker
Northern Violet-green Swallow
Woodhouse Jay
Pinyon Jay
Mountain Chickadee
Black-throated Gray Warbler
Canyon Wren
Mountain Bluebird
Western Tanager
Green-tailed Towhee
Western Warbling Vireo

Butterflies:

Papilio bairdi ---- Bairds Swallow Tail
Papilio rutulus ---- The Western Swallow Tail
Pieris protodice ---- The Common White
Furyimus eurytheme amphidusa ---- The Yellow Sulpher
Danaus archippus ---- The Monarch
Aglais antiopa ---- Mourning cloak
Aglais antiopa hygiaea ---- The Broad Bordered Mourning-cloak
Aberrant form ---- The Painted Lady

Vanessa atalanta ---- The Alderman Butterfly
Basilarchia Weidemeyeri ---- Weidemeyer's Admiral
Heterochroa californica ---- The California Sister
Hypaurotis chrysalus ---- Colorado Hair-streak

**********

# GRAN QUIVIRA

By W. H. Smith, Custodian

I will endeavor to submit my monthly report for the past month---not very much to report this time as things have been unusually quiet here.

I find my register to show 239 visitors entering the Monument in 72 vehicles. This number registered from ten states, including New Mexico. This number shows a decrease of the registration over the same period last year but despite this decrease the general average for the year showed a better year than last. My books as to September 30, 1935, showed 4,636 visitors and 1072 cars registered, as to 4,363 visitors and 860 cars last year.

Weather conditions have been favorable for travel through the greater part of the month, but there was a small snow on September 27, and again quite a wind storm on the night of October 19. The rest of the month has been pretty warm and pleasant in the day---light hours but it is beginning to get cool at night; we are expecting to see snow fall any day now.

The local people of this district are busy saving their crops but crops are spotted in this district. Some are making a great deal more than they expected and others are not making anything. The rains up until late in the season visited only favored spots and those who got rain early are making good crops. The best that I have heard of is 1400 pounds of beans to the acre.

**********

# BANDELIER

By Earl Jackson, Custodian

Visitors:

Visitors numbered 659, arriving in 200 cars, from 32 states, Washington, D. C., and seven foreign countries - Sweden, Scotland, Greece, Holland, England, Germany, and France.

The six highest states by travel were: New Mexico, 348; California, 39; Kansas, 36; Texas, 31; Illinois, 27; Colorado, 25.

Our normal autumn drop in travel was more pronounced than last year. October of 1934 had 144 more visitors than October of 1935. I am confident this is because of weather and road conditions.

Weather and Roads:

Precipitation for the month was 1.65 inches, as compared with .62 for October, 1934. We have had a high percentage of pleasant sunny days, but two snowstorms put a decided crimp in travel. As I write the ground is covered with a thin blanket of snow, and the skies are heavily overcast. Snow crowned the Truchas Peaks (highest mountains in New Mexico) several days ago.

Roads have been passable on all occasions, but are rough and disagreeable, and I know that unfavorable reports are getting out on the road to Bandelier. I saw an article a few days ago in the Albuquerque Journal quoting the Gallup Independent in some unfavorable comments on conditions of roads leading to our National Monuments, and Bandelier was one of those listed.

CCC maintenance takes care of our entrance road for 18 miles, to the east boundary of the Detached Section, but beyond that point for ten miles leading to Highway 64 the road is abominable. The State seems unable to do any maintenance there, with highway officials complaining that the State is broke. There is one bridge on this bad portion which is dangerous.

Special Visitors:

September 28 - Olaf T. Hegen, Acting Chief, Western Division, Branch of Historic Sites and Buildings, was in with his new bride for part of an afternoon. They were en route to San Francisco.

September 29 - Norman Appleton and family paid a brief visit. Mr. Appleton was mentioned in last month's report as the man who is conducting WPA research on the fall webworm and tent caterpillar in the Santa Fe vicinity. I haven't seen him lately, and so have no recent information on his progress.

October 2 - We were honored by a surprise visit from Director Cammerer. He was accompanied by Assistant Superintendent Lloyd, of Grand Canyon National Park. Mr. Cammerer was here only two hours, yet I know he saw much. He has promised to come again when he can spend a day. I hope that time is soon. I have always contended that it takes more than an hour after lunch to properly show off the best National Monument in the Southwest.

James C. Reddock, ECW inspector, was in for the first time in nearly a year. With him was Major Wood, District Executive Officer for the CCC. Last, but not least, was Mrs. Reddock. She was quite interested in Frijoles Canyon.

October 16 - Chuck Richey was in for a four day inspection, and reported everything going O. K. on construction.

October 18 - And who should drop in but Tom Charles, from White

Sands! With him was his son, Perl Charles, connected with the Forest Service in Santa Fe, and F. C. Rolland, a friend of Tom's from Alamogordo. These gentlemen were in quite a hurry, - had only 15 minutes to spend-- but the merits of Frijoles Canyon held their attention and they remained for considerably over an hour. It was a very enjoyable visit. Tom has a wonderful pride in that pile of sand down there, and convinced me that I am sinning against my country if I don't come soon and see it.

October 23 - General Charles E. McPhersen, of the Oklahoma National Guards, was in.

Nature Notes:

On a recent patrol to the upper crossing and back over the South Mesa a great number of deer tracks were seen. The deer feed at this time of the year where the thickest clumps of mountain mahogany and rhus trilobata grow, in somewhat treeless spaces.

No tracks of other wild creatures were seen, except those of coyotes. Quite a number of coyote tracks have been seen down the canyon between here and the Rio Grande River.

Turkey signs should appear soon, with approach of snow, for this means there will be sufficient moisture on the canyon floor to attract them.

Until recently I had supposed the rattlesnake to be the only really poisonous wild creature to be found in Frijoles Canyon; not even a rattlesnake had been seen near the civilized area this summer.

About a month ago one of the CCC boys was bitten by a spider while in bed in the barracks. By morning he was suffering intense pain, his lower limbs were partially paralyzed, and in reality a very husky young man was awfully sick. He was taken to the hospital in Albuquerque for treatment, and recovered in a few days from a very dangerous illness. The spider found in his bed was a black widow. The red hourglass on the under side of its abdomen was plainly evident.

Not long after that, another black widow was found in another fellow's bed. These two specimens represent the first I had heard of in Frijoles Canyon, although I knew they were found in Santa Fe.

This spider business wouldn't really do for Chamber of Commerce publicity. But in truth there is little to worry about from black widows in weather-proofed houses, and nobody is losing any sleep over them.

General:

Weather reports indicate that the drouth of several years standing is breaking up. Everyone I have talked with in this vicinity expects a

stormy winter. Although solar observations given by the dendrochronologists show the best possibilities for the wet cycle beginning late in 1936 or 1937, a year early is not considered by them unlikely.

The drop in tourist travel during October as compared with last year is slightly alarming, not because of the fact that storms now are keeping some of them away, but because lack of maintenance on State Route 4 has had its effect on decrease, and because news of road conditions rapidly gets broadcast by travelers.

Will close for this month and let my wife say a word. She is taking care of monthly observations on birds in Bandelier. (See Supplement).

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# YUCCA HOUSE

By T. C. Miller.

Following is the report for the Yucca House National Monument for the month of October:

The Custodian inspected Yucca House on the 20th; found everything in good shape. Contacted one car of visitors from Denver. The roads were in fine shape from Farmington to Yucca House. I found only 12 names on the register for the month coming from the following states and foreign countries; Arizona, California, Colorado, New Mexico, and South America.

One phesant and many magpies were in evidence around the Monument. No evidence of stock around the ruins or of vandalism was noted.

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# CHACO CANYON

By T. C. Miller, Custodian

The activities in the Chaco Canyon National Monument for the month of October were as follows:

General:

The approach roads were badly washed on September 27 when we had the heaviest rain of the season. It rained 1.14 inches in about two hours. All the roads were damaged and the bridges what few had either washed out or the approaches were left in such poor condition that it was necessary to make long detours until we could rebuild the bridges and repair the approaches. It required several days'work with men, teams, and trucks to get the roads passable again. Mr. A. P. Springstead, who operates the Chaco Canyon Trading Post here in the Monument furnished one man and a truck to assist in the work. Mr. Springstead certainly displayed a fine cooperative spirit and it was greatly appreciated.

Again we are indebted to our neighbor on the north at Aztec Ruins for giving us his truck and grader.

Weather:

The maximum for the month was 75 degrees on the 4th. Minimum 25 above on the 22nd; the first killing frost was on the 17th; a 1-inch snow fell on the 23rd; precipitation 1.94 inches was recorded for the month.

Travel:

615 people arrived in 198 automobiles coming from 20 states, the District of Columbia and three foreign countries, Brazil, Austria, and England. The travel for the same month last year was 826, showing a decrease of 211 people. However, the decrease is easily explained.

Travel bureaus and the local filling stations know the condition of these roads in bad weather and naturally they will turn them away rather than send them out here where they might get some real bad road experience.

Special Visitors:

Mr. and Mrs. C. T. Hegen of the Branch of Historic Sites and Buildings and Ranger and Mrs. Hart, Aztec Ruins National Monument visited the Monument on September 30. Associate Engineer Hamilton arrived and departed on October 1. Divisional Engineer Clifford of the Soil Conservation Service was here on the 2nd. The Educational Department of the Eastern Navajo and Central Agencies was here on the 7th. Mr. J. S. Kemp, Manager of the Automobile Club of Southern California at Pasadena arrived on the 9th and departed on the 10th. FERA Administrator Maude Van P. Kemp and Beatrice L. Erickson from the State Capital at Santa Fe were here on the 18th.

Dr. S. J. Jones from the University of Bristol, England, and Dr. Hans V. Gold, Vienna, Austria, arrived and departed on the 20th. Mr. Gordon Sumner, Mr. B. G. Dwyer and Mr. Joe Sandoval, all State Highway Officials from Albuquerque visited the Monument on the 23rd.

Monument Boundary Fence:

The Cook and Ransom Construction Company which has the contract to build the Monument Boundary Fence arrived with their camp equipment October 9. Actual construction on the fence began on the 15th.

To date three carloads of material have been unloaded at Thoreau and trucked to Monument Headquarters where it has been checked and stock piled. One carload of cement furnished by the contractor was trucked in from Aztec and stored in a large tent erected by the Contractor for that purpose. To date the contractor has driven about 15 miles of line post, dug the holes for the strain and brace posts, and they are now ready to start pouring concrete. The sand and gravel

for their concrete is being hauled from the San Juan River. 30 men are employed on the project and at the rate that they are going they will complete their contract in the limited time given if the weather gods will behave.

Mr. E. A. Limbough is the Project Superintendent for the Company. Mr. Limbough is building us a good fence and certainly getting the work done in fine shape. In addition to building a good fence the project is giving the local people work who really need it. Many men and their families are camped in tent houses here in the monument. Boss, this row of tent houses reminds me of a place that used to be called Boles Ville at the Carlsbad Caverns.

At this time we wish to thank the Re-Employment Bureau at Farmington for their splendid cooperation in sending us such a fine crew of good men to do this work.

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# CHIRICAHUA ECW

By Wm. Stevenson, Project Sup't.

I herewith submit the following report for the month of October:

Work has progressed rather slowly this month as only 60 to 65 men have been available for the work projects; however, 97 men were enrolled October 24, who will be available for the month of November.

Foundations for the Ranger Station and bathhouse have been poured and the stone for these structures hauled to the building sites.

One thousand feet of the Echo Canyon trail and 1100 feet of the Sara Deming trail have been finished this month.

Two corrugated Iron buildings have been built this month for the protection of ECW equipment. A 9-stall garage, 91' x 20', and a 25' x 20' Machine shop.

October 17-18 we were visited by Miss Isabelle Story, Chief of the Bureau of Public Relations, National Park Service, Frank Pinkley, Superintendent of Southwestern Monuments, Miss Nancy Pinkley, and Ranger Steen of Casa Grande National Monument.

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# WALNUT CANYON

By Paul Beaubien, In Charge

Six hundred and eighty-seven registered this month including several National Park Service officials. Vincent W. Vandiver, Geologist Technician, made a visit early in this registration period. Soon afterward Director A. B. Cammerer, Superintendent Frank Pinkley, and John H. Diehl,

Associate Engineer, stopped for a few minutes. October 2, Mr. Pinkley, Mr. Diehl, Miss Isabelle F. Story and Miss Nancy Pinkley were here long enough to visit the cliff dwellings. Mr. and Mrs. C. T. Hegen stopped to see the dwellings October 6. Russel K. Grater, accompanied by Mrs. Grater, spent several days here making a survey for the proposed game refuge. Louis Caywood stayed overnight on the 12th.

Am enthused about there being a traveling Naturalist actively circulating through the Monuments. Can understand how he can do a lot of good and hope he will stop here for a few days sometime, preferably, during the season of heavy traffic.

Russell Grater took a few minutes one day to construct a bird trap over the bird bath. Mrs. Grater then banded birds until all the bands of two sizes were exhausted. I wasn't much interested in bird banding while I could only catch one or two a week but now that it is possible to catch twenty with one jerk of the string I'm really enthusiastic about the whole business.

Forty bands came with the permit and fifteen of Caywood's bands were used making a total of fifty-five birds banded at Walnut Canyon during October. 29 Chestnut-backed Bluebirds, 5 Mearns Woodpeckers, 5 Cross-bills, 4 Robins, 3 Red-backed Juncos, 3 Red-naped Sapsuckers, 2 Rocky Mt. Sapsuckers, 2 Green-backed Goldfinches, 1 Shufeldt Junco and 1 Pine Siskin. A Pygmy Nuthatch was captured but escaped through my fingers and broke a wing flying against a window. The bird was turned over to Jimmie Brewer who has facilities for preparing a study skin.

Deer season is well under way and hunters can be heard shooting in this vicinity every day. One shot was fired into the canyon where I was working on the trail. Suppose it was only a practical joke but am afraid I acquired a few gray hairs. Have asked three parties to do their hunting beyond the Monument. The hunters are not to be censured too severely as the boundaries are not marked.

The engineering crew under Andy Clark left October 12 for Canyon de Chelly after finishing their topographical maps. So it can be said that the first important step toward any improvement here has been taken. This has been a lonesome place since their departure.

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## EL MORRO

By Evon Z. Vogt, Jr.

The month of October hasn't been so quiet around this old monument with J. B. Hamilton coming in every few days and Foreman Harry Brown working here with a crew of men.

Weather and Roads:

Western New Mexico is now in the midst of that period of beautiful weather which follows the first snowstorm and precedes the real winter blizzards---the so-called Indian summer. The nights are frosty, and the days are warm, cloudless and a bit hazy.

On the morning of the 24th a thin blanket of snow covered the ground. In Gallup, however, and on North nearly 3 inches of snow fell.

Three cheers for the Indian Service! Two big tractors and graders are working on Coal Mine Flat which is on the Zuni Indian Reservation and is one of the worst clay flats on the Gallup Highway. A stretch of five or six miles across the flat is being graded up, properly drained, and graveled.

Visitors:

Visitors for the month number 160, which isn't at all bad considering the general condition of the roads and the fact that we have had two bad storms.

Flora and Fauna:

Deer season is open and all hunters, Gallup sportsmen, local farmers, and Navajos, have dusted off and cleaned their 30-30 rifles and have headed South. The Navajos went on horseback taking an extra horse to bring back their meat. Most of the Gallup sportsmen went into the high country around Reserve and Luna, New Mexico. A few local hunters are bringing in their bucks from the high mesas back of Ramah.

Our two golden eagles are back this month soaring around El Morro's loftiest pinnacles. The habits of these eagles are quite peculiar. One month they are around the monument and the next they will not be seen at all.

The south slope of the Zuni Mountains across the lava strewn valley from El Morro is becoming barer and barer as the lumberjacks from the Breece Sawmill continue their logging.

Side Interest Stuff:

I am at a loss to know what recent archeological findings near El Morro Ansel Hall is referring to in his telegram to you of the 17th, unless it is the finding made by the El Morro Airport employees last spring of what appears to be an old Indian camp ground. But this finding was reported by Pete in his June report and can hardly be called recent.

At any rate, this old Indian camp ground is about one mile west of the El Morro Landing Field and has two ancient-looking water holes, bits of chipped flint and arrowheads strewn on the ground, many potsherds,

and some old engravings and names carved on a sandstone cliff nearby. One of the engravings is a coffin in the form of a Catholic cross (as in prayer).

The most interesting thing found here by the Airport men was a large tombstone on which there are some illegible old Spanish or Latin characters and on each face of the stone an old Spanish cross. The most remarkable thing about this stone is that the letters stand up and are not carved into the rock like the inscriptions at El Morro. I would certainly like to have some historian look at this interesting piece of sandstone which is now at the El Morro Landing Field.

If some archeologists from the Berkeley staff do come to examine this finding and I am not at home, the radio operators at the Airport will be very glad to show them the place. They are fine fellows and are intensely interested in archeology.

General:

Construction of the new steps is going ahead in fine shape. Foreman Harry Brown has three men on the job and they have completed the forms for the first three flights of steps and will be ready to pour concrete in the morning. Mr. Hamilton will arrive tonight and will be ready to supervise the pouring tomorrow.

Mr. Brown is worried about preserving the natural color of the surrounding sandstone. He can dust the proper colored sand into the raw concrete on the treads all right but will probably have to use Copperus on the risers.

The Custodian was here on the 6th of the month, and he and I made a careful inspection of the whole monument. In regard to the vandalistic carving, I wish to report that, although we did find a few recent scratches, my fears were for the most part unfounded. The Custodian advised me to let the water run out of the cove and take the water level down about 4 feet, beyond all danger of an overflow from fall rains and winter snows. I let the water run out of the pipe and over the reclaimed area for a week thereby lowering the water level to fully five feet below the spillway.

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# TONTO

By Woodrow Spires, In Charge

Travel:

From the standpoint of visitors, this has been a very successful month with a total of 332 driving to the Custodian's office and museum, of these 227 or 68% climbed the trail to the lower Ruin and 4 or 1.2% continued to the Upper Ruin. These figures show approximately 50% increase over the same period last year when 269 registered between September 16 and October 25.

Weather:

The maximum reached 96 degrees on October 3, with an average of 86 degrees. The minimum dropped to 46 degrees on October 25, with an average 58 degrees. This gives a mean average of 72 degrees.

Precipitation for the month was .12 which came in the form of two thunder storms. The water in the dam is going down very rapidly as there has been very little rain on the upper drainages and the farmers have been drawing rather heavily for irrigation.

Special Visitors:

September 28, Arno B. Cammerer, Director, National Park Service, stopped for a short inspection trip around the Monument.

October 12, Superintendent Pinkley and daughter Nancy, accompanied by Miss Isabelle F. Story, Editor in Chief, National Park Service, Mr. Olaf Hegen, Chief, Western Division, Branch of Historic Sites and Buildings, and Mrs. Hegen stopped for a brief inspection of the Monument.

October 23, Junior Park Naturalist Louis Caywood and wife, Winnie, spent the afternoon discussing new ways of handling visitors in the ruins and other problems which have been bothering me.

Regional Geologist, Vincent W. Vandiver stopped for a few minutes, giving me a few pointers on the geology of the region.

October 25, Reverend L. R. Stoner, Graduate Archeologist of the University of Arizona, spent the day checking some drawings which he made in 1920. They proved very interesting as we found a great deal of the ruins have been destroyed since then.

General:

The Winter tourist season has started; the first Tanner Tours was stopped at the Monument October 21.

The bird life on the Monument is becoming more plentiful, probably due to the storms in the mountains, which always drives them to the lower altitudes.

Considerable time has been spent working on the entrance road and the trail.

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# CANYON DE CHELLY

By Robert R. Budlong, Custodian

Travel for this month has been far from satisfactory. Uncertain weather, rough roads, and low temperatures seem to have frightened away some visitors, although this really is the end of the visitor season.

Total number of visitors to this National Monument for the month of October, 64. Of these, 46 drove within the canyons by car, 15 drove to the rim of Canyon de Chelly and two of these descended the trail opposite White House Ruin, and 3 persons rode horseback within the canyons.

States, represented by visitors:

| | | | |
|---|---|---|---|
| Arizona ..... | 27 | Colorado..... | 2 |
| New Mexico ..... | 10 | Nebraska..... | 2 |
| California ..... | 6 | Oklahoma..... | 2 |
| D. C. ..... | 5 | Virginia..... | 2 |
| Wisconsin ..... | 4 | Indiana ..... | 1 |
| Massachusetts..... | 3 | TOTAL: | 64 |

States, represented by cars:

| | | | |
|---|---|---|---|
| (U.S.) ..... | 6 | D.C. ..... | 1 |
| New Mexico ..... | 4 | California ..... | 4 |
| Colorado ..... | 2 | Massachusetts ..... | 1 |
| Nebraska ..... | 1 | Indiana ..... | 1 |
| Arizona ..... | 6 | Wisconsin ..... | 1 |
| | | TOTAL: | 27 |

Temperatures were moderate during the first part of the month, but rapidly changed, and we had freezing nights after the middle of the month. Minimum temperature, 23 degrees, on the 24th; maximum temperature, 83 degrees, on the 2nd. Total moisture, .05 inch, on the 19th. We had a trace of hail, also, on the 19th.

Construction of the Custodian's Residence, Garage and Storage, commenced September 28. To date, 21,000 adobe bricks have been made, excavation for footings is complete, and pouring of the cement for the foundation is about 75 per cent complete. Architect Lyle Barcume, his wife and daughter, visited this Monument on the 18th and 19th, Mr. Barcume inspecting the work on the foundations, adobes, etc.

On September 25 we had the great pleasure of welcoming to this Monument Miss Isabel Story of the Washington Office, Superintendent Pinkley and daughter Nancy Margaret, Engineer Jack Diehl, and Landscape Architect Chuck Richey and Ruth. The following evening a squaw dance was to be held about eight miles from the Thunderbird Ranch, and Miss Story Chuck and Ruth, and the H.C.W.P. decided to go out and explore the bottomless roads, after a day of pouring rain, apparently with the object of seeing just how near they could get to the dance without actually finding it. It was a cold, wet evening, and I decided to go home and get some sleep, which I did. At five-thirty the next morning the explorers returned, having walked back some five miles, leaving their car abandoned in a wash. And they had wandered

all over the Navajo Reservation without finding the dance. Later in the day, after extricating the car, we found that they had been within a mile of the celebration, without knowing it. The entire party left on the 28th, Superintendent Smith and Mrs. Smith of Petrified Forest driving here to take Miss Story to their Monument for a few days.

On September 30th and October 1, We were honored by a visit from Director Cammerer, Superintendent Pinkley and daughter, and Engineer Diehl. Miss Story did not accompany the party, probably because the weather was fine, and no squaw dance was being held. Mr. Cammerer had time for but a brief trip into the canyons by car, but we are hoping he may return soon, and have time to see more thoroughly one of the finest Monuments in the entire Park Service.

On October 17, Dr. and Mrs. H. S. Colton, and son, J. F. Colton, and Miss Katherine Bartlett paid this Monument a brief visit.

From October 13 to the 24th the engineering division was well represented here by Andy Clark, Cliff London and "Detty" and Carl Schmidt and Beth. We surely did enjoy having them here, even though they did bring cold weather with them. Immediately upon their departure, the weather moderated.

We have to report the sad news that we lost Doug Harritt, Temporary Ranger, this month. His term expired, and he headed back for San Diego and warmer weather. We are going to miss him mightily, but we are looking forward with great pleasure to his return to this Monument next season.

So we come to the end of another month, and the beginning of what promises to be a long, cold winter, with very few visitors.

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# WUPATKI

By James W. Brewer, Jr., In Charge

Travel:

Sixty-three guests registered at Wupatki Pueblo; 66 at the Citadel; 29 names are duplicated, leaving a total of 100 visitors to the Monument in October. (October 1934, 141; 1933, 77; 1932, 18)

This is a reduction in travel compared to 1934, probably due to the early cold weather.

Weather:

Errata: 1.4 inches rainfall in September Report should read point one four (.14).

September 25 to October 1: high temperature 78 on the 30th; low temperature 41 on the 28th; precipitation, .048; September 27, hail.

October 1 to 25: high temperature 87, on the 3rd; low temperature, 35, on the 23rd; one trace of precipitation on the 19th.

Newsworthy Visitors:

Mr. Vincent Vandiver, Regional Geologist, on September 25 while Sallie and I Were vacationing. I contacted Mr. Vandiver upon my return at the Museum of Northern Arizona where he is making his headquarters. Mr. Vandiver promises another visit to Wupatki.

Dr. H. S. Colton, Mr. L. F. Brady, and Miss Katharine Bartlett registered at the Citadel on the 27th.

Mr. and Mrs. Charles Amsden on October 1 (overnite at Wupatki Pueblo).

Mr. Frank Pinkley and Miss Isabelle Story (neither of whom seem to have registered).

Mr. and Mrs. Russel Grater, Wildlife Technicians, from Grand Canyon, were here from the 19th to the 23rd and promise another visit.

Mr. L. L. Hargrave and Mr. Watson Smith brought Dr. S. J. Jones, Geographer, of the University of Bristol, Bristol, England. Mr. Watson Smith was a visitor to the Monument in 1933 during the first excavation work.

Mr. and Mrs. George Willett, ornithologist with the Los Angeles Museum, trapped mammals west of the Pueblo (a Perognathus type locality). We spent a pleasant and profitable evening discussing birds and mammals with Mr. Willett.

Naturalist Activity:

On the 11th Junior Naturalist Caywood and I surveyed the Crack-in-Rock portion of the proposed extension. On Antelope Prairie our path was crossed by a herd of nine head of antelope. Caywood seemed to be impressed with the archeological importance of the proposed extension as well as its antelope worth.

Junior Naturalist Caywood added a bird specimen to the case as well as a new name on the check list---strange as it may seem, English Sparrow (Passer domesticus).

On the 22nd a trip over the Antelope Prairie country with Naturalist Grater revealed only three antelope, but we also saw three coyotes, a porcupine, and numerous birds, of which Horned Larks were most common. We had a picnic lunch at Crack-in-Rock ruin, where Grater, too, was impressed with the archeological importance of the proposed addition.

Vacation:
After turning over the keys of the Pueblo to Junior Naturalist Caywood on the 22nd, Sallie and I set out on our first annual vacation.

Petrified Forest: Shortly afternoon we stopped at Petrified Forest National Monument where we met Mr. and Mrs. White Mountain Smith and returned our long due visit with Naturalist and Mrs. Walker.

On to Cloudcroft where Sallie's Dad showed me how to play golf.

White Sands: We had a grand visit to White Sands National Monument with Tom Charles on the 26th. Mr. Charles gave us a fine explanation of the Sands, and none at all for the unusual looking thing a friend of his had taken from a visitor. I am watching your report, Mr. Charles, to learn more about the "something."

Mr. Charles asked what we thought of the water on the Monument, and because of the gypsum water we drink at the Pueblo, little difference was noticed by us.

We were, of course, hoping to see the well-known red lakes; strangely enough Mr. Charles seemed a bit reluctant to dwell on that topic---but we can say that his White Sands don't need well trained red lakes to make them a very swell place.

Carlsbad Caverns: Monday, September 30, a day and an outing long to be remembered. "The Rock of Ages" I'll never hear again without remembering the Big Room.

Sallie and I were made to feel like visiting royalty---first behind Chief Ranger Lehnert by invitation, who pointed out many of the smaller formations and resemblances, and who sent us up in the elevator with his compliments.

Lecture: On Wednesday evening for the Carlsbad Historical and Archeological Society Sallie's Dad projected Dr. Colton's lantern slides and I extolled the merits of Wupatki National Monument and briefly introduced Walnut Canyon, Sunset Crater, and Navajo National Monuments. This Society has a very nice small museum and showed a great deal of interest in archeology and the part the Park Service is doing in preserving important sites. I met Superintendent and Mrs. Boles at this meeting.

Casa Grande: I had an all too short visit at Headquarters where I missed you---but took one of the best Park Rangers in the United States to Tucson and a movie.

Acting Assistant Superintendent H. M. Miller and I went over procedure and several purchases and had a good visit besides.

Junior Naturalist King proved that Mrs. King could present a fine luncheon in spite of an early bridge engagement, and then Dale and I thrashed out the Sunset Crater diagrams and registration plans we have pending on design by the Landscape Division.

Visitors:

Under separate cover I am forwarding seven "thank you" letters from satisfied visitors and a list of three other visitors who have shown their appreciation with means other than writing.

Bailing Wire Economy:

A bullet-ridden and thoroughly abandoned Dodge sedan on Highway 89 a few miles north of Wupatki entrance road contained a windshield. The P II pickup I've been driving had none, so I "borrowed" the Dodge windshield and fitted it to the Chevrolet.

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# CASA GRANDE

By W. J. Winter, Custodian

Our winter season of heavy travel seems to be rapidly approaching, as this month shows a count of 2,281, an increase of 590 over the previous month. Large special groups are also coming in to use the picnic grounds and view the ruins. On the 20th our services were utilized by an Arizona Lutheran convention of 138 persons. Two or three Sundays there have been groups of 50 to 75 CCC enrollees brought in by their company Educational Advisers.

We had quite a number of visitors in October who are worthy of special notice. On the first we were visited by Neil Judd, Curator of Archeology, U. S. National Museum, Washington, D. C. On the 4th came Frank Scully, author, who registered from Nice, France. The next day we were glad to meet Mr. J. Barton Herschler, Custodian of Muir Woods National Monument, California. E. G. Dominguez, Mexican Consul at Tucson, called on us the 13th. An interesting visitor on the 17th was Major-General D. I. Myers, USMC Retired. General Myers has just retired as commander of the Department of the Pacific, after 48 years in the Marines. The same day we greeted Dr. A. E. Douglass, Head of the Department of Astronomy, University of Arizona. Dr. Douglass is well known as the originator of the tree ring method of dating timbers, probably the greatest single contribution ever made to American Archeology. He was accompanied this trip by Thomas Hale, archeologist of Tucson, and an old friend of this Custodian. That afternoon we met Thurlow G. Essington, prominent Chicago attorney, former State Senator and candidate for Governor of Illinois. On the 25th Senator Carl Hayden came in for awhile. Later we were visited by Odd S. Halseth, City Archeologist of Phoenix, accompanied by Professor S. J. Jones of the University of Bristol, England. Professor Jones is visiting all of the anthropological centers of the country.

Saving the best until the last, we were delighted to have Miss Isabelle Story here for several days in the middle of the month. As I need hardly mention, she is Editor-in-Chief of the National Park Service Public Relations Division in Washington. It is always a pleasure to see her and her visit was all too short.

Junior Naturalist Caywood was on duty at this Monument for ten days, October 15-26, in place of Ranger Charlie Steen, who was absent on a field trip with the Superintendent. Having been a Ranger here before he was a Naturalist, Louie didn't have to be shown what to do.

Our weather has shown a wide range of temperature this month, from a maximum of 101 on the first to a minimum of 34 on the twenty-fourth. The precipitation was zero, with sunshine daily.

Bird banding activities continue, a supply of new bands having been received. Ranger Steen is still avoiding ground squirrels, after being bitten last month. The winter migratory birds have become apparent since about the 15th. Among these are the phainopepla, Arizona cardinal, gambel sparrow, and house finch. Western mourning doves are numerous. Coyotes have been heard frequently on the Monument this month.

Tree planting is being conducted by Junior Naturalist King. The young mesquite trees are to be planted to screen the dwelling quarters from the ruins. Because of our hard caliche, it was decided to shoot the holes for the trees with dynamite. This sounded a bit drastic at first, but after experimenting it was found that quarter sticks did no good, half sticks were only partially effective and in the end a full stick was being used for each hole. No windows were broken---that caliche is hard!

A complete cataloguing of the museum is under way. As you know, most of the material bears numbers but the catalogue cards are far from being complete. Each object will now have full information regarding it on its card. We hope to be able to put in an hour or two a day on this job until it is finished. The visitor rush is increasing, however, so other jobs will have to be spread out over quite a period of time. Another project which will probably take some time also is our equipment inventory. This calls for a lot of checking and searching, so if you see a pair of heels sticking out from under a lumber shed it will probably be Charlie or myself hunting for something on our equipment list.

New desks arrived several days ago so now the Monument staff have a place to call their own. Heretofore, Charlie and I have been roosting on the corners of others peoples' desks or on the front porch, when not in the ruins. Quite an interesting time was experienced in getting the desks into the building. It took the combined efforts

and vocabularies of the entire Headquarters and Monument staffs, including a broken pane of glass, two doors removed and a piece of plaster chiseled out. It is suggested that the next time the Branch of Plans and Design lays out an office building that they be requested to make the doors wide enough to admit a standard size desk.

More visitors are bearing down upon us, so I will close.

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# AZTEC RUINS

By Johnwill Faris, Custodian

The melancholy note contained in my last report was apparently amiss, since we jump from 645 last October to 1155 this October, and no immediate sign of any great let down in our run of visitors.

These people have been from various sections of the country and not all local crowds as is usually the case, this late in the season. Sundays, however, are still our big days. Over 100 of this number can be accounted for in our acting as host to a State Baptist Convention. It was all Oscar Tatman, Ranger Hart, and myself could do for a few minutes. Other than special occasions Ranger Hart has contacted nearly all the parties himself. If any compliments flow into your office regarding our service, the credit all goes to Bert since I am contacting very few visitors. In reading the above I am afraid that it sounds bad, so perhaps I had better spend the balance of the report making an endeavor to explain what I am doing.

First, I try to think up things for Bert to do when he is not showing parties. That, in itself is becoming more of a task as the visitors drop in number. Here too my statement sounds bad. I do not mean to infer that Bert is the type that one has to hunt work for, but after all I have to justify my position.

The month started off in a fine way, with Mr. and Mrs. Hegen of the Branch of Historic Sites and Buildings stopping off with us. Their stay was limited, but we enjoyed every minute with them and feel that the few minutes we spent with Mr. Hegen going over some of the work was very worth while. They were accompanied to Chaco by Mr. and Mrs. Hart, and I am sure from all reports, that Cal lived up to his standard in making a big noise over a little ruin. Honestly, Boss, if we raved as much in proportion about the Aztec Ruins, as Cal does Chaco, it would take the entire staff of the Southwestern Monuments to handle off days, to say nothing of the days when we are crowded. (I wish, Boss, that you would request that Cal stop making fun of my ruin; I don't like it a bit.)

While we are on the subject of visitors and before getting into the administrative angle, I might mention a few more we enjoyed. Mrs. B. I. Staples was in for a few minutes on the fourth; I did not get

to see her personally but know that she had a nice trip with Hart. Following her the next day Mrs. Dr. George Norlin, wife of the President of the University of Colorado. She spend an hour or so with us and the inspiration of her association, pepped us both up for the balance of the month. She was a most gracious visitor and we hope that she found your crew at Azted affable hosts.

Charles Amsden of the Southwest Museum was in for a short visit and of course we were glad to visit with him. Here again I was not present but feel positive he was well received. The one big drawback I can see to having a Ranger is, that I do not get to meet all the nice people that visit my Monument. The contacts that I have made in the work have furnished me with ambition many times, when it just seemed that there was no use going further, and I hate to lose many of these. The only satisfaction I can get out of losing them, is the fact that in others showing them through, that they are probably getting more out of their visit.

Jim Hamilton has been in several times of late and I hope will continue coming in quite often, at least until the parking area is paved, and even then we are always glad to have him stop with us. Regarding the E.C.W. work we also had the pleasure of a few minutes with both Lyle Bennett and Lyle Barcume, Mesa Verde men. These boys as does Jim aid us greatly in our work and we sure appreciate their help. Lyle Barcume was with us a portion of the time under C.W.A. and it was almost like the good old days of C.W.A. to have him with us.

We have this month actually started work on the parking area and it should be only a short time until this feature is listed among those completed. When we can do this, I feel that we will have added greatly to the appearance of the Monument, and the pleasure of the visitor, particularly when only a short time ago it was getting stuck in the mud and now the gravel.

Well, anyway we are pleased that we are getting early action on this parking area. It has been hanging fire for a long time. I might mention here though, that if it were not for the personal attention that it is getting from Mr. Kittredge and Jim both, that it might even linger on for months yet. They are both hot on its completion and it is showing results.

The C.C.C. boys are a fine bunch of fellows. We are getting about 25 of them every day from Durange, and they are all very nice. We have experienced some little difficulty in getting the proper mix for our adobe and with no experienced men to start the work it was a case of working until developed our own. We are using a considerable amount of straw at present and all indications are that we will get what we want. Another feature that did us a great deal of harm, was that the heavy wet snow hit us with a great number of the brick on the

drying grounds and we lost nearly all of those. We do feel though that this next week will see us well under way in the making of the adobe, and if the weather man will only stay on our side for a time, everything will turn out fine.

Well, Boss, this has been a hectic attempt at a report, if I have had one interruption I had had a dozen. I would like very much to rewrite the entire report, but I must get it out in tonight's mail. So bear with me this month and I will try to do better next.

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# MONTEZUMA CASTLE

By Martin L. Jackson, Custodian

Visitors:

In accordance with your order of October 10, 1935, the register book was removed from the castle and placed on the little table in front of the museum. This move was made on the 15th, of the month and I find 224 names up to and including the 25th, estimated 442 up to the 15th, or a total of 666 for the month.

Special Visitors:

Director Cammerer of the National Park Service paid us a short visit during the month. Sorry he was on short time as I am afraid he was not here long enough to get a very good idea of local conditions. Vincent W. Vandiver, geologist with the National Park Service, was in for a short visit as he arrived on Sunday after closing time I did not have the pleasure of meeting him. Ranger Fish made the contact.

Weather and Roads:

No precipitation for the month, and it seems to me that we have had an usual amount of windy days and a great many complaints about dust and choppy roads. Some of the roads leading into the Monument are still under going repair. No frost as yet this season.

Hopiland:

Every so often it occurs to friend wife that there may be a few unusual pieces of Hopi pottery lying around on the reservation and she usually makes a trip to see; during the past month she had one of these hunches and invited me to go along. Not having seen a great deal of the Hopi Reservation I thought it might be interesting as well as educational to go along as you know a great many of our visitors here have made the Hopi country one likes to be able to talk intelligently concerning it. To make a long story short, I accepted the invitation and thought that for once in my life that I was going to be a guest and get something for nothing. No such luck---I found on returning home that I had paid the bills same as usual. Still I feel well paid for the trip. Saw a big and interesting country, some interesting old pueblos and what seemed to me enough grass for all

the sheep and goats in the world. The Madam found very little choice pottery being made at this time. She, made personal calls on Mampeyou Paqua and several of the other better pottery makers. They almost all seemed to be having an epidemic of fruit drying and are not working at pottery at present.

I believe I told you some time ago that the family doctor had advised me that I was overweight. Quite naturally I went on a very rigid diet and am glad to report that I have gotten the waist line down to approximately 39 inches. Needless to state, that I feel better younger and have more pep and can prove by three young fellows from the Pacific Coast that I am not so slow. In fact, they told me confidentially that I was absolutely the fastest thing they had ever seen on foot. The demonstration of speed was brought about by my going down to the Castle with them, and, naturally, on rounding the point to where we could see the castle I was pointing out different things of interest. On arriving just in front of the visitors bench under the tree in front of the building I suddenly heard that old familiar hissing rattling noise. I looked down and discovered that I was all twisted up with a rattlesnake. The next thing that I recall is that I was standing some 20 feet away, taking an inventory to see if and where I had been bitten. Have not been able to find any evidence that I was struck but am not too sure even yet. The poor snake fared worse as he was injured some way in the mix up.

The moral to this incident is that even the rattlesnakes come to visit Montezuma Castle. Still they are not too plentiful as that is the second one I have seen this season.

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# PIPE SPRING

By Leonard Heaton, Acting Custodian

I have put off this report until I am wondering if it will be late in getting to you, but I am trusting to the mail service in doing a good job of running on schedule.

There is not much to report that is of any interest other than the usual travel figures and condition of the Monument.

Our visitors have decreased this month, and the count shows the following:

| | | | |
|---|---|---|---|
| Idaho | 3 | Arizona | 27 |
| California | 12 | New York | 3 |
| Utah | 35 | Wyoming | 5 |
| Minnesota | 3 | Texas | 2 |
| | | TOTAL | 90 |

Local travel including sheepmen, cowmen, ranchers, and others I estimate at 130. There are six days that I was away that I have not a record of. I believe our total travel of 220 will cover all that have been here.

The weather has been like most autumns up here---just getting colder as the days go by and frost coming almost every night for the past 10 days; froze the leaves before they had time to turn color.

There have been a lot of birds passing by on their way to the warmer country for the winter. I have found several birds that have died on the Monument; whether it is old age or lack of food I don't know: American Crow, 1; Pinon Jay, 1; Oregon Towhee, 1; and several sparrows.

There have not been any CCC men here since the boys were sent to make another camp at Vayo, Utah. I received word the other day from the Division of Grazing that some one would be in shortly to take care of the place and that the boys would come in some time later. We surely hope that they get in here soon so that we can get some of the work done that is planned for them, especially the camp ground planting this fall.

Well it seems as if I have run out of ideas to write in this report, so will close and try and make up the shortage in next month's report.

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# BANDELIER ECW

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

The Warehouse, shop and gasoline-oil house was completed and moved into this month; a few small details as painting window openings and pointing of the masonary remain to make these projects 100% complete. This move from the Canyon rim to the new location and buildings is probably the most helpful and important improvement that has been effected at this Monument with concern to ECW activities. It will undoubtedly mean a large saving in our equipment and operation costs.

The walls of the garage building, which makes up a unit in the utility group, are 40% complete at this time. All timber necessary for construction of this building is cut and delivered to the building site.

Open areas around the recently completed office and headquarters buildings have been graded and prepared for planting by the landscape crew.

Sewer tile delivered the project by the Army has enabled us to start the 1200 foot sewer outlet connection from the septic tank now being used by the CCC camp. Excavation is now about 80% complete and

laying of the tile will start in the near future.

A small crew has been working all month on road maintenance replacing, surfacing, and filling ditches where severe rains during the past few months eroded the entrance road.

The rock quarry project has been in steady operation all month.

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# CAPULIN MOUNTAIN

By Homer J. Farr, Custodian

I have the following report for October for Capulin Mountain National Monument.

As usual our visitors have dropped off a great deal although the weather has been such that they might have enjoyed this Monument most of the month had they known it.

Approximately 1200 visitors were here this month but very few staying overnight. Mr. Chas. A. Richey, our genial Lamdscape Engineer, was calling for a few minutes on us this month. We were glad to have him even for that long.

Weather has been very fine about all the month, with the exception of two windy and two rainy days. The Custodian has been working very hard all this month, and his mind is rather dull and hopes to be able to think up more news for the following report.

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# NATURAL BRIDGES

By Zeke Johnson, Custodiam

It seems like report time comes very often these days, especially when one is busy all the time. Not so many visitors this month as I expected owing to the early fall, cold weather and many storms.

One nice group of 22 people from Ohio early in the month. I have had a laborer out there for 10 days working trails and I have worked with him every day, as it was too cold and wet for people to travel over our dirt roads but just right to shovel dirt. I will soon get the trails in fair shape for spring.

Superintendent Tillotson is here, and we will start tomorrow on a saddle trip down White Canyon to the Colorado River. Will be gone for seven or eight days; then I will finish my trail work and pull for Salt Lake City for the winter. It will take me about 20 days to finish of what I want to do. There seems to be nothing of importance to report this time.

# ENGINEERING

By John H. Diehl, Park Engineer

This has been another month of travel. On October 1 Mr. Pinkley and myself were at Canyon de Chelly National Monument with Director Cammerer. On the second the trip with Miss Story was continued to Walnut Canyon and Wupatki National Monuments, Lees Ferry, Grand Canyon National Park, and Boulder Dam.

On October 6 we left Miss Story at Boulder City, Nevada, and returned to Coolidge, Arizona, on the seventh. Then four days in the office, leaving October 12 for Canyon de Chelly, where on the 14th and 15th the preliminary line was staked for about two miles of road improvement along the south rim of the canyon.

On the 16th I went to Gallup, New Mexico, and spent until the 20th going over the area proposed as a national monument, south and west of Lupton and Manuelito.

From Gallup to Carlsbad, New Mexico, on Sunday the 20th, and three days were used out at Carlsbad Caverns on the parking project there, under construction.

Leaving Carlsbad on the 24th for Bandelier National Monument I arrived on the 25th and remained until the 27th when I left there for Coolidge, Arizona, arriving on the 28th to spend the balance of the month.

Andy Clark and his crew moved from their quarters at Walnut Canyon, from where they had been working checking boundary lines and feature locations of Sunset Crater National Monument,- To Canyon de Chelly National Monument on October 12th. Ten days were spent on about two miles of road survey and then this crew moved to Chaco Canyon to reset fence line stakes.

J. H. Tovrea was on office work at Coolidge until the 10th, when he left with a special Park Service party to act as interpreter and guide, on a trip to Mexico to visit various ancient missions. He is expected back at Coolidge by the end of the month.

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By J. B. Hamilton, Park Engineer

AZTEC RUINS NATIONAL MONUMENT:

September 30 I visited the Monument and made list of materials for the cattle guard. Over a week's delay occurred while waiting decision wheather to do the work force account or by contract. Bids for the steel were circulated October 7 and opened October 16. A Pueblo firm is fabricating the steel. It is expected at Aztec any day now.

Bids for hauling the emulsified asphalt, if shipped in drums,

were opened October 18. Meanwhile it was found that 6500 gallons bulk asphalt could be purchased $130 cheaper than 4600 gallons if shipped in drums. Many firms, as well as the State Highway Department of New Mexico, have been contacted in an attempt to find some way of handling the bulk shipment.

On October 19 I gave Custodian Faris details of excavation for cattle guard and list of lumber for forms. On the 22nd I supervised form construction.

If steel arrives as expected concrete should be poured November 1.

CANYON DE CHELLY NATIONAL MONUMENT:

A few hours were spent at the Monument on October 9 and 10. It was hoped to get a final check on costs of the water and sewer job but Custodian Budlong did not have copies of all ledger sheets.

A trip up Canyon de Chelly as far as the Window was made to observe work of the Soil Conservation Service. They are replacing posts washed out by the spring floods. At points where erosion is particularly severe they are using extra long posts, excavating inside a cassion and filling between posts and cassion with rock. The cassion is pulled and used again.

They are grading on some of the Indian farms and building dams to conserve water coming into the canyon from the cliffs. From superficial observation the planting done last fall seems to be taking hold well.

I was interested to observe that considerable silting has occurred behind the new fence in front of the White House. At other points, however, not so much success is apparent.

CHACO CANYON NATIONAL MONUMENT:

I received word to take over the engineering matters at Chaco Canyon National Monument October 23. Got to the Monument October 24 and caught up on correspondence and reviewed maps and specifications that evening. Spent most of October 24, going over the work with Custodian Miller, Inspector Williams, and the contractors, Superintendent, Mr. Lembaugh.

Mr. Clark arrived from Canyon de Chelly to mark the fence lines and to stake out the cattle guards.

I drove to Chaco Canyon October 1 and got data for final report on $900 PWA funds spent there the spring of 1934. This report will go to the Branch of Engineering for typing soon.

While there I suggested a method of detecting movement of

Threatening Rock. I proposed grouting two rods one in the cliff the other in the rock near the top, so that they are in sliding contact. I proposed cutting a notch across the two rods and noting the temperature. If the notches show movement greater than that due to temperature changes then we should know that the rock has moved relative to the cliff. I suggested two pairs of such rods, one near the south end, the other near the north end of the rock.

EL MORRO NATIONAL MONUMENT:

A telegram from Hugh Miller October 16 said to start construction of concrete steps at El Morro before October 22, or else the money would revert. In Gallup that evening I got in touch with Foreman Brown at Canyon de Chelly and arranged with him to go to El Morro with the Chevrolet pickup and what tools he could get.

The next day I shopped for materials and went to Vogt's ranch where I checked the plan. The next morning I arranged for transporting materials with a truckman at Ramah and started him for the first load. Then I went to the Rock with Foreman Brown and staked the work and checked up on tools. Came back to Gallup that evening and typed materials orders in final form. Finished this work October 19 and came back to Mesa Verde.

Meanwhile Mr. Brown organized a crew with Vogtie's assistance and had the first flight of steps ready to pour October 24. However, he found that he had hired his crew from Ramah, which was in McKinley County whereas the Monument is in Valencia County. To be on the safe side he fired the McKinley County crew and started organizing a Valencia County crew.

I shall be at the Rock October 28 and hope to see the first flight poured.

NATURAL BRIDGES NATIONAL MONUMENT:

The surveying crew got back to the Park from the Natural Bridges National Monument October 1. I sent the map for tracing October 3 and got a print back October 23.

MISCELLANEOUS:

Since this month has also seen the start of the Sixth Period ECW program for the two camps at Mesa Verde National Park, I have not suffered from boredom.

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# MONTH OF THE BOSS

The boys called attention in the last monthly report to the lack of my so-called 'sprightly remarks' and it might be well for me to give an accounting of myself from the middle of September to the latter end of October so you may know that at least I have been busy.

About the middle of September my daughter, Nancy Margaret, Jack Diehl, and myself left Headquarters at Coolidge and drove across Southern New Mexico and up the Rio Grande to Lamy to meet Miss Story and accompany her on a trip through the northern part of our district. From Lamy we went out to Bandelier National Monument and spent one day in going over the changes which have been made there since Miss Story last visited it. We had gone in a day or two before she arrived and checked the administrative problems so this day with her was more or less a day of sightseeing.

Custodian Earl Jackson and Betty, the newly-weds, were settled down in the ranger residence and have a delightful home. They were glad to see us and did everything possible to make our stay a pleasant one. Hub Chase and his E.C.W. camp have done some mighty fine work and our program there now stands several years ahead of where it could have possibly been under the regular appropriations. This means much greater comfort and convenience for the visitors and much easier and better administration for us. We have water and sewer systems, two stone comfort stations, the first unit of the administration building, utility buildings, camp grounds, miles of beautiful trails, and a fine entrance road, as some of the outstanding results of this camp's work, to say nothing of a hundred minor items which we would have been unable to get otherwise.

Mrs. Frey made us comfortable in her usual gracious manner at the Lodge and we visited the ruins and went down the Canyon nearly to the Upper Falls with Mr. Jackson and Mr. Chase.

We came away with the very definite impression that we had made much progress at Bandelier in the last two years and that we had not made any major mistakes. In other words, we have not over-developed nor will our proposed projects carry us that far.

Leaving Bandelier we drove down to Bernalillo and thence across through Cuba and into the Chaco Canyon National Monument, arriving there about six in the evening. We were over at the Millers for dinner that evening and the next day looked over Pueblo Bonito, Chettro Kettle and Pueblo del Arroyo ruins, examined the bridge across the Chaco Wash, which is in bad condition, and studied the proposed administrative layout on the south side of the Wash east of the Gap.

The affairs of Chaco Canyon National Monument are in as good condition as we have any right to expect and are being efficiently handled

under Mr. Miller's charge. Since then approval has come through on the fencing contract and the fence is now under construction.

We left Chaco after lunch and went over for a visit with Johnwill Faris at Aztec Ruins National Monument. We found Johnwill getting along splendidly at the end of a busy season with his visitors and looking forward to another busy season this fall and winter with construction. We met permanent ranger Bert Hart, whom we knew of old in Mesa Verde, and Mrs. Hart, who has recently become so, and welcomed them officially into the finest branch of the Park Service. They seem to be very well pleased with the new job. Johnwill had just completed a temporary arrangement of his new museum cases and we had quite a talk over the results. Due to inability to complete the original plans, we will probably have to work out a plan on the ground for handling our exhibits. This may take some time and require a lot of experimenting.

Leaving Aztec, We drove to Durango expecting to spend the night but, finding a convention being held in Durango and the hotels filled up, we drove on through to Mesa Verde National Park, arriving there about 10:30 p.m.

The next day we visited at Mesa Verde, seeing all the new work which is being done under E.C.W. and revisited some of the ruins.

We then left Mesa Verde, going out by the west road and went down to Hovenweep National Monument. This Monument is rather hard to reach and we are not encouraging the general public to go there, but it has a mighty nice group of ruins and is well worth the time and trouble to go off the main highway to see it. We took a picnic lunch with us and just as we were finishing it up who should drive up but Carroll Miller and Johnwill Faris, Carroll on his regular monthly trip of inspection and Johnwill, according to Carroll, to see what a real good bunch of ruins looked like.

After dividing what was left of the lunch we all spent a pleasant hour or two looking over and photographing the ruins and then returned toward civilization and visited the Yucca House National Monument.

At Yucca House we found everything in good shape and after an hour's visit there we separated, Carroll and Johnwill going back by way of Durango and our party going on to Gallup for the night.

The next day we went out to Ramah and visited an hour with Mrs. Vogt and thence on to El Morro National Monument. Evon was away and we did not get to see him and saw almost as little of his monument as a storm came up while we were eating lunch and we had to abandon the idea of going up over the rock and push back to Ramah before the roads became impassable. West of Ramah we found the roads dry and reached

Gallup again that night without further incident.

The next day we went out to Canyon de Chelly and, being rained in there, stayed an extra day. It was here the attempt was made to attend the Squaw Dance, all of which is set forth in another part of this report. We had a very pleasant visit with Bud and Betty and enjoyed the stay with the McSparrons at the Thunderbird Ranch. We got up on the south rim of the Canyon but could not go up inside with the cars on account of the water. Mr. and Mrs. White Mountain Smith joined us on the second day of our stay and we all came out together to the Petrified Forest National Monument, where we left Miss Story for a couple of days and the rest of us proceeded to Holbrook.

The next day we proceeded from Holbrook to Flagstaff where we met you and the smiling Jimmie Lloyd and conducted you to the Walnut Canyon National Monument where we visited an all too short time with Paul Beaubien, the Engineers, and the Honorary Engineers Without Pay. We then went to the Petrified Forest for a most excellent dinner and back to Holbrook for the night.

The next day we went through the Forest for another visit and back up to Canyon de Chelly for that night. In this connection don't forget that road over those slick rocks up to the south rim which we talked over as we rode over and agreed it needed something done about it. We are going to have some preliminary surveys and ideas to submit on that before many weeks.

The next day you folks went up the Canyon while I spent two hours and a half and a large vocabulary running down a dime's worth of electrical trouble in the timer on my car. Replying to the facetious remarks you and Jimmie heaped upon it, I might say that as soon as you two left the Thunderbird Ranch the Ford revived and we came out to the Forest and Holbrook in good order. I don't say it was cause and effect but I have not had that particular trouble again, so what?

The next day, Miss Story with us again, we parted from the Smiths and took her to Walnut Canyon National Monument, past Sunset Crater and to Wupatki, going down to Hubert Richerson's place at Cameron for the night. This day we had more time to spend and went down into Walnut Canyon with Paul and the Honorary Engineers Without Pay and really got an idea of the problems which confront us there. It is an interesting place which is going to run into a heavy attendance in the next few years, and it behooves us to do something about it. Plans are in the making and will be presented to you in due time.

At Wupatki Jimmie and Sallie were away on leave and we found Louis and Winnie in charge and acting as relief custodian and H.C.W.P. Here we spent a mighty pleasent sunset hour in conversation and enjoying that wonderful view off across the painted desert country.

The next day we went up to the bridge over the Colorado and on up to the old Lee's Ferry Crossing. We returned by way of Cameron and went into the Grand Canyon National Park.

After spending one day at Grand Canyon looking over the new improvements, we went the next day to Boulder Dam and on to Boulder City, getting in there about eight o'clock at night.

The next day, being Sunday, we did the usual sightseeing around the Dam and the Lake and then, parting from Miss Story, we drove back to Ash Fork, getting in there about eleven that night.

The next day we drove to Headquarters, it being October 7.

On October 11 Miss Story returned through Southern Arizona and we met her at Phoenix. On the 12th we went to the Roosevelt Dam, Tonto National Monument, Gila Pueblo at Globe, and back to Headquarters.

Sunday We rested and on the next day drove down through the Papago Country to the proposed Organ Pipe Cactus National Monument, returning by way of Ajo and Gila Bend. It was a hard day but an interesting one. Next day, dropping Jack Diehl and including Charlie Steen in our party, we went to Saguaro National Monument, San Xavier Mission, Tumacacori National Monument, and into Nogales for the night. We enjoyed a short visit with the Boundeys and the Evenstads at Tumacacori and were again impressed with the pleasing appearance of the place.

We had intended to cross into Mexico and have a look at two or three of the Kino chain of Missions down there, but a local uprising broke out the day before we went down and the Consul told us he considered the country unsafe for us for the next few days.

This caused us to push on the next day through old Tombstone to the Chiricahua National Monument.

The next day we spent in going over the problems of Chiricahua where Bill Stevenson and his E.C.W. camp are duplicating the excellent work of Bandelier. This day we walked nine miles of trails as one item of the day's inspection and looked over camp grounds, comfort stations, water supply, road work, and numerous other things Bill has under way. At Chiricahua we always put up with Mr. and Mrs. Riggs of the Faraway Ranch, and the next day we spent that day we gained by not being able to cross the border in going up around the hills to visit the site of old Fort Bowie, taking along Mr. Riggs and Mrs. Riggs' father, Mr. Neil Erickson. Mr. Erickson had served in the U. S. Army back in the 80's and had met and married Mrs. Erickson at Fort Bowie. Needless to say, it was a day long to be remembered.

Mr. Erickson's memory is quite clear and he was able to walk among the ruined walls and tell us the uses of the various buildings, the names of the officers who occupied certain quarters, various incidents which took place at certain points on the grounds, and so forth.

The next day, bidding the folks at Chiricahua National Monument goodbye, we went over the mountains to Rodeo and thence to Las Cruces where we stopped at that Spanish home-Museum-Hotel, the Amador.

The next day, being Sunday, we made a short drive and stopped at Socorro. On the way we dropped in at old Fort Selden and had a look at the ruined walls. It is not as interesting as Fort Bowie, nor is it so old.

The next day we visited the mission ruins of Abo, Quarai, and the Gran Quivira National Monument, and then drove through to Alamogordo, getting in about ten at night. These missions are a story in themselves which would occupy a good many pages; I reserve that for another time.

The next day we spent with the immortal Tom Charles and that other fine man of Southern New Mexico, Gene Baird, looking at White Sands National Monument. This trip we got around west of the real body of the White Sands and saw that big Playa. When it is dry you can drive for miles in any direction over its perfectly level floor. With three inches of water on it you promptly bog down and stay there until she drys out. Nancy Margaret and Charlie Steen also had a chance to try out the surf board riding on the white sands, which is a form of amusement the life insurance companies wouldn't approve of. You stand on one end of a ten-foot board holding to a couple of short ropes to steady yourself while Tom hitches the other end to the rear end of his Ford by a long rope and then goes away from there at about 25 to 40 miles per hour. You are supposed to go along too but not everybody does.

Next day we went up to Three Rivers with Tom and looked over a lot of mighty good pictographs and then, parting from him, we went across the mountains by way of Lincoln, of Billy-the-Kid fame, and on down through Roswell to Carlsbad.

Next day we went through the justly famous Carlsbad Caverns National Park and enjoyed every bit of the time just as much as if it were our first trip.

Next day we went to El Paso and put Miss Story on the train that night bound for New Orleans and points east and north. This was Friday, the 25th of October.

Next day we drove from El Paso home arriving at Headquarters about

8:30 that night and the next morning were back on the job ready to go to work.

In all, the above resume covers 5,546 miles of travel for me and about 4,000 for Miss Story as shown by the log book we carry in the car. We were delayed one day by bad weather and ran through bad weather two other days. Roads were good, bad and indifferent and in some places there were none. There remains a photographic impression on the mind of one of our party of two fellows down on their hands and knees, about midnight of an especially dark night, with lighted matches in their hands, trying to find the road on a piece of slick rock country.

Take it up one side and down the other, it was a great trip.

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# NATURALIST DIV.

By Dale S. King, Jr. Park Naturalist

Park Naturalist Rose returned from annual leave October 7, and then left Headquarters October 10, spending the remainder of the month with the National Park Service preliminary reconnoissance survey of the Kino chain of missions in Southern Arizona and Sonora, Mexico. During his annual leave Mr. Rose visited several Southwestern Monuments, and made visits at Rocky Mountain, Wind Cave, and Carlsbad National Parks. He also made numerous educational contacts in Indiana in the way of illustrated lectures concerning the National Park Service, contacting a total of more than 600 persons.

Junior Naturalist King spent the entire month at Headquarters. During the month he continued bird banding operations at Headquarters, improved traps and feeding stations, and aided in the equipment of a bird banding station which will be operated at Montezuma Castle National Monument. He copyread and aided in the preparation of the September Monthly Report, wrote 53 official letters, and entered 48 new books in the library catalogue. With the exception of other routine duties, the remainder of the month was spent planting 100 mesquites, catclaw, and ironwood specimens which will form a screen between Compound A and the residences of the Monument and Headquarters. This project is approximately 80 percent complete.

Report of Junior Naturalist Louis R. Caywood:

As promised last month I will continue with Wupatki National Monument as the theme of this month's report. Wupatki is a jewel in an archeological setting. Perched on a small escarpment of Moenkopi sandstone it overlooks an area rich in geology and archeology. Behind it to the south looms the black cinderous remains of a lava flow that pushed its way over the red sandstone thousands of years ago. Far away to the north one can see the valley of the Little Colorado and

farther yet the Painted Desert. It was in such a setting that pueblo peoples lived centuries past, but were finally forced to abandon their homes and depart for more productive and protected regions.

Another interesting attraction at Wupatki is the Navajo family. There is Clyde and Sarah, Sarah's sister, and a number of Sarah's Children. Usually a number of visitors or relatives are staying at the hogan also. Sarah weaves while the children manage the flock of sheep. Clyde tends to the horses and marketing.

In the evening as long as there was light Winnie and I explored the closer ruins and visited our nearest neighbors, the Navajos, who live five miles away past the picturesque ruin of Wukoki. In turn we were paid visits by Clyde and Sarah.

The Boss, Miss Story, Nancy Pinkley, and Mr. Diehl paid us a much too short visit late one afternoon. We were sorry that we could not have seen more of them.

Miss Katherine Bartlett and Dr. Colton came out to measure the Wupatki Ball Court. By the way, there are three such depressions in the Wupatki area and at present one of the sites is being excavated under the direction of the Museum of Northern Arizona. Each Saturday College boys from the Arizona State Teachers College at Flagstaff under the direction of John McGregor. The results of such an excavation are going to be interesting.

Other visitors included Mr. and Mrs. Cliff London of the engineering party stationed at Walnut Canyon. Mr. and Mrs. Charles Amsden of the Southwest Museum at Los Angeles were overnight guests. We thoroughly enjoyed a long archeological 'bull session' and hope we did not detain the Ansdens too long.

A number of interesting visitors were shown through the ruins and told about the surrounding country. A fact that impressed me is that when visitors come to Wupatki, they stay for several hours, if at all interested.

Jimmie Brewer returned on the evening of October 5. On the 9th he took me on an all day trip in his famous desert rattletrap equipped with jumbo tires. Three days of rain about a week before had thoroughly erased any semblence of roads, but by following a dim trail we worked our way through the torturous badlands north of Wupatki, saw the Little Colorado and visited another interesting ruin, Crack-in-Rock.

The area traversed was all in the proposed monument addition which I believe worthy of becoming a part of Wupatki National Monument. During the trip we were fortunate in seeing a herd of nine antelope.

Other wild life noted on the Monument were coyotes, rattlesnakes, antelope, ground squirrels, and the usual rabbits.

The bird life at Wupatki is interesting. Jimmie has a check list of 93 birds. He has made a great many study skins which are in study cases at the "old homestead" of Dr. Colton at Flagstaff. Jays, various species of sparrows, a green-tailed towhee, sage thrashers, red-shafted flickers, chestnut-back bluebird and others not familiar to me were seen during my stay at Wupatki. I was not very lucky at bird banding. Only three were banded, one green-tailed towhee and two sage thrashers, all with Wupatki bands.

My last day in the Flagstaff region was spent at Walnut Canyon National Monument where Paul Beaubien showed me over his new loop trail. The plan of the trail and the signs are well laid out. Much work yet remains to make a good safe trail and permanent signs.

Bird banding at Walnut was more lucrative. Paul has built a water trap over the bird fountain with the net result that all his bands had been used up when I arrived. During my short stay we banded nine birds. Eight were chestnut back bluebirds, Nos. 35-128141-48 and one bendui cross bill No. 35-138149. Since my return to Headquarters, Paul has banded six more bluebirds, Nos. 35-128150-55.

October 14, I arrived at Southwestern Monuments Headquarters to relieve Charlie Steen for a two-week period while he accompanied the Boss, Miss Story, and Miss Pinkley on a trip to some of the Southern Monuments.

Bird banding here at Casa Grande National Monument is beginning to bear fruit already. The Gambel Sparrows were seen about a week before my return by Dale. Then on October 23 a return was taken by Dale. No. 34/87595 had been banded last March 16. After leaving us in the spring, he again returned this fall and got a free meal with the consequences that he found himself a temporary prisoner.

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# CLOSING

You will note from the reports from the men in the field that it has been a fairly busy month notwithstanding the fact that winter is coming on and visitors are dropping off at several of the Monuments. I don't know why the winter weather is coming earlier this year, but such seems to be the case as you will notice from several of the reports.

In my recent trip over the district I made it a point to ask questions at hotels, resturants, cabin camps, garages, gasoline stations, and any of the other businesses which deal with the travelling public. The general report is that there are more people travelling this year

than for several years. They are also spending more money, not only in the aggregate but per individual. Meal checks are averaging higher this year than last. Room rent is averaging higher per individual over last year. This last means that people who were taking $1.50 rooms last year are taking $2.00 rooms this year, etc. My conclusion is from these various means we have of checking, that more people are travelling and they are not afraid to spend a little money for luxuries, or what to them seem to be luxuries.

Phoenix, Tucson, Santa Fe, and Albuquerque are looking forward to heavy tourist business this winter based on preliminary inquiries to hotels, chambers of commerce, etc.

All of which means that the district as a whole is in a great deal better situation than it has been for several years, at least so far as those particular lines of business dealing with tourists are concerned.

The ranges, as a whole, are in good condition too although there are some spots which are not so good.

The water situation in the irrigated districts is from fair to good. There is no immediate worry about stored water and crops are doing well. Dry farming crops were not so good.

Business men, with some exceptions, of course, report business being better than last year, but I don't know how much of the extra business is being done on credit, probably more than last year.

All these items reflect the possibility of an increased attendance at our 25 national monuments in this district this winter and next spring which will tend to keep us busy.

We are falling behind in our construction needs. Speaking generally we were not allowed to put construction items into the regular estimates on the theory that we would get those items through the relief appropriations. Again speaking generally we are not getting such items through the relief appropriations. This means, with a steadily increasing number of visitors which in turn entails an increasing amount of construction, we will be in a serious condition by another year and a critical condition within two years. At Bandelier and Chiricahua, where we have E.C.W. camps, we may be able to keep our construction programs abreast or ahead of our visitors, but at the other monuments we will quickly fall behind.

Our personnel situation is fair to good with a few critical spots. We have had to use stop gap methods to give protection at four monuments this summer and fall. We need some more permanent men as outlined in our estimates last spring. If we don't get them, we are almost sure to have trouble in the way of vandalism and complaints on lack of service next summer.

Boundary problems are still bothering us at several of our monuments. Especially do we need to know where the boundary of Canyon de Chelly National Monument lies.

Land problems are also troubling us, the most pressing one being in Chaco Canyon National Monument.

During my recent trip covering the district I had a chance to observe the morale of the men and it seemed to me to be good; not perfect and there are one or two points where it could be considerably improved, but, on the whole, it is good. It must be remembered that we are working under peculiar conditions at many of our places and our problems are in a sense special problems. Our men have much heavier responsibilities that similarly paid positions in one of the parks.

The month of October has been good and we are in position to go into the winter work full of energy and enthusiasm, and I think we have a good winter's work ahead of us.

Cordially,

Frank Pinkley
Superintendent.

THE

# SUPPLEMENT

TO THE

MONTHLY REPORT

FOR

THE

SOUTHWESTERN

MONUMENTS



WHERE WE ARE SERIOUS

-BUT NOT TOO SERIOUS



# STABILIZATION OF NEW ADOBE BRICK

So much has appeared in the Reports of recent months concerning stabilization that it perhaps would be wise to run the following letter as an example of the careful experimentation work that is being done by the Park Service and other agencies. The letter, from an American Bitumuls official to Chief Engineer Kittredge, is self-explanatory.

"Dear Mr. Kittredge:

"With reference to your memorandum dated August 9, 1935, we wish to advise that we have now completed the various tests contemplated, and that the results furnish an answer to most of the questions brought out in the conference.

"All tests were conducted jointly by Mr. Martius of the Park Service, and Messrs. McCrea, Watts and McCoy of the American Bitumuls Company.

"The bricks were made and tested for wind erosion at the National Park Service laboratory at Stanford University. The water absorption tests were made in accordance with standard practice at the American Bitumuls Company laboratory in San Francisco.

"The soil used in making these bricks were chosen indiscriminately and obtained locally. Its mechanical analysis is as follows:

Pass. 1/4" - 100.0%
#10 - 99.9
#40 - 96.0
#80 - 86.0
#200 - 71.3
Wash - 70.5

Amount of Bitumuls Stabilizer used was computed from the formula 15% x 200 Mesh or .15 x 71.3% = 10.7%

Weight of batch = 2494.75 gm. soil = 5.5 lbs.
x 10.7%
267.5 gm. Bitumuls

Assuming soil to weigh 100#/cu. ft.
" Bitumuls " 8.4#/gal.
and 2 bricks (2" x 4" x 6" ea.) = 96 cu. in.

$\frac{1728}{96} = 18$ and $\frac{100}{18} = 5.5\#$ wgt. two bricks

The fact that this particular soil, due to fineness, required a larger percentage of Stabilizer (as determined by its grading) than does the average adobe used in brick making bears no relationship to the test results.

## Description of Bricks Tested

| Designation | Description |
|---|---|
| No. 3 | Untreated Adobe Brick (Unstabilized and uncoated). |
| No. 2-U | Same as No. 3 plus 2 applications of Mr. Martius' spray-coating. |
| No. 1-U | Same as No. 2-U (tested for wind erosion and having eroded face tested for water absorption). |
| No. 2-S | Bitumuls Stabilized Brick |
| No. 1-S | Same as No. 2-S plus 2 applications of Mr. Martius' spray-coating. |

## Wind Erosion

These tests were carried out in accordance with Mr. Martius' accepted procedure. Each brick tested was subjected to a sand blast treatment for a 10-minute period.

Assuming that the Untreated Brick (No. 3) affords a unit resistance to wind erosion, the relative values of Mr. Martius' spray-coating and Bitumuls Stabilization (separately and in combination) may be seen from the following table:

| Designation of Brick | Description | Relative Protection against Wind Erosion |
|---|---|---|
| No. 3 | Untreated & Uncoated Wind Eroded | 0 |
| No. 1-U | Untreated with 2 applications Coating - Wind Eroded | 71.5% |
| No. 2-S | Bitumuls treated; no coating Wind Eroded | 84.6% |
| No. 1-S | Bitumuls treated; 2 applications Coating - Wind Eroded | 91.8% |

It should be noted also that although No. 1-S shows the greatest protection against wind erosion, this combination is inadvisable because this treatment tends to produce a discolored brick. This is

due to the solvent action of the Toluol (contained in Mr. Martius' coating) on the particles of dispersed asphalt present in the Stabilized Brick.

## Water Absorption

These tests were carried out in accordance with our regular procedure for determining the percentage of water absorption in various treated and untreated soils. The bricks were placed on a blotter which is kept uniformly saturated with water, and the amount of water absorbed in each case is determined by a daily weighing of the specimens.

Based on the fact that the Untreated Brick (No. 3) offers lowest resistance to water absorption, the relative waterproofing efficiency of the various treatments is given in the following table:

| Designation of Brick | Description | Water Absorption (6 days) | Efficiency of Waterproofing in % |
|---|---|---|---|
| No. 3 | Untreated & Uncoated Wind Eroded | 21.9% | 0 |
| No. 2-U | Untreated; 2 applications Coating - Not Wind Eroded | 21.2% | 4.3% |
| No. 1-U | Untreated with 2 applic'ns. Coating - Wind Eroded | 18.0% | 17.8% |
| No. 2-S | Bitumuls treated; no coating Wind Eroded | 1.6% | 92.7% |
| No. 1-S | Bitumuls treated; 2 applic'ns. Coating - Wind Eroded | 1.7% | 92.2% |

The results of the foregoing tests are so strikingly apparent that little comment seems necessary. In the water absorption test, the coating, either with or without wind erosion, appears to have little resistance to moisture absorption. The Bitumuls treated brick show only slightly enhanced by the coating on Sample No. 1-S. Bitumuls treated brick show greater resistance to wind erosion than the coated brick. It should be noted that the sand blast was of only 10 minutes duration and that an appreciable amount of coating was removed. Under continuous exposure the coating would evidently be entirely removed, after which the brick would perform as an uncoated brick.

The Bitumuls stabilized brick shows slightly better resistance to wind erosion with the coating, but as above noted, this would probably not be desirable because it results in discoloration. I believe that the foregoing tests conclusively confirm our previous tests

and practical experience in which it has been demonstrated that Bitumuls treatment effectively waterproofs the adobe brick and also apparently it greatly increases the resistance of the brick to wind erosion. Apparently the coating treatment would be desirable on existing structures where Bitumuls treatment is impossible, as it would increase resistance to wind erosion.

The probable life of the coating under usual conditions of exposure is undetermined.

We also wish to answer another question brought out in the conference; namely, that "Stabilized mortar" used with "Stabilized Brick" produces the same bond or adhesion found by using "natural mortar" and "natural brick". In substantiation of this statement, we refer you to Mr. Carl Lichens, adobe contractor of 34 years' experience, who has recently completed a five-room adobe house in Los Gatos in which he used Bitumuls Stabilized Brick and Mortar for all of the adobe walls (partition walls as well as exterior walls).

An inspection of this house will also disclose the fact that there is no visible difference in color between the stabilized walls and the adjoining ground from which the bricks were made.

We wish to express our appreciation of the splendid cooperation you and your department have given us in this study. The results are most interesting, as adobe brick construction is gaining rapidly in popularity and we are besieged from all sections of the country for information regarding brick treatment and its efficiency.

Very truly yours,

C. L. MCKESSON, Director
Engineering and Research

## TABLE I

### TABULATION OF WIND EROSION DATA

| | Untreated | Untreated plus coating | | Treated with 10.7% Bitumuls | |
|---|---|---|---|---|---|
| | No. 3 | No. 2-U | No. 1-U | No. 2-S | No. 1-S |
| After drying at 140 Degrees F. for 7 days Initial Weight | 1247.0 Gms. | 1147.0 gms. | 1138.5 gms | 1021.7 gms. | 1057.1 gms. |
| After 1st Spraying Weight | - | 1152.3 | 1146.3 | - | 1058.5 |
| 1st Application Weight | - | 5.3 | 7.8 | - | 1.4 |
| Before 2nd Spraying Weight | - | 1156.3 | 1148.2 | - | 1062.0 |
| After 2nd Spraying Weight | - | 1162.5 | 1155.5 | - | 1063.7 |
| Two applications Weight of same | - | 11.5 | 15.1 | - | 3.1 |
| Weight before sand erosion | 1247.0 | 1170.0 | 1163.1 | 1035.0 | 1069.8 |
| Wt. after 10 min.sand erosion | 1240.9 | - | 1161.3 | 1034.0 | 1069.3 |
| Loss in Wt. due to erosion | 6.1 | - | 1.8 | 1.0 | .5 |
| Loss in Wt. per sq. ft. | 42.7 | - | 12.6 | 7.0 | 3.5 |
| Realtive % Efficiency (Basis of no treatment) | 0.0 | - | 71.5% | 84.6% | 91.8% (badly discolored) |

TABLE II

ADOBE BRICKS

ABSORPTION TESTS

| Date | No. of Days | UNTREATED: Plus Erosion Only No. 3 | % | UNTREATED: Plus Coating (No Erosion) No. 2-U | % | UNTREATED: Plus Coating Plus Erosion No. 1-U | % | BITUMULS TREATED 15% of 200 = 10.7%: Erosion Only No. 2-S | % | BITUMULS TREATED 15% of 200 = 10.7%: Plus Coating Plus Erosion No. 1-S | % |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 8-27-35 | 0 | 1242.0 | | 1166.3 | | 1160.2 | | 1033.0 | | 1068.8 | |
| 8-28-35 | 1 | 1395.6 | 12.3 | 1306.6 | 12.0 | 1268.5 | 9.3 | 1038.9 | .57 | 1074.7 | .55 |
| 8-29-35 | 2 | 1448.6 | 16.6 | 1347.3 | 15.9 | 1316.0 | 13.4 | 1041.2 | .80 | 1077.3 | .77 |
| 8-30-35 | 3 | 1479.8 | 19.1 | 1380.9 | 18.3 | 1337.7 | 15.3 | 1043.3 | 1.00 | 1079.6 | 1.10 |
| 9-3-35 | 7 | 1508.7 | 21.4 | 1403.2 | 20.3 | 1361.8 | 17.4 | 1048.2 | 1.50 | 1084.8 | 1.40 |
| 9-4-35 | 8 | 1513.6 | 21.9 | 1407.1 | 21.2 | 1369.6 | 18.0 | 1049.8 | 1.60 | 1086.7 | 1.70 |
| % Efficient | | 0.0 | | 4.3 | | 17.8 | | 92.7 | | 92.2 | |

# CEREMONIAL CIGARETTES

UNIVERSITY MUSEUMS
UNIVERSITY OF MICHIGAN
Ann Arbor, Michigan, U. S. A.

September 14, 1935.

Mr. Charlie R. Steen, Ranger
Casa Grande National Monument
Coolidge, Arizona

Dear Mr. Steen:

Your package containing the "ceremonial cigarettes" and letter concerning them was received in the absence of Dr. Gilmore and were turned over to me by Dr. Guthe. The identifications were made by me, but received Dr. Gilmore's O. K. when he returned.

We were very glad to have the opportunity of examining this material and reporting on it. The finding of the Creosote Bush bark was particularly surprising and interesting, as we had previously known of no such use of it.

Your letter does not state what disposition is to be made of the material. We should like very much to retain at least part of it for our comparative collections. We await your word as to whether it shall be retained or returned to you.

We hope this report gives you the information which you desired and hope that you will favor us with further specimens in the future.

Very truly yours,

Volney H. Jones, Assistant
Ethnobotanical Laboratory
Museum of Anthropology

University of Michigan
MUSEUM OF ANTHROPOLOGY
Ethnobotanical Laboratory

Date of receipt of material, August 24, 1935.

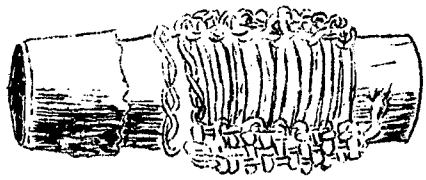
Received from: Casa Grande National Monument per Charles R. Steen, Ranger

Condition of material: Dessicated.

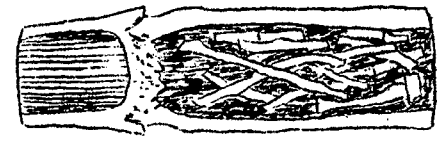
Description: Laboratory No. 1065

Five tubular reed pipes, four with cotton cloth tied about the center and one without. All still contain vegetal "smoking" material. These are of the type commonly called "ceremonial cigarettes" in the Southwest, though truly a pipe rather than a cigarette.

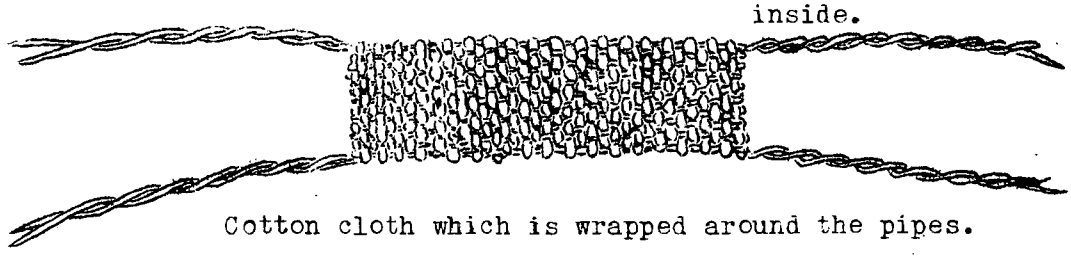
These pipes are made from Reed Grass, Phragmites communis. This grass is the only one native to the Southwest which attains sufficient size and firmness to be called a cane or reed. It is known in that region chiefly by the Mexican name "carrizo". This grass is of very wide distribution in North America, occurring from the Atlantic to the Pacific. In the Southwest its range is very interrupted. It occurs along streams, irrigation ditches, and in springs. According to Russell (P. 134) it was "formerly common along the Gila, but continuous seasons of drought caused it to disappear". Fewkes (1.p. 142) seems to agree with Russell on this point.



Tubular reed pipe showing cotton wrapping in place.



Section through tubular reed pipe showing smoking materials inside.



Cotton cloth which is wrapped around the pipes.

This grass was quite useful to the Southwestern Indians. Perhaps the chief use was in the manufacture of arrow shafts into which a wooden foreshaft was fitted. It was also used in the manufacture of baskets, mats, etc. An exudation from the stems (caused by an insect) was a valuable saccharine food. These pipes are made from a node of the stem, with portions of the two adjacent internodes. The leaves and leaf sheaths have been removed. Two of the pipes are from exceptionally large stems.

The attached cloth is made from cotton, probably from the species Gossypium hopi described by Lewton. A specimen of native cotton from Sacaton examined by him was considered to be

of this species. Indeed all of the cotton from the Southwestern Indians so far examined seems to be of this species. The cloth is woven by hand, of course, and may have been woven either on a small belt loom or on a frame. The weave is a simple over-one under-one except on the selvage edges where two warp threads are together. Although these pieces of cloth are very small each is of the original length and has not been cut. Each was woven separately and completely finished in the manner in which the Navajo blankets are finished without cutting the warp.

West (plate 25 opposite page 530) shows seven of these tubular pipes, six of which have the cotton cloth attached. These appear identical with the present specimens in every respect. These are from U. S. National Museum collections and are said to be from shrines along lower Gila River near Phoenix, Arizona.

We were surprised in examining the "smoking" material from the pipes to find that it was not all some species of tobacco. Pushed back against the node was a very small amount of finely broken leaves and twigs of tobacco. Between this and the end of the internode was a large plug of inner bark of some resinous shrub or tree. This had been folded to fit the stem and inserted so that it closed the opening. On examination this bark was found to be of the Creosote Bush, Covillea tridentata. This shrub has been given various botanical names such as Larrea glutinosa, Covillea mexicana and Larrea mexicana all of which are apparently synonymous with the above. In addition to "Creosote Bush" it is also sometimes referred to as Greasewood or by the Mexican term Hediondilla.

In 1930 this Laboratory received from Mr. Frank Mitalsky of Phoenix, Arizona, a number of tubular reed pipes and fragments of same. These were taken by him from a ceremonial cave on Camelback Mountain near Phoenix. These are of the same material as the present specimens but do not have the cotton cloth attached. The material contained in them is precisely the same as in the present specimens except that the quantity of tobacco contained is somewhat greater and the bark from the Creosote Bush correspondingly less.

The tobacco in the present specimens and in those from Mr. Mitalsky is in such small quantity and so finely broken that most of the distinguishing features are lost. The three tobaccos expected in that region are Nicotiana attenuata, Nicotiana trigonophylla, and Nicotiana bigelovia. The material distinctly is not of the second but might be of either of the other two. It appears most like Nicotiana attenuata and we are inclined to consider it of this species. It compares well with a prepared specimen of this species from the Hopi which we have in our collection.

Fewkes (1. pp. 142-143) tells of finding large numbers of "cane cigarettes" in ceremonial rooms, compounds, etc., of Casa Grande and also in caves near the Superstition Mountains north of Casa Grande. He also remarks that they have also been found in ruins along the Little Colorado and are used in Hopi kiva exercises. It is interesting and suggestive to note that a dish of Nicotiana attenuata was found in one of the ruins of Casa Grande.

Russell (118-120) describes Pima tobacco pouches and discusses the Pima practice of ceremonial smoking. He says, "Throughout Pimeria one may find sacred places where large numbers of cane cigarettes have been deposited by worshippers. It is uncertain how far this form of cigarette was in use by the Pimas. Most of those found were made by the Hohokam." In a footnote he discusses the native tobaccos. Nicotiana attenuata is called by a name meaning "under-the-creosote-bush tobacco". We are not sure whether it usually grows in association with the Creosote Bush, but it evidently is associated with the Creosote Bush in the Pima mind and this may account for the two plants being placed together in the pipe. The odorous, resinous nature of the bark may account for its being used in the pipe, however, as McGuire (1. p. 372 and following) presents evidence from various sources for the smoking of tobacco perfumed with gums and resins by the Indians of Mexico. The pipes in most of these cases were of "reeds".

None of the present specimens and none of those from Mr. Mitalsky show signs of having been smoked, so perhaps were ceremonial offerings made without smoking. An examination of literature on Hopi ceremonies indicates that the ceremonial reed pipes were smoked there. Russell also mentions smoking of them by the Pima. Fewkes (1. p. 135 footnote) says that the ends of the cane pipes were invariably burnt as if used. McGuire (2. p. 768) tells of the smoking of cane pipes by the Pima warriors and the blowing of the smoke to the cardinal points. It would thus seem that ordinarily such pipes are actually smoked. Fewkes (1. p. 142) suggests that the smoke was blown through them rather than drawn through in ordinary smoking.

The purpose of the cotton cloth on the pipes is puzzling. West (p. 139-140) and Fewkes (2 p. 735-736) tell of the use of fiber or cloth on clay tubular pipes as a protection against heat in handling the pipe. West (p. 139) suggests that the wrapping of the reed pipe served as a handle. These may explain the function of the cotton cloth but do not seem plausible. Since the cloth has been so carefully woven at what must have been the expense of considerable time, it must have had some other significance, probably a ceremonial one. McGuire (2 p. 768) has a plausible explanation. He says, "... around the middle of which was tied a miniature belt woven from cotton and

agave fiber, with fringed ends, and called a blanket, this clothed reed being regarded as male or female according to certain marks upon it."

The present specimens have the cloth of cotton only and the ends are not fringed - but the use may be the same. The idea of female and male pipes is similar to the concept of the calumet of some of the more eastern Indians. See Hewitt, "Calumet" Handbook of the American Indian, Bulletin 30, Bureau of American Ethnology.

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By Charlie R. Steen

The above report on a series of cane pipes found in the Santan Mountains in 1925 by George Boundey will be of interest to those men in the field who have specimens of these pipes in their museum exhibits.

117 pipes in the Casa Grande collection have been listed. Of these 111 are filled with herbs, three are empty, and three have been smoked, or at least, burned. Of the entire group only 44 had a punctured internode as though for puffing or inhaling, and not one of the burned specimens had holes through the membrane. Attempts were made to blow or draw the breath through the unpunctured internodes but this was accomplished in only a very few cases.

The average length of the Casa Grande specimens is 55 mm, average diameter 13 mm. The range in length is from 15 to 75 mm. diameter range from 12 to 27 mm.

Mr. William Sterben of Florence, Arizona, has a fine collection of these canes, most of which are larger than those in the Casa Grande group. Sterben's collection was obtained from a shallow rock shelter east of Florence in association with arrow shafts, small red feathers tied to lengths of yucca fibre cord, several pieces of cotton cloth similar to but larger than those wrapped about the canes, and a great amount of fine charcoal. The cloth found with these canes is white, with bands of brown or black.

The Sterben collection consists of 29 canes ranging in length from 53 to 220 mm. and from 11 to 16 mm. in diameter. Of the 29, only three are wrapped with cloth, eight others are bound with coils of loosely spun white or red cotton string. All but one of the canes in this group are stuffed with herbs.

Information received from Mr. C. T. Halseth of the Pueblo Grande, Phoenix, is that in caves of the Salt River drainage these canes are often found wrapped in cloth, then tied into bundles of four, these bundles in turn tied in multiples of four until a plate from eight to ten inches in diameter was formed.

Juan Eschief, a Pima from Blackwater and Merritt Laffoon, a Mohave from Parker, were both shown examples of the pipes and each declared that they are used in a guessing game played principally by the Mohave and Maricopa and to some extent by the Pima. Both men mentioned painted marks on the canes used in the game and told of them being hidden in the hands of one of the players. This would automatically eliminate a large percentage of the canes in the two collections described, particularly that of Sterben in which are some exceptionally long specimens, also none of the pipes show evidence of having been painted. Several Pimas in this neighborhood have been shown these pipes, but aside from the two men mentioned none claimed knowledge of having seen them in use.

# COTTON

By L. R. Caywood

The U. S. Department of Agriculture has carried on a great deal of experimentation in Arizona on the various types of cotton. The Egyptian cotton was the chief type used with success in the experiments, but with varying degrees of success on the part of cotton growers after the results of the experiments were turned over to the farmers. The chief reasons for mutations and 'sports' is the result of not keeping the stock pure. Questions of picking and ginning with the corresponding mixture of seeds has done much in the past to destroy what the Department has done to develop successful types of cotton.

In Bulletin 38, U. S. Department of Agriculture, the following comes under the head of THE EGYPTIAN TYPE OF COTTON: (1913).

> "Egyptian cotton is a distinct type which bears a resemblance to the American Sea Island, yet it is quite different from the latter. Its origin is obscure, although it is generally believed to be partly of Sea Island ancestry. The fiber of Egyptian cotton is especially used in the manufacture of goods in which great strength is required.
>
> "Twelve years ago (1901) the U. S. Department of Agriculture imported seed of the principal Egyptian varieties of cotton and began testing them in Arizona. By dint of selection for five or six years some progress was made in increasing the yield of the plants. In 1908 the appearance of a superior type offered a promising basis for the establishment of Egyptian cotton in Arizona. This new type is the Yuma variety."

In Department Circular 247, U. S. Department of Agriculture (1922) the following comes under the heading ORIGIN AND DEVELOPMENT OF THE PIMA VARIETY:

> "The Pima variety originated with a single plant discovered in a field of the Yuma variety at the cooperative testing garden at Sacaton, Arizona, in 1910. Successive progenies from this plant were grown during the five years following, and a high degree of uniformity was attained by selection. When it was decided that the new variety was suitable for commercial production, seed sufficient to plant a few hundred acres was supplied to farmers in the Salt River Valley in 1916."

## Genus Gossypium

Sea Island Cotton (G. barbadense) is a variety of long staple cotton cultivated along the coast region of the southern United States, principally South Carolina and Georgia, and also in the West Indies.

It has been used as one of the parents in producing improved hybrids. Careful selection has greatly improved the quality and increased the staple of the fiber.

Upland cotton (G. Hirsutum) has a short staple.

Other countries producing cotton are Peru, Egypt, Brazil, and India.

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# TOM CHARLES SAYS

Suppose you are wondering how we are getting along. Ben improved the looks of the entrance road about 50% the first two days. He cut all the weeds on the sides of the road and then cleaned out the "barrow pit" (guess that is what they call it), slicked up the sides and the thing looks like it has a fresh hair cut.

The posts are all in. The first night somebody pulled up a post, drove into the sacred area, built their big bonfire, had their picnic, and when they drove out they carefully tried to put the post back in the hole but it went only about half way down.

Sunday night they broke off seven of the green lights. We had them fastened in with arrow-head cement and they were fast. In each case the bottom end of the glass is still in the hole. Today I note that they have started to drive over the little hill south west of the turn-around and have their parties in that little valley. Possibly the signs requesting them to drive no farther, may help when we get them. So far we have received none of those signs, recently ordered.

There were a good many at the Sands Sunday. The dinner tables were all full. But they surely did kick for shade.

Am leaving tomorrow morning for three days in the northern part of the state. Hope that you and Miss Story do not get to the White Sands during my vacation.

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# ABOUT WUPATKI

By Louis Caywood

I think I wore Jimmie down to a nub yesterday because he didn't say anything about going out this morning. He will probably say the same thing about me. He took us out in the Chevie truck to see the proposed addition. We went down to the camp of the Navajo first to ask Clyde to go with us because he knows the roads, but Clyde had gone after some of his horses. We later met him driving a number of saddle horses back to his camp.

From Clyde's camp we took off on a dim road across some of the most torturous and twisting road that I have seen a car go over yet. The country is to the north of Wupatki. We finally went up on Antelope Mesa and after heading a couple of canyons and walking down one filled with cinders making it hard to walk we visited a ruin called Crack-in-the-Rock. It is situated like Wukoki and other ruins in this area, high on red Mcekkopi hill. From it we could see a number of similar ruins

During the trip across to Citadel on Antelope Mesa we saw a herd of nine antelope streak across in front of the truck. Roy Kain who is visiting Jimmie from Chicago got quite a thrill out of that experience.

About a week ago Dr. Colton and Katherine Bartlett paid a visit to the Monument while Winnie and I were here alone. They came out to measure the Bowl that a few have called a reservoir. Dr. Haury had previously visited Wupatki and had said that perhaps the large oval area might be another Ball Court similar to but half as big as the one at Snake-town. It seems that quite a bit of excitement was caused by the statement and John McGregor on Saturdays has a group of College boys excavating a similar Bowl to the Southwest of Wupatki. I noticed on the very excellent map of the Wupatki area made by our engineers that there is still another Bowl to the northwest of the second one. From all appearances the people played a lot of ball up here.

Mr. Charles Amsden and wife stayed here overnight. They came October first and were on their way to Farmington, New Mexico, to spend their vacation. He too was thoroughly interested by the thought that this Bowl might be a Ball Court. We are holding our breath until the excavation is completed to find out the facts.

We thoroughly enjoyed the visit your party paid us, but it was far too short. Winnie and I had so many things to talk over with you and after you had left we began to say, well we didn't mention this or didn't tell the Boss that. That is what I like about my visits at the various monuments. When I leave a monument the Custodian and I have usually exhausted all of his problems by talking them over pro and con. Well, lets hope that next time we have a longer visit with you.

Well, drop us a line here at Wupatki and tell the boys to do the same. With best regards to all, I remain.

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# OCTOBER BIRDS AT BANDELIER By Betty Jackson

That little bird I couldn't identify last month turned out to be the Pileolated Warbler (Wilsonia pusilla pileclata Pallas). There were lots of them here in the cottonwoods and oaks during September and the early part of October. I haven't seen any since the 14th, so they are probably seeking warmer climates.

The juncos are taking their place. There are hundreds of Grey-Headed Junco (Junco caniceps) and a few Pink-Sided (J. mearnsi Ridgway) both in the canyon and on the mesas. The mesas have also been overrun by Plumbeous Vireos (Vireo solitaris plumbeus Cones) who sit in the piñon pines and sing their hearts out. According to the books they don't sing at this season, but they have been doing it all month. They also don't seem to be solitary, as their names imply. You sometimes see a dozen in one tree.

The Red-Naped Sapsucker (Sphyrapicus varius nuchalis Baird) has gone his way also, I think with the first snow. But the Flickers (red-shafted) are more numerous than ever. On the Detached Section yesterday I saw a Red-Headed Woodpecker. He certainly is a gaudy bird.

The Western Robins are here in hordes. We have fewer species of birds now, and greater quantities of each. The Jays, Woodhouse, and Long-Crested, are here as usual, but the Mountain Chickadee (Penthestes gambeli gambeli) and both the Nuthatches, Rocky Mt. and Pygmy, are increasing. There are flocks of Chestnut-Backed Bluebirds (Sialia mexicana bairdi Ridgway) in the junipers and Rhus trilobata of the south mesa. I've also seen three Rocky Mt. Creepers (Certhia familiaris montana Ridgway).

One Spurred Towhee (Pipilo maculatus montanus Swarth) was seen, and two Alaska Hermit Thrushes (Hylocichla guttata guttata) stayed here a few weeks. The Canyon Wrens are still here, too. One of them uses one of the cliff dwellings as his hideout, and was much disturbed by our entrance in search of pictographs.

The hawks have made themselves conspicuous of late. A Desert Sparrow Hawk (Falco sparverius phalaena) spent October 5 sitting on the dead top of a pine behind our house, with occasional trips to secure food, I suppose. There was what I think was a Ferruginous Rough-Legged Hawk on the Detached Section, and four or five others that were too far away to identify.

The Red-Tailed Hawks are getting to like the canyon, but not the Ravens who occupy it. On October 4 two Ravens tried to drive the male out, but he wouldn't go. On the 17th he and his mate were treating two Ravens equally badly, chasing them all over the canyon top.

Whether it is a normal migration or a protective measure, (which I doubt), the Ravens have now increased to nine in number. The extra ones were first seen on the 18th, and are still here.

Jerry Morse reported seeing half a dozen grouse, which I take to be Dusky Grouse, just off the west boundary of the Monument on Sawyer Mesa.

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# LEONARD HEATON SAYS

Since I have nothing much to do just now I thought I ought to write you a line just as a friendly chat, about the place and things in general.

In my last report I told you that I had the CCC Camp to myself. Well, it is still that way and if there is anything to the rumor, it is apt to be so for some time, maybe till next spring.

Now I am beginning to wonder if the projects that the ECW boys were to do will have to wait for another program. I would have liked to see the flood drain cleaned out and fixed up this fall, and the trees planted in the new camp ground. I guess I should not expect too much of a good thing, such as getting my monument all fixed up in one sweep of the hand.

In the last Broadcast from your station you said something about the possibility of causing a rule to be put into effect among the Southwestern family, that all those receiving a pay check monthly, be required to keep a diary. Now I have often wondered why we were not required to do so before; I know other departments have this same rule.

Now for me, I am in favor of this requirement, as for the past three years I have kept a personal diary written up every night or at least every week. It is somewhat different from what I would record in the Monument diary, as it deals with my family affairs as well as some monument happenings. With a daily monument diary one would not have to worry and stew about his monthly report.

I suggest that if we are to keep this diary that it be in the form of a loose leaf notebook, for I expect to have to send it in to your office every month, and fixed that those that wanted to keep a carbon copy for his files he could. If there should be anything come up months later he could be sure when it happened without writing to Coolidge for this information.

I do not remember wheather I have ever said anything about this or not, but I have thought of it often and talked of it with Mrs.

Heaton. You know the states have what they call the State Flower, tree, and I have a plant that is almost exclusive to Pipe Springs National Monument in this section of the land. There are four other places that I know of it existing here: A few plants up in Kanab Canyon, two plants at Neils Crossing, one plant in Grammer Canyon, and one plant at Cottonwood; all these places are from 15 to 40 miles away.

You will remember the plant as the Wild Gourd or Buffalo Gourd. To describe it is like describing a squash: as to flowers, leaves and runners, it comes out more thickly from the crown than the squash, and the fruit is about the size of a baseball---slightly striped, round, and has a hard thin shell when ripe.

The most interesting thing about it is the way it grows after the plant is started by the seed. It forms a tuber the first year about like horseradish, and if not disturbed this tuber or root will continue to live for years, and in course of time it will become of size about 8 to 12 inches through and four to five feet long. If this root is cut up into small pieces, say two or three inches square and kept in wet ground they will start to grow.

If the root is put in the sun to dry, it will shrivel up to about one-fifth the size when dug out of the ground.

What is it good for? Well, cattle will eat the young shoots that are not six days old, and will eat the fruit or gourds.

Squirrels and mice like the seeds. As a grown plant it is a good ground cover, and generally beautiful at a distance.

So if there are no objections I would like to have this plant Wild Gourd or Buffalo Gourd named as the Pipe Spring National Monument Flower.

Oh yes---about me being at Casa Grande next March---I would like to have some of the history books on that place to study and some of the tails that are told by the rangers, for I would like to have some background and knowledge of the place. I have been reading some of the monthly reports back in 1926-27 and later. If you have any such material, please send it up.

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# 'WAY BACK WHEN

Seventeen years ago, as you can well imagine, conditions were somewhat different in the Southwestern Monuments. Mr. Pinkley, in May, 1918, made his first report directly to Director Mather of the National Park Service. Previously he had used General Land Office

forms.

Coming to the Casa Grande in 1901, Mr. Pinkley had served as custodian until 1916, and then for a two-year interim had operated the Four Mile trading post on the Pima Reservation near Blackwater, about 10 miles from the Ruins.

Knowing that the old reports will be interesting to the men in the field, we will run each month in the Supplement the report for the corresponding month 17 years ago, deleting only those routine details which have become uninteresting after passage of time.

We are making extra copies and will include them in the Manuals of Information now in preparation at Headquarters. Thus, eventually, each Monument will have a complete set of reports.

This month, in one fell swoop, we are catching up from May, 1918, through October, 1918:

Blackwater, Arizona
May 17, 1918.

Dear Mr. Mather:

I am sorry that I did not understand more clearly the kind of monthly report you wished and so reported for April on the old General Land Office form for abandoned military reservations which I had used so long during my previous service at this point.

I wish now to give you a running outline of the work done in April with an idea of the way the items stood at the end of the month so that our records may be straight and you may have a complete file of monthly reports from this reservation.

FINANCES:
No income and no disbursements for the month.

UNFINISHED MATTERS FROM PREVIOUS MONTH:
A flag pole, the contract for which had been let during March to Bollin Brothers of Florence, Arizona, was erected. This comes out of the General Land Office funds. The pole is about 35 feet high, is made of 3-inch and 2-inch galvanized iron pipe, and is proving very satisfactory.

NEW MATTERS TAKEN UP THIS MONTH:
I have taken up with Professor Cummings, of the Department of Archaeology of the University of Arizona, and with the State Historian, Mr. T. E. Farrish, the matter of writing pamphlets for us on the archaeology and history of the Casa Grande and they have consented to do so any time we call upon them. Present state of funds forbids going further.

(2) Have taken up the re-establishment of the cooperative Weather Bureau observing station at this point. Took it up thru you. No report yet. Carried over to unfinished matters for May.

(3) Gathering a library of Ethnology, Archaeology, and History for the use of visitors and the education of the custodian. You saw Dr. Fewkes of the Bureau of Ethnology and he promised us some reports and pamphlets, but they have not come to hand yet. Carried over as unfinished business to May.

(4) Rest room at the Casa Grande. Upon instruction from you, asked Chambers of Commerce of Casa Grande and Tucson to submit plans of rest room they had proposed to build on this reservation. Have not had reply yet. Carried over to May.

(5) Took up the need of signs on the roads leading to the reservation with you. Have not had time for answer.

(6) The making of a topographic map of this reservation on a contour interval of one foot. You report no instruments available but you will take it up with the Geological Survey and see what data they have on this reservation. Carried over to May.

(7) Need of general National Park literature for distribution to visitors here. Have not had time to hear from this yet.

(9) Investigation to harden the walls of the ruins. You have taken this up with the Bureau of Ethnology and if you fail there we will go to the Bureau of Soils. This investigation is important and will probably run thru a number of months.

VISITORS:

I have no records of number of visitors in previous months or other years, but in April 430 were shown around the ruins. This is by actual count as I find not more than half of them sign the cards for the card register, and it does not include persons who come on personal business or to call personally on the custodian. Time spent with each individual or party depends entirely on the interest manifested. It varies from fifteen minutes to three hours.

GENERAL CONDITIONS:

April was an ideal month in the way of weather and roads and will probably show the heaviest number of visitors until fall as the hot and dusty season is coming on.

No depredations have been committed on the reservation. Scratching of names on the walls of the Casa Grande has been stopped and a hundred or so lead pencil inscriptions have been removed during the month. In recent months there has been an outbreak of name-writing,

but I think it will be easy to check it again.

Cordially yours,

(Signed) FRANK PINKLEY
Custodian, Casa Grande Ruin.

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Blackwater, Arizona
June 1, 1918.

Dear Mr. Mather:

I submit for your approval the following report of conditions at the Casa Grande Ruin Reservation for the month of May, 1918.

FINANCES: No income and no disbursements for the month.

UNFINISHED MATTERS FROM APRIL:

(1) Re-establishment of the Cooperative Weather Bureau observing station at this point. This was taken up in April thru your office. You took it up with the Agriculture Department by service letter of May 13. No reply yet.

(2) Rest room on the reservation to be built by the Chambers of Commerce of Tucson and Casa Grande. Owing to war conditions the commercial bodies of these two towns do not feel that they can appropriate money for this purpose at this time. Matter closed.

(3) Gathering a library of Ethnology, Archaeology and History for the use of visitors and the education of the custodian. In service letter of April 13, Dr. Fewkes of the Bureau of Ethnology had promised to forward us the Bulletins and Reports of his bureau but to date (June 1) has not yet done so. He had probably overlooked it. Can you remind him of this in such a way as not to seem too insistent and yet recall it to his mind as we need all the informative literature gathered here that we can obtain.

(4) Road Signs. I have not yet heard from you in reply to my letter of April 20 concerning the erection of metal signs on roads leading to this reservation. Every week I have a number of parties who have taken the wrong roads in the desert getting here. There is no actual danger in being lost in the country around here but it is very inconvenient. If you will allow me I will take this up with the field division of the General Land Office at Santa Fe and see if they can find any fund to draw upon.

(5) Topographic Map of this reservation on a contour interval of one foot. No instruments being available, you were to see what data the Geological Survey had concerning this reservation. So far I have had no word from you on this.

'WAY BACK WHEN (CONT)

(6) Need of general Park Literature. This has been cared for by forwarding me a supply of N.P.S. maps and "Glimpses of National Parks" for distribution to visitors.

(7) Wall protection. We have had a communication from Dr. Fewkes during the month concerning wall protection and I am nearly ready to submit some ideas of my own. I consider this the most pressing need of this reservation.

NEW MATTERS FOR MAY:
(1) Repair of well curbing. This was taken up with the field division of the General Land Office at Santa Fe and I have not yet had time to get action.

VISITORS:
237 visitors were shown around the ruins during the month of May. This makes 667 in the two months since I took charge.

GENERAL CONDITIONS:
We have had unusually pleasant May weather. The days were clear and the nights remained unusually cool throughout the month. Under the long dry spell the roads are beginning to break up and get dusty.

In former years when horses were the only mode of travel used in this country, summer visitors were fewer than in any other season of the year. I have hopes that now that automobiles are so common, our summer run of visitors will not fall off so badly as it did in those years.

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Blackwater, Arizona
August 3, 1918.

Dear Mr. Mather:

I beg to submit the following report of conditions at the Casa Grande Ruin reservation for the month of June, 1918.

FINANCES:
No income and no disbursements.

MATTERS IN HAND:
(1) Re-establishment of a cooperative weather observer's station at this point. This was taken up in April through your office. Final report from the Department of Agriculture says that owing to war conditions causing a shortage of instruments it is not feasible to re-establish the station.

(2) Gathering a library of Ethnology, Archaeology and History here at the ruins for the education of the custodian and the use of visitors. Nothing accomplished yet along this line.

(3) Signing roads leading to this reservation. No action taken yet owing to a lack of funds.

(4) Wall protection. I have prepared and am forwarding you a four or five page memorandum on causes of wall destruction and methods of preservation. Will ask for an appropriation in the next estimates we submit so we may begin this work.

(5) Repair of well curbing. Has been taken up through the General Land Office at Santa Fe. Some progress but no final action yet.

VISITORS:
145 visitors were shown around the ruins during the month. The dry, hot weather of the summer is cutting down our number of visitors despite the fact that automobiles make travel much pleasanter than it was in the old days of horse transportation.

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Blackwater, Arizona
August 3, 1918.

Dear Mr. Mather:

I submit for your approval the following general report of conditions at the Casa Grande Ruin Reservation during the month of July, 1918.

FINANCES:
No income and no disbursements.

MATTERS UNDER PRESENT CONSIDERATION:
1. Repair of well curbing. Sand slipped in through the rotted, broken curbing and raised the bottom of the well putting the pump out of commission. With the aid of Mr. R. H. Moorhouse, who donated his work for the good of our service, I pulled the pump four different times in July before we finally got it in good working condition. At present it is operating and may be all right for several months. You might write Mr. Moorhouse a personal letter thanking him for his kindness in helping our service by aiding in this pump matter. I am sure the courtesy of such an act would leave a kindly feeling and react favorably for the Service among the local people. He very gladly gave two or three days' work knowing he would not be paid. His address is Blackwater, Arizona.

2. Making this reservation a National Monument. This action is well under way and possibly at the time this is written the proclamation may have been made. It is greatly to be desired.

VISITORS:
119 visitors were shown around the ruins during the month of July.

GENERAL NOTES:

In July I sent for your files a tracing of Compound A drawn on a scale of 1/8 inch = foot. I am hanging a copy of this plan in the main building and using it in a preliminary talk to give visitors a general idea of the compound before showing them the various rooms. The method seems very successful and I will later make similar tracings of Compound B and Clan House 1 on the same large scale. The large plans serve much better for this purpose than the small plans published in our pamphlet public ruins.

Pima county will vote on a road bond issue early in September and will probably spend $40,000 on a road from Tucson to the town of Casa Grande. If this goes through it will help us in that winter tourists will be able to travel by auto over the state highway from Tucson to Florence, (70 miles); from Florence across to Casa Grande (the town) past the Casa Grande Ruin on a county highway (28 miles); and back to Tucson on this new highway (about 70 miles). We may be able to increase tourist travel here if this plan goes through and we might be able to get tourists to make a two day trip of it, stopping over at this reservation which would be approximately half way. It would be a trip through a typical section of the southwestern desert but could not be played up for the wonderful views as can the Apache Trail.

I mention this at this time simply as a possibility and with the idea of working something out of it for the good of the Service later on if the proposed bond issue goes through.

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Blackwater, Arizona
September 1, 1918

Dear Mr. Mather:

I submit for your approval the following general report of conditions at the Casa Grande Ruins reservation during the month of August, 1918.

FINANCES:

No income and no disbursements during the month.

MATTERS COMPLETED DURING THE MONTH:

1. Making this reservation a public monument. On August 3 final action was taken in the form of a proclamation by the President making the Casa Grande Ruin a national monument. This was greatly to be desired and improves our situation in the matter of the development of this reservation.

MATTERS IN HAND:

1. Library. Nothing has yet been done toward gathering a collec-

tion of reports on archaeology, ethnology and history for the education of the custodian and use of visitors here. I will take this up directly with the various bureaus this month, unless you object, and see what can be accomplished.

2. Repairs and cleaning up. You were of the opinion some weeks ago that if the Casa Grande could be declared a public monument we would be able to use about $400 of the public monuments appropriation in repairing and cleaning up the most necessary places, putting up signs on the road, etc. If this can now be done I would like to start the work some time in October. September will probably be too warm to get the best labor results, but the work should be finished in time to reduce the damage which will be done by the winter rains.

VISITORS:

185 visitors were shown around the reservation during the month of August.

GENERAL NOTES:

In August Our National Parks Bulletin contained an article on the Casa Grande. This was copied by several of the Arizona papers and numerous visitors have mentioned it.

I am releasing a notice to the state papers on the change of this reservation to a National Monument explaining the benefits to be derived from the change.

During the month I mailed you a memorandum of desirable changes to be made in the new edition of our descriptive circular on the Casa Grande Ruin. I trust this edition will be out soon as my supply is running low.

The weather for the month has been warm but the number of visitors shows some increase over the previous month and I think as we go into our winter season the normal increase of visitors will occur.

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Blackwater, Arizona
October 1, 1918.

Dear Mr. Mather:

I submit for your approval the following report of conditions at the Casa Grande National Monument during the month of September, 1918.

FINANCES:

Service letter of September 9, allotted $500.00 for use at this National Monument during the current year. I have divided this amount into the following funds:

| | |
|---|---|
| Cleaning up and protective work | $250 |
| Putting signs on desert roads | 50 |
| Repairs and improvement, custodian's house | 70 |
| Books and articles on archaeology | 30 |
| General fund | 100 |
| Total | $500 |

From the general fund here mentioned I have expended $48.87 for labor as is shown on the pay roll which I send with this report.

WATER SUPPLY:

A couple of years ago some funds of the General Land Office were used in erecting a wooden tower with galvanized iron storage tank, installing a small engine and running a supply pipe nearly to the custodian's quarters. This plant was placed directly over the old well which was dug and curbed at the custodian's expense in 1902. The curbing was badly rotted at the time the plant was installed, but no protective measures were taken.

When I entered the service last April I soon found the condition of affairs and took it up with the General Land Office thru the Chief of the Santa Fe Field Division, Santa Fe, New Mexico. I wrote him May 21 giving full details of the trouble and suggesting measures to be taken. I am unofficially informed that this was taken up with local parties who offered to repair the well according to our ideas for $75 to $90 depending on the amount of galvanized iron used. To this we would have to add about $15 labor charge for moving dirt.

No action was taken on this and on September 21 a couple of tons of sand and gravel broke through the rotted curb and filled the bottom of the well effectually shutting off the water supply. I wrote you on the 23rd that I considered it most feasible to dig a new well, cementing it instead of using a lumber curb. We began work that day and now have it down 33 feet, with about 12 feet yet to be dug. After the first 12 feet we have had fine sand, gravel and small boulders all the way. It has been very hard material to handle because of its shifting character, but so far we have handled it successfully and I have hopes of reaching water by Wednesday or Thursday. I sincerely hope this will end the water supply problem on this reservation for many years.

A GENERAL SCHEME NEEDED:

The matter of the well brought up again the need of a general scheme of improvement. I have suggested that a topographic survey of this 480 acre reservation be made with one foot contours so that we may lay down a final plan of development. You have approved the need of the plan but advised me that it is impossible to carry it out in the near future. I don't like the location of the old well, and yet I had to put the new one close beside it because we had no final scheme laid out and I did not want to spend $50 in galvanized iron pipe guessing where the well

might be in any such scheme when it is laid out.

I notice in his report to you for the month of August, the Acting Superintendent of the Yellowstone National Park speaks of Mr. Charles P. Punchard, Jr., as the landscape engineer for the National Park Service. Would it be possible for Mr. Punchard to make a visit to the Casa Grande some time this fall or winter and outline for us some final plan along which we could improve this reservation?

ROADS:

In my monthly report for July, under date of August 3, I spoke of a prospective issue of road bonds which our neighboring county on the south (Pima) would vote upon September 10. I am now able to report that the bonds carried, the vote being nearly two to one in favor of them. It now remains for the proper Federal authorities to approve the issue. The plan contemplates the expenditure of about $40,000 on the road between Tucson and Casa Grand (the town). Working in with this bond issue, the reclamation part of the Indian Bureau is to open bids October 15, on a combined diversion dam and bridge to be located just above Sacaton on the Gila River. If this bridge goes in, it will make a through road from Tucson to Phoenix along the line to be covered by the bonds above-mentioned. This will put the Casa Grande Ruin between two good highways running from Tucson to Phoenix, one road now ten miles to the east of us at Florence, and the new one will be eighteen miles to the southwest at the town of Casa Grande. A good county highway now connects these two towns coming within 1-1/4 miles of our reservation.

WEATHER:

The weather has continued very dry all month. Range stock is suffering and the roads through southern Arizona are in very poor condition for lack of rain.

TUMACACORI MISSION:

Service letter of September 10 authorized me to visit this National Monument and make a report on its condition and need of repairs.

The emergency in the matter of the water supply detailed above has arisen to delay me, so I may not get away for a week or ten days yet.

VISITORS:

117 visitors have been shown around the ruins during the month of September.

---

Blackwater, Arizona
November 1, 1918.

Dear Mr. Mather:

I submit for your approval the following report of conditions at the Casa Grande Ruin National Monument during the month of October, 1918.

FINANCES:

Service letter of September 9, 1918, allotted $500.00 for use at this reservation during the current year. Up to September 30, we had expended $48.87 of this amount for labor on a well which we had started to put down. In October the following amounts were expended:

| | | |
|---|---|---|
| General protection ($250 allowed) | | |
| Tools | 25.70 | |
| Labor | 3.75 | 29.45 |
| Signs ($50 allowed) | | 0.00 |
| Custodians Quarters ($70 allowed) | | |
| Materials | 62.05 | |
| Drayage | 6.50 | 68.55 |
| Books, etc. ($30 allowed) | | 0.00 |
| Reserve for well ($100 allowed) | | |
| Labor | 38.93 | |
| Material | 18.24 | |
| Drayage | 2.00 | 59.17 |
| Expended in October | | 157.17 |
| Expended in September | | 48.87 |
| Total expended to date | | $206.04 |

This $206.04 is divided as follows:

| | |
|---|---|
| Tools | 25.70 |
| Labor | 91.55 |
| Material | 80.29 |
| Drayage | 8.50 |
| | 206.04 |

WATER SUPPLY:

In my report for September I detailed the caving of the old well and the starting of the new one. This new well was completed without much difficulty. We found it forty-two feet and six inches to the water level. After the upper twelve feet of sandy loam and caliche had been penetrated we found fine sand, gravel and well rounded boulders the remainder of the distance.

The material found might be used as an argument against the theory that the elliptical mound with depressed center lying about 700 feet to the north was a funnel-shaped well used by the builders of the Casa Grande. No gravel or boulders appear either in or on that mound so they never penetrated to the water level.

The well was cemented as we went down, and, upon finishing it, we

installed the engine and pump and tested the water supply. The plant raises 630 gallons per hour into the tank, and lowers the water table about seven inches in the first thirty minutes of pumping, after which the table remains comparatively stationary. We have water sufficient for all visitors use, family use, and enough to irrigate a small garden.

The total cost of this well was as follows:

| | |
|---|---|
| Labor --------- | 87.80 |
| Material ------ | 18.24 |
| Drayage ------- | 2.00 |
| | 108.04 |

GENERAL PROTECTION:

We were unable to begin actual work along the line of general protection, owing to a local labor shortage, until very near the end of the month. I have finally found a good man and have started clearing brush out of Compound A.

VISITORS:

195 visitors were shown around during the month. Cooler, pleasanter weather prevailed and is reflected in the increased number of visitors.

One visitor, Mr. Cook, of the Bureau of Plant Industry, Department of Agriculture, Washington, D. C., brought to my attention a most interesting theory during his visit early in the month. It seems a year ago last June "Science" published an article by Professor Colton comparing a design which occurs on the north wall of the central room of the Casa Grande with a design representing the Minoan Labyrinth found on a Cretan coin during several centuries B. C. I at once made a tracing of the design and took the matter up with you to see if we could get a photostat copy of the figure of the coin.

In the meantime, since the original design is rather too high on the wall and too obscure to examine closely, I have mounted a conventionalized form of it where visitors may inspect it and it has aroused considerable interest.

TUMACACORI MISSION:

Service letter of September 10 authorized me to proceed to and report on the Tumacacori Mission. The trouble caused by the caving of the old well and having to dig a new one delayed this matter in September and during October the influenza has been so bad throughout southern Arizona that I thought it best to postpone the trip a little longer until conditions had improved. I hope to make the trip in two or three weeks.

**********

# RUMINATIONS

Chief, as the boys have had this report on the pan I have been mulling it over and have been struck anew with the fact that we are making history from month to month down here and that this record we are filing while the history is fresh is mighty well worth while.

The strange part of this is the amount of fun we get out of making this record. You must have noticed, in your little trip through our district last month, the number of times reference to the monthly report cropped up. Wherever you get two or three of our folks together you will find them beginning to talk shop at once and within five minutes they will be referring to the last monthly report or asking something about the next one. The Broadcast, which is our own house organ and much more personal, comes first of course because it is really a personal letter written by ourselves to ourselves, but the monthly report runs it a close second.

I am sure this isn't the case with the various other reports which come to you from the other units of the system.

Lest you think this interest is all due to the gentle spoofing which we do among ourselves I might say that scarcely a month passes that we don't get letters from one or two big shots complimenting us or thanking us for some report or article, - two of them last month. We won't bother you with this fan mail because it would look like we were tooting our own horn, but it cheers us up to know that the real Grade A men in archeology, biology, and so on are keeping an eye on us and filing our report for stuff they can't get elsewhere. Note also that we or our articles have been noted in a couple of the leading archeological magazines in the last months.

As a matter of showing that a great deal of water goes under the bridge in a short time, we have gone back in the files some seventeen years and run some reports of those days. I think it may do us good to cast back this way now and then and observe the changes that have taken place. It may also be helpful to those new ones in our ranks who are naturally inclined to feel that all the progress has been made in the Service since they joined on. Our activities have expanded greatly these last few years but the kernel of all this expansion has been with us almost from the beginning. This will probably come out in future editions of these old reports.

Thus we come to the end of another month and, rather reluctantly slap the staples into this report and turn it loose. It is far from perfect, and we are beginning to be impressed with the fact that we will never turn out a perfectly satisfactory report, but here it is, such as it is, and we go back to the job of making the history which goes into the next one.

The Boss

# SOUTHWESTERN MONUMENTS
# MONTHLY REPORT

## NOVEMBER, 1935.




DEPARTMENT OF THE INTERIOR

NATIONAL PARK

SERVICE.

SOUTHWEST REGIONAL OFFICE
NATIONAL PARK SERVICE
LIBRARY

# SOUTHWESTERN MONUMENTS
# NOVEMBER REPORT

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# SOUTHWESTERN MONUMENTS
# PERSONNEL

HEADQUARTERS Southwestern Monuments, Coolidge, Arizona: Frank Pinkley, Superintendent. Hugh M. Miller, Acting Assistant Superintendent. John H. Diehl, Associate Engineer. Robert H. Rose, Assistant Park Naturalist. Dale S. King and Louis R. Caywood, Junior Park Naturalists. Robert L. Cole, ECW Clerk. Luis Gastellum, Temporary Clerk-Stenographer.

GENERAL FIELD MEN: Charles A. Richey and Harry Langley, Resident Landscape Architects. J. B. Hamilton, Associate Engineer. Andrew Clark, Topographer. J. H. Tovrea, Chief Engineering Aide. C. E. London, Carl Schmidt, and H. Lloyd Beed, Rodmen.

FIELD STATIONS:

1. Arches---Moab, Utah. J. M. Turnbow, Custodian.
2. Aztec Ruins---Aztec, New Mexico. Johnwill Faris, Custodian.
   Robert W. Hart, Ranger-Archeologist.
3. Bandelier---Box 669, Santa Fe, New Mexico. Earl Jackson, Custodian.
4. Canyon de Chelly---Chin Lee, Arizona. Robert R. Budlong, Custodian.
5. Capulin Mountain---Capulin, New Mexico. Homer J. Farr, Custodian.
6. Casa Grande Ruins---Coolidge, Arizona. W. J. Winter, Custodian.
   Charlie R. Steen, Park Ranger.
7. Chaco Canyon---Crownpoint, New Mexico. Thomas C. Miller, Custodian.
8. Chiricahua---Willcox, Arizona.
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.
    Milton Wetherill, Trail Foreman.
16. Pipe Spring---Moccasin, Arizona. Leonard Heaton, Acting Custodian.
17. Rainbow Bridge---Rainbow Lodge, Arizona. No Custodian.
18. Saguaro---Tucson, Arizona. No Custodian
19. Sunset Crater---Flagstaff, Arizona. J. W. Brewer, In Charge.
20. Tonto---Roosevelt, Arizona. Woodrow Spires, In Charge.
21. Tumacacori---Box 2225, Tucson, Arizona. George Boundey, Custodian.
    Martin Evenstad, Park Ranger.
22. Walnut Canyon---Flagstaff, Arizona. Paul Beaubien, In Charge.
23. White Sands---Alamogordo, New Mexico. Tom Charles, Custodian.
    Barry Mohun, Utility Man.
24. Wupatki---Flagstaff, Arizona. J. W. Brewer, in Charge.
25. Yucca House---Cortez, Colorado. No Custodian.

# CONDENSED REPORT

Coolidge, Arizona
December 1, 1935

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

Dear Mr. Director:

The Condensed Report for Southwestern Monuments for November, 1935:

TRAVEL

| | November, 1935 | November, 1934 | November, 1933 |
|---|---|---|---|
| Aztec Ruins | 409 | 666 | 361 |
| Bandelier | 528 | 632 | 155 |
| Capulin Mountain | 900 | 1,800 | 600 |
| Casa Grande | 2,165 | 2,389 | 2,025 |
| Chaco Canyon | 528 | 492 | 421 |
| Canyon de Chelly | 30 | 62 | --- |
| Chiricahua | 175 | --- | --- |
| El Morro | 45 | 250 | --- |
| Gran Quivira | 340 | 299 | 370 |
| Montezuma Castle | 445 | 1,299 | 896 |
| Natural Bridges | 124 | --- | --- |
| Navajo | --- | --- | --- |
| Pipe Spring | 619 | 361 | 602 |
| Sunset Crater | 96 | --- | --- |
| Tonto | 396 | 421 | --- |
| Tumacacori | 1,141 | 876 | 924 |
| Walnut Canyon | 334 | 272 | --- |
| Wupatki | 93 | 79 | 19 |
| Yucca House | 10 | --- | --- |
| Actual Reported Registration | 10,452 | 9,878 | 6,373 |

The 14 Monuments which reported both in 1934 and 1935 showed a decrease from 9,878 to 7,973---1,905 visitors, or 19.2%.

The 10 Monuments which reported both in 1933 and 1935 showed an increase from 6,373 to 7,168---795 visitors, or 12.5%.

It would appear that November, 1935, as a travel month was 19.2% poorer than the same month in 1934; 12.5% better than the same month in 1933. In October, also, did the travel total fall below that of last year.

A large part of the decrease can be explained by the better method now used at Montezuma Castle for counting visitors. Last year's figures, compared with 1935, are unconscionably high.

Weather

On the whole, weather has been good during November in the Southwest, but visitor traffic did not reflect this condition. One storm threat, and the wise travelers hole up this time of year. Southern Arizona points of interest are experiencing that quiescent lull which precedes the rush of visitors beginning in December and January.

Feed and range conditions are generally good. Moisture came late in the month to Tumacacori, Gran Quivira, El Morro, and Capulin.

Engineering Activities

Associate Engineer Diehl spent almost the entire month in the field, inspecting work projects at several Monuments and Carlsbad and Platt National Parks.

Associate Engineer J. B. Hamilton spent 16 days of the month on Monument problems: facilitating construction of Aztec's parking area and cattle guard, inspecting El Morro's new steps, conferring at Gallup with Superintendent Pinkley and Chief Engineer Kittredge, inspecting work done recently at Canyon de Chelly.

The engineering crew under Andrew Clark worked at Bandelier and Chaco. Chief Engineering Aide Tovrea ran a road-surveying crew at Saguaro.

E. C. W. Activities

BANDELIER:

1. Garage in utility area completed.
2. Mile of fire trail completed from Frijoles Canyon to Alamo Canyon.
3. 1200-foot Headquarters sewer extension completed.
4. Large crew spent month planting around Headquarters.
5. Maintenance work continued.
6. Former utility site almost obliterated.
7. Considerable rock quarry work carried on.

CHIRICAHUA:

1. Additional 1100' of Echo Canyon trail brings total to 4900'.
2. Additional 600' of Sara Deming Trail brings total to 2500'.
3. Walls of Ranger Station and Bathhouse up to 2½-foot level.
4. Maintenance of Bonita highway continues.
5. About 800 square yards of backsloping completed on Bonita highway.

PIPE SPRING

1. Advance group preparing camp for main arrivals.
2. Equipment shed being built out of sight on extreme southwest corner of the Monument

3. About 25 men spent some time cleaning ditches, making fence, and filling in a wash.

SAGUARO

1. Park Service engineering crew under Chief Engineering Aide Tovrea has surveyed 114,000 feet of the proposed scenic road.
2. Existing roads repaired.
3. Land boundaries surveyed.
4. Test wells dug.
5. Mine shaft and dry well shafts filled and obliterated.
6. General cleanup and obliteration.

Field Trips

November 6 Superintendent Pinkley and Junior Park Naturalist King left Headquarters, meeting Architect Miller and Museum Technician Woodward of the Berkeley Office in Alamogordo that night. The party conferring on education problems and gathering information for future museum activity, then visited the following locations: White Sands National Monument, a group of petroglyphs near Three Rivers, Gran Quivira National Monument, Abo and Quarai Missions, and Bandelier National Monument.

Arriving in Gallup, Superintendent Pinkley and Acting Assistant Superintendent Miller (who had come from the Coolidge Office via train) attended the road conference November 12 and 13, which is described in a special report to the Director. King accompanied Miller and Woodward to El Morro National Monument, Zuni Pueblo, and the proposed Monument area south of Manuelito, New Mexico. Miller and Woodward then left the party and proceeded to Chaco Canyon, Aztec, and other Monuments.

Superintendent Pinkley, Miller, and King visited Canyon de Chelly with Chief Engineer Kittredge and Associate Engineer Hamilton, and then found time to stop only at Walnut Canyon for a brief visit on the way back to Headquarters, which was reached at 8:25 p.m. November 16.

Personnel

Rodman H. Lloyd Beed reported for duty November 20 to Chief Engineering Aide Tovrea at Saguaro National Monument. Other than this addition, Southwestern Monument personnel remained unchanged during the month of November.

Visiting Officials

During the month the following Park Service officials visited Headquarters on business matters: Scofield DeLong, architect, Branch of Plans and Design; Leffler Miller, architect, Field Division of Education; Arthur Woodward, museum technician, Field Division of Education; Regional E.C.W. historian Hogan, States Park Superintendent Vosper, and E.C.W. Photographer Wilkerson; Park Service Photographer

George Grant; Earl Trager, chief of the Naturalist Division; Vincent Vandiver, regional E.C.W. geologist; Resident Landscape Architect Harry Langley; Resident Landscape Architect A. C. Kuehl; Regional E.C.W. Inspector Richard Sias; Associate Forester W. H. Wirt.

Senator Carl Hayden paid a welcome visit to Headquarters during the month.

Custodians John Wetherill and George Boundey and Trail Foreman Woodrow Spires dropped in for short visits.

Mail Count

| | |
|---|---|
| Incoming, official | 1,028 pieces |
| Incoming, personal | 767 pieces |
| Outgoing, official only | 1,390 pieces |
| Telegrams, incoming | 38 |
| Telegrams, outgoing | 44 |
| Total number of pieces handled | 3,267 |

Cordially,

Frank Pinkley

Frank Pinkley
Superintendent

# REPORTS FROM MEN IN THE FIELD

## CANYON DE CHELLY

By Robert R. Budlong, Custodian

The month of November brought us very few visitors. We had two falls of snow, and some rain, and low temperatures. Apparently winter is going to strike us earlier this year than it did last year, and uncertain weather and threatening skies invariably frighten visitors away from the one hundred miles of dirt roads separating this Monument from the nearest town.

With the exception of eight persons, all our visitors this month were government officials. Total number of persons, thirty. All of the eight bona fide visitors just mentioned drove to the rim of Canyon de Chelly, two of them descending the trail. One of these crossed over the canyon floor to White House. This necessitated wading, for the stream was flowing, and to say that we got cold feet is to put it very mildly, for that water was nearly at the freezing point.

Water has been flowing down the canyons for some time, but has sunk into the sand before reaching the mouth. However, on November 18 it started flowing from the mouth of the canyon, and probably will continue to do so until late next Spring.

Temperatures for the month were rather low. Minimum temperature was 5 degrees, on the 5th; maximum was 68, on the 2nd. An inch of snow fell on the 10th, and we had mixed snow and rain on the 18th. On the 8th we had .31 inch of rain. Greatest daily range of temperature was 45 degrees, on the 6th.

Laying of adobes for the Custodian's Residence, Garage and Storage, commenced October 31. At this writing the door and window frames are in place, and the walls average 57 inches in height. It is hoped that the roofs may be on before really severe weather descends upon us.

On November 11 I left this Monument for Gallup, New Mexico, where I attended the road conference on the 12th and 13th. It took me a little over six hours to cover the one hundred miles. We had had our first snowfall the day before, and roads were not in the best of condition. The car slipped off the road into the ditch, delaying me for an hour; then on top of the mountain I met a truck driven by Navajo Indians, that blocked the road. Their car had a cracked distributor head, and it took us an hour to get it dried out, patched with piñon gum, and the engine running. Shortly after leaving them, the chains on the tires broke, the car described a figure 8 on the road plus one further revolution that headed me back towards Chin Lee for a few minutes. But these are common difficulties. Soon the roads will grow really bad.

Architect Lyle Barcume, Mrs. Barcume, and their daughter, visited this Monument on inspection trips October 30, November 8, and November 20. Chuck Richey accompanied Mr. Barcume on the inspection trip of November 8.

On November 1 and 2, we were paid a welcome visit by Dr. Kurie of the San Francisco Office, Mr. and Mrs. Victor Cahalane of the Washington Office, and Mr. and Mrs. Borell of Grand Canyon. Like all other officials, they didn't stay long enough.

November 14 and 15, we were paid another visit by The Boss, Mr. Kittredge, Hugh Miller, Dale King, and Mr. J. B. Hamilton. It was Hugh's first trip to this Monument, and we were very glad that he managed to get here with the others of the party. On the 14th they drove to the rim of the canyon, and on the 15th drove within the canyon, leaving here that afternoon. Mr. Kittredge and Mr. Hamilton inspected the trail, which shows signs of washing in places, necessitating some repairs.

On November 17 we were paid an all-too-brief visit by Messrs. Woodward and Miller, of the Berkeley Office. We wish there were some way we could persuade these officials to stay longer on these trips.

This has been a most quiet month, and there is little to report. We continue our preparations for the winter, and after I get this in the mail I must climb on the roof, which is very steep, and attempt to repair some bad leaks that invariably send showers of cold water down on my bed during the nights when rain falls. We expect a good snowfall at any time.

**********

## TUMACACORI

By George L. Boundey, Custodian

Visitors for the month, 1141; 27 states, 3 foreign countries. The weather this month has been very much more agreeable than last month and we have exceeded the number of visitors for November of last year by 265.

We have had almost continuous rain during last night and today and this will go a long way toward filling up the water holes for the cattlemen. The feed is unusually good and I noticed in the paper yesterday that more than one hundred and fifty thousand head of cattle had been shipped to eastern markets in the past few months.

With the beginning of winter weather many of the eastern artists come west to paint. We have had several working at the Mission during the month and all make it a point to plead that the Mission proper be not restored. They are always enthusiastic over the present condition of the mission and all agree that further restoration of

the Mission would ruin it.

Several representatives of the State Park Division spent nearly a day at the mission, taking measurements, tracing the wall foundations, etc. They are quite enthusiastic over the possibilities of landscaping, etc.

During the fall months our two youngsters gather the cocoons of moths and butterflies and hang them in the school room where the warmth will eventually cause them to come forth. In the collection this year were a number of the cocoons of the bag moth and they have selected this rainy day to come out so the school room is very much alive today.

Owing to the mild weather of the past week the Nogales school children paid a visit to the mission. The month of May we call the school children month as nearly every school in this portion of the state pays us a picnic visit as guests of their instructors. We generally prepare tables and benches for them back in the grove.

A certain condition has developed on this monument and I often wonder just how it is handled on other parks and monuments.

We are on a main highway to Nogales, nineteen miles from the Mexican border. Our neighbors with perhaps a dozen exceptions are all of Indian extraction. We fly the stars and stripes. We represent the Government.

There is seldom a severe accident on the highway, a murder, a suicide, a man beats his wife, a case of real want, a mad dog or any real emergency, but what we are called upon to handle it. And so far we have never failed, but there have been times when there was no ranger at Tumacacori that the wife and I have been put in rather peculiar situations. If one of the party is dead and some injured, the injured have to be rushed to Nogales and someone has to stay with the dead. The neighbors are helpless; they are superstitious of the ead or the delirous or the insane. It was always up to the wife to stay behind regardless of the drunken condition of the other members.

Our average running time into Nogales with the injured is 25 minutes. We happen to have a truck with a spring bed at the back. A few weeks ago we picked up two, the woman badly injured. Martin took care of the tourniquet and by holding the leg in the air we got her to Nogales without serious loss of blood. My trouble always has been that I could not drive and take care of the injured, too. Our neighbors are no good in an emergency.

About ten days ago a man lay beside the highway screened by a

few bushes, from about three in the morning until nearly nine o'clock. He had been killed in a drunken brawl and none of the local people wished to be mixed up in it. Martin and I took charge and straightened out the tangle, tho we both had to appear in court following the hearing.

Am not complaining, we are willing to do all we can in an emergency, but I sometimes wonder just how far the Government would back me up if I get in bad.

One time I found a family with several small children without clothes or food and in a terrible condition. The man was working but seldom went home. I had him arrested; he got two months in jail and the day his time was up he sent word, "would I please come to Nogales and bring him home." I did and he has supported his family in good shape ever since.

Last Monday, the wife, our school teacher Miss Hughes and myself paid a visit to the Boss at Casa Grande. We enjoyed our visit very much.

When I learned a Custodian from the East had been appointed for Casa Grande, I was anxious to meet him and learn how he liked this desert country. When we alighted at Casa Grande we were met by a very pleasant appearing young man who introduced himself as Jack Winter. He acted as guide and after escorting the ladies thru the ruins proper, he very kindly accompanied us to the Clan House.

I never met a more pleasant and agreeable guide and on the way home I remarked to the wife, how much I liked our ranger guide. "Ranger Guide she says - didn't you see his badge? That was the Custodian."

All I can say is that Mr. Winter's success at Casa Grande is assured and I congratulate the Boss.

**********

Martin Jackson's report in a recent issue on how he (unofficially) broke all records for the standing broad jump reminds me of the story of the darky who had been delegated by his boss to take care of a particularly mean and ornery mule.

A visitor happened into the barn while the darky was doing the chores, and noticed the mule aiming several kicks in the general direction of the darky, but without success.

The visitor inquired: "How long have you been taking care of that mule?"

Darky: "About six years."

Visitor: "Have you ever been kicked by that mule?"

Darky: "No, sah."

Visitor: "Do you mean to tell me that you have taken care of that mule for six years, without having been kicked?"

Darky: "Yes, sah, that mule has never kicked me, but frequently he has kicked the place where I just recently been."

M. O. Evenstad.

**********

## WHITE SANDS

By Tom Charles, Custodian

We enjoyed a visit from Mr. Earl Trager of Washington, and Geologist W. Vandiver this week. These gentlement are interested in the unexplored section of the White Sands Monument, the old lake bed, which is generally accredited with being the source of the Sands. They seem to think that about half of our show may prove to be over there at the old sink hole with the mammoth bones, the Giant's Tracks, and the old ox-cart trail which is said to have been a short cut of that road through the Jornado del Muerto, between The Gran Quivira and El Paso.

It was rather unfortunate that the wind was blowing when Mr. Trager visited the Sands. He asked me how the picnickers could eat out there when the wind was blowing and when I told him that the sand did not get up in the air but rather, it rolled, he had about the same expression that Earl Jackson had when he told me that he had never heard any of the boys say that they thought I meant to lie about the Sands. Will, it is only proof that love is blind, I guess. If I do not defend the shortcomings of this monument, what am i here for?

Last week a group of Oklahoma Indians visited the Sands and in conversation with them I learned that for many years they have gathered the leaves of the"White Sage" which grows profusely in the White Sands and have used them in their "Peyote" ceremonials. This group of Indians were from Anadarko, nearly 600 miles from here and they explained coming this great distance because the White sage, they said grew no place else except in Russia. As nearly as I could discover from these Indians the "Peyote" is a drink made from a shrub which does" not intoxicate" but makes the imbiber "feel good". The leaves of the White Sage are mixed with the smoking tobacco in these particular ceremonials and they are said to give an additional kick and also furnish a fragrance or sweet perfume to the festivities.

Our Recreational Demonstration Project seems to be getting under way this week. The government has accepted Mr. Garton's option on the artesian well, and Mr. John Kapper, Project Engineer, is gathering up the loose ends to be ready to start with the gun. The definite program has not been received here, but it is understood that the work will consist of tearing down the old fences and putting up new ones, building a service road from the Monument to the well, improving the present Garton house by making it modern, installing a mile and a half of 3-inch pipe which will furnish warm water from the well to the headquarters area when the same is finished, and possibly putting in dams and dikes under the instruction of the Wildlife Division so as to increase feed and nesting facilities facilities for migratory birds.

This will introduce Barry Mohun, Jr., tall, retiring, competent, our new ranger. He arrived from Washington, D. C. about a week ago and is to be with us six months at least.

Barry's first job was to make a three day count of the cars at the Monument. The count shows an average of 9 cars per hour, (a drop from 14 cars last spring and 17 cars in August). By the generally accepted plan of multiplying the hourly count by 14 in order to get the 24 hour average, we have 126 cars per day through the Monument.

Sixty-five percent of these cars carry "foreign" licenses and 67% of them are travelling west. Ten percent drive in to the Heart of the Sands and 14% stop along Federal Highway No. 70, where the occupants climb onto the hills and play in the sand. This week-day count differs from the Sunday count in that 23.5% of the Sunday traffic go into the heart of the Sands.

On Sunday, November 3, there were 47 cars at the Turn-Around between 11 a.m. and 4 p.m. Twenty-one of these came in one party from Ysleta, Texas, and brought the officers of the Reclamation project and their families. Thirty cars loads of our guests, probably 130 people, gathered at the picnic grounds that day and ate their lunch from the four tables, made their coffee on the two fire places.

The next Sunday there were 49 cars in the Heart of the Sands in the same hours. These Sunday visitors are not local people but usually come from a distance of 75 to 200 miles. Despite the scarcity of conveniences, our picnic ground is a popular place about noon each Sunday. Ben keeps a few scraps of pine and dry wood at each fireplace as a friendly gesture to the visitor and we find that it is appreciated. It also keeps our visitors from gathering the shrubs and trees back along the road, for firewood.

I have been surprised and pleased at the fine response to our new signs which ask that the cars do not go beyond the Turn-Around. Not more than one or two cars have been in this scenic area since

the signs were put up. The visitors also follow the signs to the picnic ground to eat their lunch. Here, the four tables, rough as they are, keep the chicken bones down in the valley and the two fire places have practically eliminated the burned spots on top of the hills.

Our Park Service visitors this month were Earl A. Trager, Sup't. Frank Pinkley, Arthur Woodward, Leffler A. Miller, Mr. and Mrs. V. E. Cahalane, Dale S. King, and V. W. Vandiver. "As we go to press" Mr. Chas. W. Michaels and Mrs. Michaels, who has been a Ranger-Naturalist in Yosemite for a number of years, are guests at the Monument.

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## GRAN QUIVIRA

By W. H. Smith, Custodian

I will submit my report for November and the latter part of October. Travel has been pretty good for this period. I have registered 340 visitors entering the Monument in 103 vehicles from 13 states, including New Mexico. This registration shows an increase of about 100 visitors and 30 vehicles over the preceding month.

The last month has been one for Park officials to visit the Monument as I have registered more the last month than I have in a long time. I will begin by naming them as they came: On date of October 21, Superintendent Pinkley and his daughter Nancy Margaret, Park Ranger Charles Steen, and Miss Story were here for a short visit. This was Miss Story's first visit to this Monument and she seemed to find it very interesting. On date of October 28, we had Mr. V. W. Vandiver, Regional Geologist, National Park Service. Mr. Vandiver was here for only a few minutes, but he said he expected to be able to pay us a visit later when he could have more time to discuss the Monument more thoroughly and give us some information on the formations of this district.

Again on date of November 8, 1935, we had Superintendent Pinkley, Junior Park Naturalist Dale S. King, of Coolidge, Arizona, and Technician Woodward and Architect Leffler B. Miller, both of the Berkeley, California, office. While here the above-mentioned men gave the museum proposition for this Monument their attention.

On date of November 10, Associate Engineer John H. Diehl, of Coolidge, Arizona, came by here. While here Mr. Diehl went over the grounds and inspected the location where the pumping plant and water system are to be installed in the near future, and he informed us that the foreman who will do this work would be here soon to begin the job.

On date of November 10, we had a party of C.C.C. boys from the camp near Corona, New Mexico. There were 25 in this party. Then again

on November 17, we had two truckloads of C.C.C. boys, one from the Corona camp, and one from the Cedarvale camp. One truck had 22 boys and the other had 21. These boys are now building a road around the South end of the Gallina Mountains just east of the Monument. They are making a mighty fine road with a gravel surface through some beautiful scenery.

Weather conditions for the last month have been fine for travel, except that on November 18 we had a small snow of about three inches on a level. It melted away the following day, leaving the roads muddy for a few days, but they are dry now and the weather is nice for travel again.

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# EL MORRO

By Evon Z. Vogt, Jr.

All is quiet again at El Morro. Harry Brown finished his work on the steps on the 19th and pulled out for Canyon de Chelly. And now, except for an occasional water hauler, the only signs of life around the Monument are rabbits and porcupines who go their way unmolested.

## WEATHER AND ROADS

As I write a slow warm drizzle dampens the countryside. Our weather man is still a freak. We are usually ice skating on the Ramah reservoir by this time of year. However, we have had two good snowstorms during the month. One of the 10th when three inches of snow fell here and nearly a foot fell on the high divide between Ramah and Gallup. The other storm was on the 17th, but it was only a light snow. And today, Sunday 24, it is storming. Sunday has been a bad day this month. We have had storms on three successive Sundays.

The Indian Service road work on Coal Mine Flat is coming along in fine shape. But as yet, no gravel has made its appearance on the road. Here's hoping it will be graveled before the winter blizzards, because if it is not, the new road will become a bottomless bog-hole.

McKinley County has been given some $50,000 of the WPA money for New Mexico to spend on roads. Of this amount the community of Ramah has about $7,200 to spend on the road between the county line, two miles south of Ramah and the Zuni Indian Reservation line three miles west of Ramah. This five-mile stretch should be fixed up in pretty good shape with $7,200. Teams and scrapers from Ramah are already at work on the road, grading it up and making fills and cuts.

There is, however, no money in sight for the improvement of the road between the county line and El Morro. This piece of road becomes more nearly impassable with each storm.

VISITORS

Visitors for the month total a mere 45. Of these seven were Park Service men. Dale S. King, Leffler B. Miller, and Arthur Woodward were here on the 12th. Mr. Miller and Mr. Woodward are technicians from Berkeley who came to investigate the archeological finds near El Morro. These finds were the old Indian camping ground mentioned in the October report and the find of a piece of an arrowhead which might be a Folsom point. Chuck Richey, Hugh Miller, Frank Kittredge, and Mr. J. B. Hamilton were all in on the 13th and inspected the new steps.

But you know, Boss, not one of the above Park Service men registered. I thought the Park Service officials had better manners.

MONUMENTAL IMPROVEMENTS

The new concrete steps on the trail leading up El Morro's south face were completed in excellent shape. Although the steps are a bit too regular to appear very natural, the color is much better than would be expected, for only Copper as was used. I think Mr. Brown did an exceptionally good job of coloring them, and from the standpoint of construction they couldn't be better.

The whole job was a difficult one. The cement, gravel, and water had to be hauled with team and wagon around to the back side of the monument and then up the gradual southern slope to the top of the rock. Then the materials had to be carried by men down the trail to the places where the steps were being constructed. Every night during the time of construction the temperature dropped below freezing, and the steps had to be covered with bean husks to prevent the raw concrete from freezing and cracking. Foreman Brown handled all these things masterfully, and I think that everyone, visitors and Park Service Architects and Engineers, will be well pleased with our new steps.

GENERAL

I had a big time in Gallup on the 12th, the first day of the Road Conference, making new acquaintances and renewing old acquaintances among the Park Service men after conference hours. I especially enjoyed a fine visit with Dale King and Mr. Woodward.

Next week I shall disconnect the pipe line which runs from the water cove to the ranger's cabin. By that time the homesteaders can melt snow from the looks of the weather now, and won't have to haul any more water.

The Custodian will be here on the 27th for a stay of a week or so.

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# CHIRICAHUA

By Wm. Stevenson

Following is the Monument travel report for the months of October and November:

During the month of October 325 visitors arrived in 80 cars and in November 175 visitors arrived in 44 cars.

Little moisture has fallen during the two months' period, but the weather has been too cold for overnight camping. All visitors in the month of November arrived on week-ends.

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# CHIRICAHUA E.C.W.

By Wm. Stevenson, Project Sup't.

I herewith submit the following report for the month of November:

Echo Canyon trail has progressed well this month. 1100' of trail, including three switch backs, have been completed. Total length of trail to date, 4900'. Six hundred feet of completed trail has been added on Sara Deming making a total of 2500'.

Work has been resumed on the Ranger Station and Bathhouse after a halt due to delay in receiving specifications. The forms are placed and walls are completed to a height of $2\frac{1}{2}$' on both buildings.

Maintenance of the Bonita Highway has continued throughout the month; ditches and culvert basins have been cleaned and the road graded.

Backsloping on the Bonita Highway was continued through the first week of November. The 3/8 yard P & H power shovel received from Rocky Mountain Park will prove valuable in the continuance of this work. Approximately 800 sq. yds. of slope have been completed to date.

November 13-17 we were visited by Jack Diehl, park engineer, Harry Langley, resident landscape architect, A. P. Keuhl, landscape architect, Grand Canyon, and George Grant, National Park Service photographer.

November 17, Mr. Trager, chief naturalist of the National Park Service, and Mr. Vandiver, National Park Service, geologist, were here for a short visit.

November 25-27, Mr. Wirt, of the Branch of Forestry, National Park Service, made a thorough inspection of the camp and work projects.

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# SUNSET CRATER

By James W. Brewer, In Charge

Travel to this Monument during October totaled 165.

During November 96 people visited the Crater, giving a wide geographical representation: Arizona 13; California 10; Illinois 4; Kansas 3; Ohio, Oklahoma, Minnesota, New York 2; Indiana, New Hampshire, Maine, Iowa, Nebraska, Texas, Pennsylvania, Virginia, New Mexico, Kentucky, New Jersey, Nevada, Wyoming, Oregan 1; Holland and Germany 1.

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# WUPATKI

By James W. Brewer, In Charge

Travel:

44 guests registered at Wupatki Pueblo; at the Citadel Group, 65; 14 names are duplicated, leaving a total of 93 visitors to the Monument in November, 1935. November, 1934, 79; 1933, 19; 1932, 12.

States were represented as follows: Arizona,34; California, 20; Ohio, 7; New York, 3; Texas, Washington, Washington, D. C., Nevada, and Massachusetts, 2 each; Vermont, New Mexico, Connecticut, Utah, Iowa, Nebraska, Illinois, New Jersey, and Canada, 1 each.

Weather:

October 25 to November 1: High temperature, 69 degrees, on the 28th, low 33 degrees, on the 31st; precipitation, 0.00. November 1 to 25: High, 64 degrees, on the 2nd, low, 24 degrees, on the 6th and 7th; precipitation, .047 inch (morning showers on the 23rd and 24th). There were 11 cloudy days and seven extremely windy days.

Newsworthy Visitors:

Mr. Vincent Vandiver brought Mr. E. A. Trager, en route from the Washington to the Berkeley office, on the 15th.

Mr. L. L. Hargrave brought Mr. Arthur Woodward and Mr. L. Miller on the 19th.

Kelly, Page, and Farmer paid us a visit from the Soil Conservation Service camp at Red Lake on the 3rd.

November has been a very quiet month.

Museum Discussion:

After looking over the proposed administration area, Mr. Woodward and Mr. Miller had a bit of lunch and proceeded to tear apart our Museum prospectus. Mr. Woodward does not approve of displaying anything in a prehistoric room because they are small, dark, low ceiling-ed, and hard to maintain (all of which is true).

Mr. Woodward suggests we arrange another prospectus providing for all displays in one properly constructed museum building; he also suggested that we emphasize the two periods (Pueblo II and III) represented at Wupatki, and the effect of the Sunset Crater eruption on prehistoric populations.

Roads:

Three huge pine trees have been uprooted and blown across the road between Sun Crater and Wupatki which is dangerous and almost impassable at these points; I'll do what I can to remove them.

General:

The new Entrance Road signs for Wupatki and Sunset Crater were installed on the sixth. Two outbuildings were remodeled and repainted and 70 feet of trail were constructed on the east talus slope connecting the two units of the pueblo; this work consisted mainly of widening and slightly rerouting the former trail; it has been a slow troweling job because wall stubs are constantly cropping out.

Questionnaires:

A total of 59 questionnaires has been given; results:

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|---|---|---|---|---|---|---|---|---|
| 10 | of | the | ten | questions | answered | correctly | by | 10 people |
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Too few questionnaires have been given to justify definite conclusions, but these trends are noticeable:

Visitors from the East generally answer fewer questions correctly; visitors who do not know the meaning of the word "pueblo" answer fewer questions correctly; the question answered incorrectly most often is "What is the difference between Pueblo II and III houses?"

Evidently the story of Wupatki means comparatively little to people without some background or "orientation" of Southwest prehistory--a factor which is of course much easier to put across to some one even slightly familiar with "pueblos" and "pueblo life." The difficulty of the most-missed question is probably due to some previously unseen defect in the house type chart or the guide--we will change the chart first and see if that betters the results.

Christmas Party:

Shortly before Christmas we expect to hold a small party for the

local Navajos--a get-together to celebrate Christmas. We hope to have a feed, a tree, and a little present for each Navajo. The gifts will be discarded or out grown clothing for the elders, toys and candy for the kids. If anyone who reads this has any such clothing they will give to keep an Indian warm this winter, we will fit a needy Navajo to the article.

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# WALNUT CANYON

By Paul Beaubien, In Charge

Three hundred and thirty-four visitors registered this month. That's not many but it compares favorably with the 272 of November, 1934.

Visiting Park Service officials were: Earl A. Trager and Vincent W. Vandiver on the 15th; Frank Pinkley, Hugh Miller, and Dale King, on the 16th; and Arthur Woodward and Leffler Miller, on the 20th. "Bob" Cole was here overnight on the 24th and I enjoyed his visit very much.

Trail work is progressing well, considering difficulties of a one-man job.

Two hundred and thirty-six birds were banded this month on my spare time: 188 Chestnut-backed Bluebirds, 20 Pygmy Nuthatches, 10 Cross-bills, 7 Townsend Solitaires, 3 Robins, 3 Mearns Woodpeckers, 2 Mountain Chickadees, 2 Red-backed Juncos, and 1 Shufeldt Junco.

In the past, I've used water to bait the trap and the birds really flocked to it. However, there has been some snow lately and the birds rarely come to drink now. A few Juncos are coming for grain so I should be able to band a few next month.

All supplies ordered arrived O.K., plus a small bird trap and a bulletin on cacti. I already had a copy of the cacti bulletin (personally owned) but decided to sign for another in case some one else would be stationed here in future. Have never used my copy for two reasons: first, have heard that good botanists thought it "NG"; and second, after running a cactus down through the key, I'm not sure I haven't made a mistake myself.

I placed the two-compartment trap out in the oak trees by the back door and baited it with tallow. Never set the trigger till today when I sat down to write my monthly report. Caught the same Mountain Chickadee twice in fifteen minutes, so wonder if you have any traps which will catch different birds instead of the same one over and over!!!!

I am enclosing a complete list of birds banded to date.

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# TONTO

By Woodrow Spires, In Charge

Here enters into history the dullest month which I have spent at Tonto. This, I believe, may be accounted for by the unusual weather which we have had.

Weather:

A maximum of 82 degrees was reached on November 28, with a minimum average of 68 degrees. November 12 the minimum dropped to 36 degrees, with a minimum average of 43 degrees. This gives a mean average of 55 degrees, which is 12 degrees lower than the mean average for last month. There were nine cloudy and three part cloudy days, with a brisk wind almost every day. A total of 1.26 inches of rain fell during the month in the form of five storms.

Visitors:

This month shows a total of 396 visitors stopping at the Monument. Of these, 243 climbed to the lower ruin while 5 continued to the Upper Ruin. These figures show (1) a gain of 19% over last month's total visitors; (2) a decrease of 11% in the total visitors for the same period last year; (3) a decrease of 7% in visitors to the Lower Ruin, as last month 68% of the total visitors climbed to the Lower Ruin while this month only 61% made the climb.

General:

On November 13 I made a trip to Headquarters to get a stove and a museum case and had the misfortune of finding both you and Mr. Miller were in the field.

On the aforementioned trip old 1801 (Bob Rose's favorite station wagon) became disgusted with life and tried (almost did) to commit suicide by shorting a battery cable and started a nice little fire in the floor boards under the gas tank. After a little work, a lot of swearing and a burned hand it was extinguished and repaired well enough to make the trip back to Miami, where a new cable was installed and the trip finished with no further trouble.

The Southern Pacific Railway is getting ready to start its big advertising program in which the Apache Trail and Tonto National Monument are featured.

Three groups of visitors camped on the Monument this month and all had good cooks, or at least after a steady diet of my own cooking seemed good.

Did considerable cleaning up, gathering wood and getting ready for winter, in addition to the normal trail work. This, I believe, is the total of the happenings here for the last month.

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# NATURAL BRIDGES

By Zeke Johnson, Custodian

November has been a very busy month for me. As you will remember, when I reported last, Superintendent Tillotson had just arrived at Blanding for his trip to the Colorado River.

We left Blanding October 28 and drove to Edwin Bridge; next day we packed up and rode to Fry Cabin, a distance of 20 miles. Next day we rode to the Rover, a distance of 30 miles. Then back to Soldier Crossing (25 miles), then back to my camp (another 25).

It was a very interesting trip from start to finish. Next day we bade goodby and he drove to Blanding, and, as I had hired a horse at Blanding and sent it out to the Monument with a boy, I had to ride the horse back. It took me the biggest part of two days; arrived in Blanding November 3.

Then I went back to the Monument and began trail work on November 5, and as it was late in the season, I worked every day---Sundays and all---for 17 days. I had plenty of company, as there were six men surveying for a map of the country. On November 15, I had Mr. Wilson come out and work five days as I could see that I could not get all done that I wanted to do this fall. We worked most of the time on the trail from Edwin to Agusta---built the trail up from both sides so that water could not run down and wash the center out. We cut off many high places and filled in many low ones. I am very proud of what we did and it will save many a tired step in the future.

I also built a bridge over a sand wash under the Agusta that will make it more pleasant there; also built a railing along one narrow spot by a ledge so it will not look so scary to timid people. Did a lot of work on those two steep places in the road just as they approach the camp. In all I am very pleased. Now if I can continue the work next season things will be moving nicely.

We came home to Blanding on the 22nd, and on the 23rd Superintendent Toll of Yellowstone, and Paul Franke, and a Mr. Nelson from Mesa Verde arrived for an inspection trip of the Monument, so we left early on a Sunday morning. It was cold and wet---sleet all day and fog. We never got a glimpse of Bears Ears nor any of the Mountain---only of what was within 50 yards of the road. But when we drove down off the Mountain we could see a little better as the fog was not so thick.

We arrived at Edwin at 11 a.m. and left for our hike at 11:30. Went to all the bridges and were back at 3:30 p.m. Coming home we had to put chains on---very slippery in places. Arrived at Blanding at 6:30 p.m.; had had a very enjoyable trip and the visitors seemed to be well paid for their efforts.

I hardly know how to account for the fact that there have been

124 visitors this month. All have registered and have had fine trips as roads and trails were in fine shape and weather cool enough to enjoy hiking and most of them went to all the bridges.

The surveyors are through out there and everything is locked up until springtime in the Rockes comes again.

While working trail I found two fine rubbing stones, two stone axes, two fine arrowheads, and I scratched under a dry ledge and found two very fine old yucca sandals and a few pieces of turkey cloth and other cords of their make. I also took a little evening hike about 1½ miles up the north branch of Armstrong Canyon and found a cave that white man had never seen before and there were five very fine houses, well preserved, and an old kiva that had been built on top of another fallen room and it was so interesting that I will hardly rest until it can be cleared carefully and scientifically. I think it had about six or seven feet of trash in it---so interesting it should be added to the Monument.

And earlier in the season while I was sowing some more sweet clover sod in the canyon above the big ladder I found another cave and a lot of buildings that I didn't know were there before. I think I'll have to spend a few weeks looking over my country and try and find what I have out there. So many places I have never been, and so near my camp!---but seems like I never get the time or have a horse there to ride. This month I had six big bales of hay shipped out to my camp; took my little buckskin horse to ride to work and it saved me a lot of tired legs.

Frank, old boy, I am down a little in the dump over you. When I read in the October Report that you and Miss Story had been to Hovenweep and never came to see me, I just felt mighty bad. I have read so many times about Miss Story and her wonderful work that for a long while I have had a longing in my heart to see her. Then again I used to think that you kinda liked me, but now when I know that both of you were within four hours' drive of where I was, it makes me wonder what's the matter.

By now you will begin to think that I will never ring off, so I will say "by by" to all the bunch for this month, wishing you all a very fine Thanksgiving----

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## PIPE SPRING

By Leonard Heaton, Acting Custodian

If I don't get you a good report this month, it will be that I have not the ability to put it on paper as it should be, for we have had a very active month along several lines. Visitors, CCC's coming

in and planning of park projects.

October 29 the advanced ECW group came in with Captain Jackson in charge, and they set to work to get the camp in shape to receive the Ohio boys who followed on the first of November.

November 2, I was kept busy in and about the fort showing the place and giving the history of it and the west in general to the Ohio boys. I have not changed my first opinion of them, for I think we rated an exceptionally good set. With a little explanation to them of what we are trying to do with the historic spots of the nation, they will be a help to us. They have cleaned me out on some of the Western Park pamphlets and all of the monument pamphlets I have---so they are interested.

There has not been much work done by the boys other than fixing up the camp. One reason is that the Division of Grazing isn't completely organized yet---only a temporary superintendent and no projects outlined on the range. They are very anxious to get to work on the Monument projects, so they can get them done before the work starts on the range.

The Army Officers are Captain Jackson, who is being relieved by Captain Packer, Lt. Wolfe, Lt. Prokop, and Dr. Freeman---all very fine men and willing to cooperate in every way to help build up the Monument and make it more attractive. So I don't think we will have any trouble whatsoever in carrying out our program with them.

The ECW equipment shed is being built on the extreme southwest corner of the Monument, out of sight of the camp and road, which I think is better than where it was first planned to be---north of the road across from the camp.

There have been about 25 boys working on the Monument the past two weeks, cleaning out the drain ditch, making fence, and filling up the wash. I have not received a report from the ECW foreman as to just the number of men worked. I told them that I would want it every month.

There has not been enough work done to say much about what has been accomplished, bu t the boy s are getting the hang of what is wanted and next month I hope to report some progress on our program.

Mr. Gordon and Mr. Rozell were here November 15, and we surveyed in the new camp road which I think will meet the approval of Park officials. Mr. Kuehl gave it his O.K.

Mr. Kuehl was here November 21 and 22 for several hours, going over the projects so that they could go ahead on them. I think we have enough outlined for them to keep them busy for some time. I

expect Langley, Kuehl, Gordon and some other Park men in the first week in December to finish up the necessary landscaping and surveying to complete the ECW program for this sixth period.

There has not been much travel outside of the CCC's and those connected with it. I have the following to report.

| | | | |
|---|---|---|---|
| CCC boys | 210 | ECW Officers | 8 |
| Army Officers | 34 | Truck Drivers | 63 |

These came from the states of Arizona, Utah, Ohio, Montana, Iowa, Indiana, Virginia, New York, Nevada, Kentucky, and Japan.

Other visitors came from Utah 11; Arizona, 9; New York, 1; Washington, 2; Idaho, 2; Mississippi, 1; local travel, estimated, 270; total of 619.

We have now the largest town in Mohave County north of the Colorado River, and all on a 10-acre lot.

We now turn back to the days when this place was young and history was in the making by our early pioneers. This part of the report deals with one Major J. W. Powell and his party working for the U. S. Geological Survey, in and about this country in 1871. During his work, Major Powell came here December 22, 1871, and at a point about 3/4 mile northwest on the hill he set up a survey point, and the minutes of this setting were recorded and placed in an old style lye can, sealed, placed on the rocks and then covered with sand and rocks until there was a mound about four feet through, six feet high with a three-foot cedar pole stuck up in the top.

This monument had not been disturbed until four CCC boys from Ohio came upon it and tore it down and found the paper and the can, which has been turned over to me to make a record of it. Whether it will be made a permanent part of our museum I do not know, but I am doing all I can to get for our collection as it rightly belongs here.

The minutes read as follows: (Written in quite a fine hand)

Pipe Spring Ranch,
Windsor P. O.
December 22nd, 1871

This Monument was erected December 22nd by order of the U. S. Survey of the Colorado River. This point is thirty-nine degrees and forty minutes (39° 40') South of West of a red mound seven miles south of Kanab, Utah Territory, over which pafses (passes) a meridian line from which this point was triangulated. From here, said point reads thirty-nine

degrees and forty minutes (39° 40') northeast, distant about fifteen (15) miles, Variation of the needle Fifteen degrees and twenty minutes (15° 20') east, Addeed.

Major W. J. Powell, Geologist
Professor A. H. Thompson, Astronomer
S. V. Jones, (Observer).

I am sending you this letter or minutes with the agreement I have made with the boys at present, asking you to do what you can to satisfy them so that we can keep it here.

We are now having our good fall rain which we need so much, and I hope we get several days of it---then give us a chance to get some work done this fall in planting trees and shrubs.

So I bring another chapter to a close about Pipe Springs and the history it has made for the month of November.

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## MONTEZUMA CASTLE

By Frank Fish, Ranger

The following are the major happenings and events for the month of November submitted during Mr. Jackson's absence:

The weather was good for the larger part of the month, with slight storms on the 7th, 24th, and 25th in the local region and stronger disturbances in the mountainous areas adjacent. Killing frost came on the 7th.

Roads have been in fair condition approaching the monument. However, some of the visitors have complained about them---most of these complaints come from people accustomed to pavement.

Travel for the month amounted to 445 visitors divided into the following classes: 396 registered, 49 were locals, late arrivals and people who refused to register or missed registering due to the Custodian and Ranger being busy at the time. Of the 445 visitors, 221 made the trip into the Castle.

Two campers stayed with us for two days during the month, using this as a base and visiting neighboring attractions.

Visiting officials include, Harry Langley, on the 2nd, making an inspection trip. We enjoyed seeing Harry.

Donald DeLeon, Entomological Technician of Berkeley made an inspection of the infestation of the Monument Sycamores. He reports the trouble is due to scaled wings and aphis. Mr. DeLeon claims the

trip fell down, only in one particular---we did not have any worm lions for his collection.

"Bob" Cole of the Coolidge office was a welcome visitor on the 24th.

During the month two dead Scycamores were felled and sawed into stove wood lengths---helping out the Government wood pile and also removing two dangerous hazards to visitors.

Submitted with this is a report by Norman Jackson, who has been classifying and banding birds on the Monument.

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## CAPULIN MOUNTAIN

By Homer J. Farr, Custodian

In reporting Capulin Mountain National Monument activities for November, 1935, I submit the following:

I estimate approximately nine hundred visitors to this Monument this month, although I have been away some and very busy most of the time and have had no time to get a very close count.

The road is passable but is getting well filled with fallen rock and lava; the trails are in fine condition and used by practically all the visitors.

Weather has been very dry all month until yesterday we started off for the winter with a very fine snow and is still snowing today (no wind). Some time this winter we are due for a good big snow and that may be the beginning of what is generally predicted.

Some time this winter I intend to write and submit a short article on the pictographs that have recently been discovered about three miles east of this Monument; I have been permitted to view part of them and they surely appear to be quite ancient.

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## CHACO CANYON

By T. C. Miller, Custodian

Following is the report for the Chaco Canyon National Monument for the month of November:

General;

November has been a busy month in the Chaco. The roads have been about as bad as expected at this season of the year. Passable most of the time but very muddy and slick a good part of the time. The road from Seven Lakes to the Monument headquarters was graded

by the Indian Service for the first time in history, during the month. It was at least fairly flat and smooth until a four-inch snow fell on the 10th, then the trucks cut deep tracks, leaving high centers and rough places.

Two official trips were made from the Monument during the month by the Custodian---one to Gallup to the Federal Road Meeting and one to Yucca House and Hovenweep National Monuments.

Travel:

528 people entered the Monument in 176 cars, coming from 18 states and the District of Columbia.

Special Visitors:

Andy Clark and Party of Engineers arrived October 25 and departed November 3. Mr. Clark came back to Chaco to re-run some lines on the Monument boundary fence line, where the stakes had been removed by the Indians and their stock. The line was staked last June, and in staking the lines so that the contractor could line the fence in, white and red flags were used on lathes. In places the Indians got the red flags and the goats the white ones. However, it did not take Andy and his crew long to put in new stakes. (Come again, Andey, we certainly appreciate good engineers, and your service in this Monument has been exceptionally fine).

Associate Engineer Hamilton was here four times this month inspecting our fence project. Regional Geologist Vandiver arrived October 30 and departed on the 31st. The Wildlifers, Mr. and Mrs. V. H. Cahalane, Washington, D. C., and Mr. and Mrs. A. E. Borrell, Grand Canyon, arrived and departed on November 3. Leffler B. Miller and Arthur Woodward, from the Berkeley Office arrived on the 13th and departed on the 14th. Chas. A. Richey made two trips into the Monument this month on the 14th and again on the 20th. Chief Engineer Kittredge and Associate Engineer Hamilton arrived on the 16th, and departed on the 17th. Frank Hamiston and Ray Hitson, Mesa Verde National Park were here on the 20th. Roger Toll, Superintendent, Yellowstone National Park, visited the Monument on the 22nd.

Weather:

Maximum for the month was 57 on the 1st. Minimum 17, on the 21st. Precipitation, .68 inch was recorded for the month.

Monument Boundary Fence:

The Cook and Ransom Construction Company has proceeded in a satisfactory manner. 29½ miles of line post have been driven, 65 cubic yards of concrete poured, and 12½ miles of wire have been stretched. If the good weather holds out, the contractor will perhaps finish the job some time in December. Thirty-two men are employed on the fence project.

Soil Conservation Project:

Former Ranger Lewis T. McKinney of this Monument was appointed Project Manager of the Soil Conservation Service here November 1. The project got underway on the 12th. 46 Navajos are employed on the project. To date the Revetment work at Pueblo Del Arroyo is well under way, also sausage dams, spreaders, and dikes are being built in the side arroyos to try to prevent the soil from washing away.

To date the Indians have moved out of the Monument about 150 head of goats and sheep and have moved in about 90 head of saddle and work horses to use on the project. Boss, don't you think I am doing well in eliminating the grazing in this Monument?

Threatening Rock:

A few weeks ago I asked Associate Engineer Hamilton to help me work out some method that would be of use in determining the movement of the Threatening Rock, if any. Mr. Hamilton suggested two steel bars set in concrete, one on the rock and the other on the cliff. These bars are set so they are free to move with the rock. The bars were set November 2, by Engineer Clark. They were marked with a hack saw, and the temperature was 59 F. I am not disturbed about the Threatening Rock or do I look for it to fall in the next hundred years unless we should have a tremor in the earths crust, then the rock might come down and spoil the best ruin in the United States. I think it is very important to carry on this experiment.

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# YUCCA HOUSE; HOVENWEEP

By T. C. Miller, In Charge

Following are the reports for Yucca House and Hovenweep National Monuments:

Yucca House:

Travel:

10 people registered in our book at Yucca House coming from the following states, Colorado, New Mexico, and Wyoming.

Visiting Park Service Officials:

Roger Toll, Superintendent, Yellowstone National Park, Paul Franke, Acting Superintendent, Mesa Verde National Park, Ranger and Mrs. Hart, Aztec Ruins National Monument.

General:

There has been no vandalism in this Monument since I have been making that trip every month. However, last year several scars were made by pot hunters. Much credit is due the Ismay family who live within a few feet of the Monument Boundary Fence. These fine people are not only courteous and helpful to visitors but are interested in

the preservation of that Monument.

Hovenweep National Monument:

I inspected this Monument on the 24th. The roads were very slippery in McElma Canyon leading to the Monument. The Indian Service is fencing the Reservation, and in order to get into the Monument now you have to cross a new cattle guard near the South boundary of the Monument. The signs are still in place and there were no evidence of vandalism. I found some fresh car tracks that were made the 23rd. When I inquired about the tracks, I was informed that Mr. Toll and Mr. Franke were inspecting some good Ruins.

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## AZTEC RUINS

By Johnwill Faris, Custodian

For fear of being accused of partiality it behooves me to allow my ranger to submit the Monthly Report. There is no doubt but that I am treading on dangerous ground because both reports are superior in make-up and content than those submitted each month by myself, but, after all, it may be a means whereby I can improve my own.

The month has been taken up with considerable activity in that both E.C.W. and our Roads and Trails allotments were worked on. Several handicaps have been encountered in our E.C.W. work due primarily to extreme weather conditions, but fortunately our program is so diversified that we were not greatly inconvenienced, nor any work held up as yet. At the present time our Administration area might be compared to any kitchen sieve in that it is full of holes preparatory to a portion of our planting program. We are especially fortunate in having Mr. Leonard Zink of the Hermosa Nurseries, as a C.C.C. foreman, to do this work under the immediate supervision, of course, of our own Chuck Richey. There is still some doubt in my mind as to the final outcome but experience has taught us that, believe it or not, these Department Heads do strut their stuff on occasions. We are hoping this is another occasion where Chuck repeats himself and gives us as nice an effect as he has in our building.

The parking area and cattle guard are completed for the time being, and both are far superior to my fondest expectations. The cattle guard, while exceedingly strong, is not at all obnoxious from any viewpoint and anyone having served at Aztec can vouch for its need. Mr. Underhill gave us an exceptional job in the parking area sub-grade and that, in itself, is equal to many finished products. We sincerely hope he might be allowed to return in the spring to complete the good work he has started.

We were fortunate this month in having had many visitors connected with our Service and leaving us with a world of information from which we hope to profit materially. We especially wish to mention Superintendent

Toll from Yellowstone as I have often said, and repeat, with all sincerity, the association of such individuals furnish by far the greatest job in our work and in such association we are certainly supplied with incentive and inspiration.

It was a pleasure to have Miller and Woodward explain the proposed museum setup. This office has labored under a false impression and many of my objections were based on absolute misunderstandings. It is gratifying to have these features explained and to visualize the final effect. Again, an example of one branch thinking one thing and the Monument having an entirely different picture.

I suppose I might repeat my appreciation for having taken part in the Gallup conference on roads. I did enjoy very much this privilege and feel that to have contacted those present was of really great value to my Monument.

This office was contacted by local groups relative to our cooperation in submitting projects for E.C.W. consideration in locating a permanent camp in our County. They were desirous of an early reply and I assured them of our willingness to cooperate in every way possible, using possibly twenty-five men over a long period of time. This, of course, was stated subject to the approval of your office and that in Washington. In talking with several department heads we tentatively laid out a program of some little duration that might be attempted should such camp become located in this vicinity. (It is very likely that our present supply will be withdrawn at the expiration of the 6th enrollment period.) I hope such offer was in keeping with your desires and it is my intention to work up the proposed projects and submit them for your consideration at my earliest opportunity.

Everything is working out splendidly at Aztec. We are using the furnace in preference to the fireplace and find that it takes comparatively little more fuel. The fireplace heats only one room and requires constant attention for effective service.

Enclosed is the report submitted by Ranger-Archeologist Hart.

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By Robert W. Hart, Jr., Ranger-Archeologist

You will probably tell Mr. Faris to write his own reports after reading this, but maybe you won't fire me for trying just once, anyway.

I regret to report only 409 visitors for the month of November as compared to 666 for November of last year. A great many of these have been local people and Sunday is still our big day. We can't blame the weather man this time either, for outside of several small snow flurries, the month has been ideal for travel.

Aside from the visitors, there has been much activity at the Monument. On November 4, Engineer A. E. Underhill arrived to supervise the paving of our parking area. He was with us until this morning, and we hated to see him leave, but will look forward to seeing him in the spring when he returns to complete the project. While here he was busy getting the parking area in good shape for the final pouring of asphalt. A scarifier was used to tear up and mix the gravel with the dirt and then the area was rolled with a concrete roller drawn by a tractor, After several of these processes, a coating of oil was poured over the base material, and this was covered with sand and left until next spring. We are sorry that this paving project couldn't be completed this fall, but realize that the decision to wait until spring was wise.

On the 12th it was decided to discontinue making adobe brick because they were freezing before they could dry. The C.C.C. boys were put to cleaning up the area that is to be landscaped and you would hardly recognize the place, Boss, with all the brush and weeds cleaned off and burned. It is hoped that arrangements can be made to continue the work on the building project in the very near future.

Custodian Faris and Engineer Underhill left on the afternoon of the 11th to attend the official meeting in Gallup on the 12th and 13th. They reported an excellent meeting and well carried out.

Late in the afternoon of the 14th, Mr. Arthur Woodward and Leffler Miller of the Berkeley Office arrived and spent the following day going over the museum problems with us, and making measurements and notes on the specimens for future reference on our museum plans and arrangements. I enjoyed every minute with Mr. Woodward, and gained some valuable knowledge from him.

Welding on the new cattle guard was completed at noon of the 15th and all that remains to be done is a coating of paint. Under the expert supervision of Engineer Hamilton, I believe we have the best cattle guard in the Southwest, and now I won't have to chase cows and other pestiferous quadrupeds out of the Monument half of the time.

Chief Engineer Kittredge and Jim Hamilton were in on the morning of the 18th and it was a pleasure to see Mr. Kittredge again whom I had known of old. He spent the morning going over the paving area and other features with Engineer Underhill and Custodian Faris.

Associate Forester W. H. Wirt of the Berkeley Office made a short inspection trip through the Monument on the morning of the 19th. I didn't have a chance to talk with him as he was with the Custodian the entire time. Don DeLeon of the same office dropped by a few days earlier for a hurried trip through the Ruins.

On the 21st Mrs. A. E. Underhill arrived from Sacramento to make the return trip with Mr. Underhill and to see some of the marvels of the Southwest. We enjoyed having her at the Monument very much.

We were greatly honored by a visit from Superintendent Roger W. Toll of Yellowstone National Park on the 22nd. I had the personal pleasu re of showing Superintendent Toll through our Monument, and he seemed to enjoy his trip very much. It is an inspiration to know a man like Mr. Toll. We sent him on down to see Cal Miller and his little ruins.

Yesterday, the 24th, Cal Miller dropped by and took Mrs. Hart and myself on an inspection trip to Yucca House and Hovenweep National Monuments. It was the first time for both of us, and I especially got a kick out of Hovenweep because of its out of the way location. Say, Boss, I would suggest that you have signs put up every hundred yards so Cal can find his ruin when he makes his inspection trips. He roade us over half of the sage flats of Utah looking for his Monument, but we finally found it by the process of elimination. Don't tell of my suggestion, however.

Architects Richey and Bennett have been down to see us several times, and Jim Hamilton was here quite a few times during the construction of the cattle guard.

By order of the Custodian, the Ranger-Archeologist is keeping a diary of the daily happenings at the Monument. I think this is an excellent idea, and get a great kick doing it.

Well, Boss, I think I had better end this report, for I think I have covered about all that will be of interest to you. However, I want to add that during my two months at Aztec, I have enjoyed every minute of the time, and it is a pleasure to be under the leadership of two men like yourself and Custodian Faris. I really think that Aztec is the best Monument in the Southwest.

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## SAGUARO E.C.W.

By J. H. Tovrea, Chief Eng. Aide

When I arrived here Monday, November 18, Mr. W. A. Burnham, Acting Project Superintendent, and former Engineer Foreman took me over the route of the proposed road.

I found that Mr. Burnham had done invaluable work in flagging section corners and locating property lines.

The road will follow ridges practically throughout its six-mile course. It was located with three objectives in mind. First, to give the public a scenic route through the forest which will give close

views of the saguaro as well as views from elevated points. The section of the route along the foothills of the Rincon Mountains will afford glimpses of the forest spread out below the road with the Santa Catalina Range for a background.

The second and third objectives were to locate a road that could be constructed with a minimum of cuts and fills and one that would require little or no maintenance. The ridge route located will solve both of these problems.

We have surveyed 114,000 feet of the proposed road to date and have stopped at this point in order to work up a plan and profile to submit for approval so the camp can start work.

To date the camp has done the following work on the Monument:

1. Repaired existing roads which in many places were impassable due to damage from summer rains.

2. Surveyed boundaries of all privately owned lands, and located section corners.

3. Dug test well to a depth of 45 feet in N. E. $\frac{1}{4}$ of Section 32 (See map). Approval has been received to let a contract to drill this well to water.

4. An old mine shaft some 600 feet deep located in Section 16 was filled and landscaped.

5. Twelve dry well shafts varying in depth from 40 to 60 feet were filled.

6. Three old abandoned shacks on University property were torn down, the areas cleaned up and landscaped.

It is hoped that constructive work on the new loop road can be started about January 1, 1936.

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## CASA GRANDE

By W. J. Winter, Custodian

The visitor count for the month was 2,165, coming from the majority of states and several foreign countries, England, France, Poland, India, China, Canada, and Mexico.

A number of visitors worthy of special notice were received. November 1 and 2 we met Drs. Howard K. Gloyd and Frank M. Blanchard, herpetologists of the Department of Zoology, University of Michigan, who were on a collecting and study tour of the Southwest. November 5

the ruins were viewed by Carveth Wells, noted explorer and author. The same day came T. S. Sih, Highway Engineer of the City of Shanghai, accompanied by M. S. Okecki, representative in China for the Communications and Transit Organization of the League of Nations. Mr. Okecki is also Counsellor to the Ministry of Communications in Poland. Nov. 23 we received the Vicomte de Montozon-Brachet of Paris, France, who was gathering lecture material. M. le Vicomte spoke no English but had a lady with him to translate. This was fortunate, as my French is even more limited than my Spanish, which consists mainly of such useful words as cerveza and habanero. November 23 we were also visited by Dr. Frederick J. Pack of the Department of Geology, University of Utah. Senator Carl Hayden came in again on the 24th and was welcome as always.

There were several NPS visitors this month, some of whom called only at Headquarters. Among the others, however, were Mrs. Enid Michaels, who had been connected with the seasonal naturalist force at Yosemite, Custodian Boundey at Tumacacori, and Chief Naturalist Trager from Washington, accompanied by Regional Geologist Vandiver.

November 10 we met George Rudy of Phoenix, former ranger. His very small daughter accompanied him and after observing one of our numerous cottontails she came dashing up and shouted, "Daddy, I just saw a cocktail rabbit!" Apparently repeal is having its effect.

Weather this month has been noticeably colder and more damp. We recorded precipitation of 1.03 and temperatures ranging from 23 on the 5th and 6th to 94 on the 14th. Much windy weather and a few cloudy days.

November 14 the Coolidge Women's Club held a meeting at the Monument and heard a lecture by Ranger Steen, entitled "Every Day Life Among the Primitive Peoples of the Southwest." I did not have a chance to listen to Charlie's talk but understand it was followed by tremendous applause. In fact, it is unreliably reported that he was voted an honorary member of the Club.

We have been very glad to have Junior Naturalist Caywood here this month. He subbed for Charlie during the latter's four days' absence and also spent a good deal of time working on our museum catalogue. This last assistance is especially appreciated as museum cataloguing is one of those pieces of business that it is hard to mix in with guiding. Without fail, if Charlie and I would make a motion toward working in the museum, carloads of visitors would descend upon us. At that rate it would have taken us all winter to get the job done.

Under the same conditions it was possible to get our equipment inventory completed only by taking a solid day and a half during which

we did nothing but chase equipment. The Naturalist Division obligingly looked after the visitors while Charlie and I hunted, counted, burrowed, and trailed. We did get the equipment pretty well located, some things missing and some surplus, the latter outnumbering the former.

How did you like our publicity in the Tombstone Epitaph of Nov. 14? I am afraid the Tombstoners don't think that we are very bright, when they accuse us of mistaking plain Greek letters for prehistoric inscriptions. Sometimes I wonder why I went to school, anyhow.

The wildlife here may by now be a trifle wilder. This is due to the fact that our untiring bird-banders, Steen, Caywood, and King, have gone in for night hunting. Upon hearing a commotion in my back yard one night recently I ashed out, to encounter these industrious gentlemen armed with a sack and a butterfly net. They had evolved the ingenious (or was it fiendish?) idea of running the birds out of the ramada roofs around the houses. They reported great success in this enterprise, banding a number of house-finches and a few say phoebes. A few sparrows were also caught. The performance was repeated another night and bids fair to continue--if the banders don't get shot for burglars.

With this cheerful observation I will sign off.

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## BANDELIER

By Earl Jackson, Custodian

Visitors:

Visitors numbered 528, arriving in 153 cars, from 31 states, Washington, D. C., and six foreign countries - Scotland, Guatemala, Yucatan, france, Puerto Rico, and New South Wales, Australia.

The six highest states by travel were: New Mexico, 311; Colorado, 38; California, 27; Texas, 22; Indiana, 19; Kansas and Pennsylvania the same with 14 each.

Travel is again lower than it was last year. But look at an interesting figure.

| | | | |
|---|---|---|---|
| November 1934: | 632 visitors. | Out-of-state: | 212. |
| November 1935: | 528 " | " " " | 215. |

It is seen that our drop is in New Mexico people. We had actually more out-of-state visitors than last year. This indicates proof to me that bad roads have had something to do with drop in travel to Bandelier, for the state people know more of the roads than outsiders do, and hence shy away from them more.

Weather and Roads:

Precipitation for the month was .09 inch. No figures are available for the same month of last year, but memory tells me November of 1934 was a bit more vigorous. Paradoxically enough, however, November of 1935 has had an amazing number of cloudy or partly cloudy days - numbering 13.

Roads from Frijoles Canyon to the opposite boundary of the Detached Section are in good shape, but from there for ten miles to the highway they are still bad.

While storms have been negligible here in the canyon, snow has been creeping steadily down from the higher lands, and six miles west of here, at the Upper Crossing of Frijoles, there are three or four inches on the ground. It snowed a little here today, and skies are now heavily overcast.

Special Visitors:

October 23 - Late in the evening the Brownmoor School for Girls arrived with 28 persons for a supper at the lodge.

Jack Diehl arrived for a four-day inspection stay.

October 26 - Reserve Colonel and Mrs. John P. Fishback, of Dunes State Park, Chesterton, Indiana, were interested visitors. Mr. Fishback is Custodian of that area. He was one member of the National Guard Convention held in Santa Fe on October 24, 25, and 26.

October 27 - Karl Ruppert and Mrs. C. Ricketson, of the Carnegie Institution, were in for an afternoon. Karl is known to most of the Arizona men, for he attended school for a while there before starting his career as a Central American archeologist.

October 29 - Vincent W. Vandiver, regional geologist for the Park Service, was in for a day, leaving on October 30.

November 4 - Mr. and Mrs. Victor H. Cahalane, of the Wildlife Division, arrived in company with Regional Wildlife Technician Adrey E. Borell and wife. The Cahalanes were very interested in Bandelier, but were able to spend only three hours with us. The Borells were in for a six-day stay.

Cliff and Detty London and Carl and Beth Schmidt arrived. Cliff and Carl are working with Andy Clarke on the Southwestern Monuments engineering crew doing some road and survey work between here and San Ildefonso.

November 9 - Superintendent Pinkley, Junior Park Naturalist Dale S. King, Architect Leffler Miller, and Museum Technician Art Woodward,

arrived for a two-day stay. While here they arrived at several worth while conclusions regarding museum planning.

George G. Sargent, Field Manager of the Mutual Life Insurance Company, was a very interested visitor to the ruins.

November 10 - Jack Diehl arrived again for a day.

November 13 - John Frank Martin, mayor of Oklahoma City, was an enthusiastic visitor.

November 16 - Donald DeLeon, Regional Entomological Technician, arrived for a three-day inspection of insect problems.

November 19 - Mr. Kittredge paid a very rapid three-hour visit.

November 20 - W. H. Wirt, associate forester, arrived for a three-day inspection.

November 22 - Captain F. E. Trask, of the Matson Liner Mariposa, made a two-hour visit of the ruins.

November 23 - Chuck Richey arrived on landscape inspection.

Nature Notes:

Deer tracks are found in abundance over South Mesa. During the early part of the month turkey signs were almost entirely lacking, and there was some worry as to where they could have gone; sportsmen during turkey hunting season were able to find but very few. However, since the recent snows in the hills turkey signs are becoming more numerous, and many of them have come down onto Monument land. Yesterday one of the C.C.C. boys counted between 20 and 25 of the birds on the rim just behind the lodge.

On the 18th, while on patrol over South Mesa, I followed the very fresh tracks of a large black or brown bear for over a mile. He appeared to have been running an arm down into every old badger hole he could find, as if hopeful of dragging up something, for all these holes were partly cleaned.

Tracks of a smaller bear were seen on the floor of Alamo Canyon two days ago. In this same canyon, while hiking with Adrey Borell, I saw a lovely doe of the mule deer variety.

Dr. DeLeon has identified the tentatively named Great Basin Tent Caterpillar as the true Fall Webworm. All eyes are turned with interest toward the pest control project recently started by Norman Appleton under W. P. A. funds in Santa Fe. He is just getting his laboratory started, but will be learning things about webworms before January.

As a result of his inspection of insect conditions in our forest area, Dr. DeLeon states the insect problem on all save deciduous trees is not serious, and that only normal control measures are needed. The insects of coniferous trees he found are listed as follows:

| | |
|---|---|
| Scolytus ventralis | |
| Scolytus sp. | |
| Pityophthorus tuberculatus | Family Scolytidae |
| Pityophthorus ponderosae | |
| Ips confusus var. | |
| Ips oregoni. | |
| Ips ponderosae. | |
| Pityogenes carinulatus. | |
| Dendroctonus barberi. | |
| Dendroctonus approximatus. | |
| Gnathotrichus retusus | |
| Dendroctonus pseudotsugae | |
| Phloeosinus utahensis? | |
| Acanthocinus spectabilis | Family Cerambycidae |
| Melanophila pini-edulis | Family Buprestidae |
| Melanophila gentilis | |
| Temnochila virescens var chlorodia | Family Ostomatidae |
| Aulonium longum | Family Clydiidae |
| Lasconotus sp | Family Colydiidae |
| Corticeus sp | Family Tenebrionidae |
| Solfier flies | Family Stratiomyiidae |
| Medetera | Family Dolichopodidae |

Dr. DeLeon before he left gave me some good pointers on how to collect insects, and left some mounted specimens to start the collection with.

Regarding birds this month, Betty says:

"There is very little to say this month, as Adrey Borell was in, and his report will cover all the birds seen.

"He corrected me on one point, which is worthy of note. The bird I called a Plumbeous Vireo was proven to be a Townsend Solitaire.

Mr. Borell also instructed us in the skinning of birds, and I practiced on a Jay.

"Dale King's suggestions on bird-banding were very helpful, and I am about to set out two traps he sent us. I hope I can do better on banding next month than on this one. Three Jays were all that were banded."

General:

I should say educational possibilities at Bandelier are looking

decidedly upward. Museum planning for this place is approaching the point of action. Bird study with Adrey Borell has definitely added to our knowledge of avifauna, and our collection of specimens has made its beginning. Knowledge of insect activities has jumped ahead. Vincent Vandiver is soon going to be able to line us out on a good part of the geology of the region. Some pertinent questions on species identification in forestry have convinced us we are not as smart on that subject at Bandelier as we might be.

Visitor travel, while lower, is bringing a very interested class of people into the canyon. When tourists will drive 50 miles off their road in the face of a possible snow storm to see the Indian ruins, we know they are interested.

Lest I become long-winded, will close for the month.

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# HEADQUARTERS STUFF

## WILDLIFE TECHNICIAN GRATER REPORT

Following are excerpts from the report of Russell Grater concerning Southwestern Monuments:

### REPORT ON THE PROPOSED BOUNDARY CHANGE AND THE PROPOSED GAME REFUGE AT WALNUT CANYON NATIONAL MONUMENT

October 7-11, inclusive, was spent making a survey of the proposed Game Refuge. All territory was thoroughly covered on foot. With the aid of Mr. Paul Beaubien, I was able to obtain much valuable data regarding the country in the immediate vicinity of the present Monument.

### PROPOSED MONUMENT ADDITIONS

Two days were spent in making a study of the proposed boundary change for the Monument. Especial notice was taken of the abundance or scarcity of cover, food and water in this proposed addition. Briefly, I found the following to be true:

Territory east of present Monument.

The proposed addition takes in some very fine cover for the wildlife and is composed of a heavily wooded area. The vegetation is mostly Pinyon Pine, Utah Juniper, Cliff Rose and grass. Practically all of the Cliff Rose is in good condition, but the grass has been browsed extensively be domestic sheep and cattle in several places. Water is very scarce, although an abandoned reservoir, constructed by the Santa Fe Railroad Company a few years ago, undoubtedly holds some water during

a portion of the year. The dam at the lower end of this reservoir is 231 feet in length. As far as I was able to determine, no other water sources are in this region. Deer sign is abundant in the side canyons, and along the rim of the main canyon.

Territory North of present Monument.

This area is mostly Yellow Pine with clumps of Gambel's Oak scattered here and there. Grass is abundant, but is heavily browsed by sheep and cattle. No water is available in this region, all of the larger wildlife forms being obliged to go elsewhere for water. A few deer have been observed in this area during the past summer and fall.

Territory West of present Monument.

This area is composed of a fine forest of Yellow Pine, Gambel's Oak and Cliff Rose. Grass is abundant but heavily browsed by sheep. Food conditions, however, are good. Deer are relatively common in this region, and antelope have also been observed in this locality in recent months. Water is not available, large wildlife forms being obliged to depend upon nearby tanks now utilized by domestic sheep and cattle.

Territory South of present Monument.

This area contains an excellent stand of Yellow Pine and Gambel's Oak, with several fir trees being found along the rim of the Canyon. Grass is abundant, but heavily browsed in many sectors. No water is available, although an old water hole was discovered that undoubtedly holds water during a portion of the year. Deer sign is abundant, and Morriam's Turkey is reported to be found in this region. Abert Squirrels were observed to be especially numerous.

While most of the proposed additions to the Monument are found within the Canyon, the heads of several side canyons, extensively utilized by deer and other wildlife forms, are included. Water is a vital problem, none being available on the Monument during the major portion of the year. Sheep and cattle grazing is offering serious competition to the deer in the region, and no pronounced increase in the number of deer on the Monument can be expected as long as this condition exists.

## PROPOSED GAME REFUGE

Two days were spent making a detailed survey of the proposed Game Refuge. It has been proposed to set aside a strip of territory, one-half mile in width, around the entire Monument, this strip to serve as a refuge for wildlife. After going over this strip on foot, I am of the opinion that this plan should be altered to some extent if the refuge is to be at all successful.

To be successful, a refuge should be large enough to contain adequate food, cover and water for all wildlife forms during the major portion of the year. An examination of this proposed refuge shows food and cover, but no water. Lack of water plus the narrowness of the strip makes it almost certain that the larger wildlife forms will range as much outside of the refuge as within it's bounds. Thus the primary function of the refuge---protection---is nullified to a great extent. With this in mind, I conferred with Assistant Forest Supervisor Monroe of the Coconino National Forest regarding the advisability of adding more territory to the proposed refuge. After talking the matter over thoroughly, we both agreed that the following steps should be taken if the proposed refuge is to be successful:

1. Additional territory should be included. This territory should contain the best food and cover possible to obtain in the near region. Any available water sources should be included.

2. The region to the south of the present monument contains excellent food and cover for a great distance, and is the known range of deer and probably wild turkey. Any enlarging of the proposed refuge should take in this area.

3. Water not being available, a few small tanks should be constructed to insure an adequate water supply for the wildlife in the region at all times. There are an abundance of well developed drainage systems in the areas to the south of the proposed monument addition. The run-off from these systems could easily be impounded with the aid of small tanks.

It is believed that if the above steps are followed, an abundance of wildlife forms may reasonably be expected to inhabit the region throughout the year. Deer and wild turkey are in the region at the present time, and it is thought that antelope and bear may possibly utilize the area if conditions are favorable.

During my survey of the region, I learned of the existence of an important game trail crossed Walnut Canyon about one-half mile to the west of the present Monument. This trail is extensively utilized by deer, a fact known to hunters in the vicinity. During the hunting season, this trail constitutes a regular death trap for deer, hunters watching this trail and easily obtaining one of the animals. By all means, any proposed refuge should include this game trail and eough of the nearby territory to adequately protect both ends of the trail.

A few wildlife observations of more than usual interest were recorded during my visit to this region. On October 8 I found a Prairie Rattlesnake (Crotalus c. nuntius) on the south wall of Walnut Canyon approximately one-half mile west of the old Santa Fe Reservoir. The snake was about two and one-half feet in length and was easily recognized. On the

same day, Mr. Beaubien and I found the remains of a shrew. From the color of the fur, and the known range of shrews for this region, I feel reasonably sure in identifying it as the Arizona Mountain Shrew (Sorex vagrans montecola). Unfortunately the skull had been almost completely carried away by ants so positive identification was impossible.

In addition, the following birds were recorded:

| | | | |
|---|---|---|---|
| *1. | Western Robin. | October | 7. |
| *2. | Western Chipping Sparrow. | October | 7. |
| *3. | Red-backed Junco. | " | 7. |
| *4. | Red-shafted Flicker. | " | 7. |
| 5. | Townsend's Solitaire. | " | 7. |
| *6. | Chestnut-backed Bluebird | " | 7. |
| *7. | Long-crested Jay. | " | 7. |
| 8. | Clarke's Nutcracker | " | 8. |
| *9. | Western Red-tailed Hawk | " | 8. |
| 10. | Western Gnatcatcher | " | 8. |
| 11. | Lead-colored Bush-Tit | " | 8. |
| 12. | Gray Titmouse | " | 8. |
| *13. | Mountain Chickadee | " | 8. |
| 14. | Natalie's Sapsucker | " | 8. |
| 15. | Shufeldt's Junco | " | 8. |
| 16. | White-breasted Woodpecker | " | 8. |
| 17. | Audubon's Warbler | " | 8. |
| *18. | Pine Siskin | " | 8. |
| 19. | Gambel's Sparrow | " | 8. |
| *20. | Spurred Towhee | " | 8. |
| 21. | Green-tailed Towhee | " | 8. |
| *22. | Green-backed Goldfinch | " | 8. |
| *23. | Canyon Wren | " | 8. |
| *24. | Woodhouse's Jay | " | 8. |
| 25. | Bendire's Crossbill | " | 8. |
| 26. | Nuttall's Poor-will | " | 8. |
| *27. | Rocky Mountain Nuthatch | " | 8. |
| *28. | Pygmy Nuthatch | " | 8. |
| 29. | Desert Sparrow Hawk | " | 8. |
| 30. | Sharp-shinned Hawk | " | 8. |
| *31. | Lewis Woodpecker | " | 9. |
| *32. | Cassin's Vireo | " | 9. |
| 33. | Western Ruby-crowned Kinglet | " | 9. |
| 34. | Cooper's Hawk | " | 9. |
| 35. | Gray-headed Junco | " | 10. |
| *36. | Mearn's Woodpecker | " | 10. |
| 37. | Common House Finch | " | 10. |
| 38. | Red-naped Sapsucker | " | 10. |

* Indicates that this bird has been recorded on a previous report.

Recommendations:

1. The scarcity of water is an important factor in controlling the movements of wildlife on the Monument, and on the proposed refuge. Small tanks, carefully constructed in isolated areas, would enable the wildlife to obtain water without leaving the vicinity. The presence of water is of extreme importance if deer and wild turkey are to be expected in this region.

2. Arrangements should be made with the Coconino National Forest officials to work out some method of adequate fire control for the region. If the proposed refuge remains under the jurisdiction of the Coconino National Forest, this will present no problem. However, if the proposed refuge is to be under the jurisdiction of any other Branch of the Government service, some fire control measures will be necessary.

3. Boundary indicators should be obtained and put up as soon as the new boundary lines are definitely placed. At the present time sheep and cattle wander onto the Monument regularly. Boundary indicators will also be necessary if the proposed Game Refuge is approved.

4. An adequate trans-canyon trail should be constructed on the Monument to facilitate administration of the area.

5. The road from the present Ranger Station to the Lookout Station should be improved to eliminate mud holes and huge rocks now found in the roadway.

6. A small campground should be established to enable visitors wishing to remain overnight at the Monument to do so. Strict orders should be given and enforced to allow no camping or building of fires on the Monument outside of this camp ground area. Several places were noted on the Monument where fires have been built by tourists.

7. Both the proposed Monument additions and the Proposed Game Refuge are worthy of approval, but care should be taken to insure adequate protection, food and water for the wildlife in the region.

## SUPPLEMENTARY REPORT ON THE PROPOSED BOUNDARY CHANGE AT WUPATKI NATIONAL MONUMENT

October 19-23 was spent at Wupatki National Monument making a study of the proposed boundary changes for the Monument. Through the fine assistance of J. W. Brewer, Jr., I was able to obtain extensive information pertaining to the proposed additioni Crack-in-Rock, Deadman's Canyon, Antelope Prairie and Wupatki Basin were visited in company with Mr. Brewer, the area in the western and a southwestern portion of the proposed addition being visited by myself.

From the standpoint of wildlife, the most important form found in this region is the American Pronghorn Antelope. In his report to Mr. Wright, dated March 3, 1935, Regional Wildlife Technician A. E. Borell covers the relationship of antelope to the proposed boundary extension, so this phase of the problem requires little comment. However, I wish to point out that practically all of the sections in Range 8 East found east of National Highway 89 and in the western half of Range 9 East are now known to be rather commonly utilized by antelope. Several have been seen in this area during the past summer. I had the pleasure of seeing a large buck in Section 17, Range 9 East, and found signs of others in the same locality. On October 22 I observed three antelope on Antelope Prairie a short distance to the north of The Citadel and outside of the proposed boundary extension.

A survey of the Antelope Prairie area reveals that this region is an excellent antelope range. Mr. Brewer reports seeing nine of these animals in this region. No water is to be found on the proposed Monument addition in this region, antelope being obliged to visit a few isolated stock tanks farther to the north. The nearest water within the proposed addition is found at Arrowhead Tank in Red House Basin to the south. If water could be developed in Antelope Prairie within the proposed addition, antelope would, without doubt, soon be a common sight in that region. As matters now stand, many of them are found outside of the proposed addition farther to the north where water is available.

Of especial interest to me was the finding of relatively fresh tracks of Mountain Lion at Arrowhead Tank. These tracks had been made in the soft mud near the waters edge and were easy to recognize and measure. Three coyotes and one porcupine were noted in the vicinity of the Citadel on October 22.

Although only an amateur archeologist, I was much impressed with the splendidly preserved ruins found at Wukoki, Crack-in-Rock and in Wupatki Basin---ruins not in the present Monument, but in the proposed addition. One has only to see these ruins to be definitely impressed with the advisability of having them included as a part of the Monument.

Recommendations:

1. It is recommended that favorable action be taken to include as much of the Antelope Prairie and Deadman's Canyon areas as is feasible. These two regions are not only excellent antelope ranges, but contain some fine ruins of archeological value.

2. If the proposed addition is approved, steps should be taken to acquire full control of Arrowhead Tank in Red House Basin. This is a very important source of water, and is extensively utilized by antelope.

3. If the proposed monument addition is approved, it is recommended that a small tank be constructed in the southern end of Antelope Prairie to furnish the antelope on the Monument an adequate water supply. At the present time, they are obliged to go to Arrowhead Tank, far to the south, or to other stock tanks, far to the north of the proposed monument addition, in order to obtain water.

4. Although not of any great importance from the standpoint of wildlife, Wupatki Basin should be included because of outstanding ruins found there.

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NATURALIST DIVISION: By Robert H. Rose, Park Naturalist

Staff

Returning October 31 from the Reconnaissance Survey of Kino Missions in Sonora and southern Arizona, I spent several days attending to general correspondence that had accumulated in my absence from the office. Scofield DeLong of the Branch of Plans and Design and Leffler Miller and Arthur Woodward of the Field Division of Education remained at Headquarters a few days before resuming their trip. Some time was spent in discussing the results of the missions survey and the matter of museums in general.

On November 6, the Boss and Dale King left the office for about two weeks in the field. They were joined by Hugh Miller, who went to Gallup by train, leaving on the 10th. The absence of practically all of the Headquarters staff necessitated attention to general office detail during that time. On November 15, a Goliad, Texas, ECW party including Regional Historian Hogan, States Park Superintendent Vosper, and Photographer Wilkerson stopped for several hours' discussion on the subject of mission restoration work in their region. Two days later Earl Trager, Chief of the Naturalist Division, and ECW Regional Geologist Vincent Vandiver called for a few hours discussion on the proposed ECW geological program for Southwestern Monuments. Some general conclusions were arrived at regarding policies and objectives along which such program should be organized. Upon Mr. Trager's request I prepared a report (published in this Supplement) on the subject of proposed work.

Details on the cases of one exhibit room in the Bandelier Museum must be worked out before this report is complete. This will be completed within a few days and be submitted to the Berkeley Office.

The following groups have been contacted by the Park Naturalist through illustrated lectures:

1. National Federation of Federal Employees: November 15, 1935; 7:45 PM

Place:--Veterans Administration Facility, Tucson.
Attendance:------175
Subject:--------"Yellowstone National Park" (by special request)
Remarks:-------- Many of the employees had visited Yellowstone Park during the Convention last Autumn amd they were interested in having this program. Lecture was illustrated with slides.

2. Masonic Lodge, Coolidge, Arizona; November 14, 1935: 8:30 PM

Place:-------Masonic Hall
Attendance:--"Yellowstone National Park" (by request)
Subject:------Request to give this program came shortly before the meeting and was filled because of need for returning borrowed slides without too much delay.

3. Coolidge Grammer School, 4th to 8th grades, inclusive; Nov. 22, 1935 at 2:45 p.M.

Place:--------Visual Instruction Room
Attendance:---150 handled as two groups of about 75 each.
Subject:------"Yellowstone National Park" (by request)
Remarks:------The Principal was especially interested in the pupils seeing the slides before they were returned.

4. M. E. Church, Coolidge; Young peoples' group; Nove. 24, 1935; at 6:45 p.m.

Place:--------M. E. Church, Coolidge
Attendance:---75 (Largely Coolidge High School Foothall Teams)
Subject:------"Arizona's National Monuments" (S.W. slides exclusively by request).
Remarks:------Program was given as the principal feature of the regular Sunday Evening meeting.

5. Community Church, Coolidge; November 24, 1935; 8:00 P.M.

Place:--------Community Church
Attendance----45 (regular congregation)
Subject:------"Nature's Handiwork as Revealed in the National Parks"
Remarks:------Yellowstone slides were used as central theme with several slides from each of four or five other national parks. The pastor fashioned his evening sermon about the parks pictures.

6. Rotary Club, Wednesday Nov. 27, 1935; 12:00 Noon

Place:--------Basement of Christian Church, Florence, Arizona

Attendance:-----25 Rotarians
Subject:--------"National Monuments of Arizona and New Mexico (with slides)
Remarks:--------Included Montezuma Castle, Tumacacori, El Morro and Modern Indians.

Special thanks are due Assistant Park Naturalist George Crowe and the Yellowstone staff for the loan of more than 25 of their very finest slides. These slides were at work constantly while in my possession. A total of 385 people were contacted through special request programs in which the Yellowstone slides were used.

Report of Junior Naturalist Dale S. King:

The first five days in the month were spent completing the tree planting project between Compound A and Headquarters and Casa Grande offices and residences.

A total of 100 seedling trees were planted---79 mesquites, 4 screwbean mesquites, 5 catclaw bushes, 2 desert willow, and 10 ironwood. An attempt was made to eliminate every appearance of artificiality---the seedlings apparently are scattered in hit-or-miss fashion, but upon attaining a height of eight or nine feet will effectively screen the buildings so that visitors to the ruin will not be aware of modern improvements. For visitors interested in botany, the trees will also give us exhibits in place.

According to botanists of the Boyce Thompson Arboretum, the trees, with watering, should give us a good screen in about eight or nine years. I wish to thank with deep appreciation Mr. Fred Gibson and Mr. Jack Whitehead of the Arboretum. They spent considerable time and labor growing the seedlings for us, and have been consistently helpful.

The little trees have been protected from rabbits by chick wire, yet the foliage of three has been stripped by some small rodent. If these plants do not leaf out in the spring, they will have to be replaced. I am commencing to understand one reason why plants have a difficult time growing on the desert---the rodent damage is enormous.

November 6 to 17 were spent on a field trip in company with Supt. Pinkley, and for a portion of the time, Architect Miller, and Museum Technician Woodward. The following locations were visited: White Sands, Three Rivers Petroglyphs, Abo, Quarai, and Gran Quivira Missions, Bandelier, El Morro, the proposed Monument area south of Manuelito, New Mexico, and Walnut Canyon. Museum and education problems were discussed at each Monument. The proposed Manuelito area will be the subject of a special report from the Southwestern Monuments Office to the Director.

The remainder of the month was spent in shipping office and education supplies to various Monuments, keeping up correspondence items,

constructing a house trap, copyreading and lettering the Monthly Report.

Report of Junior Naturalist Louis R. Caywood:

Junior Naturalist Caywood spent the entire month at Headquarters. For almost two days he helped Junior Naturalist King plant young mesquite trees.

Bird records and bird banding schedules were posted. A new bird observation was made---a pair of Western Vesper Sparrows was noted playing in the top of a mesquite tree. The male had a very pleasant song and several days later the same song was heard, but the birds were not seen again.

Considerable time during the month was spent on public contacts duty.

The remainder of the time was spent cataloguing museum specimens in the Casa Grande National Monument Museum. 267 specimens were catalogued on standard National Park Service catalogue cards. 38 pieces of pottery were photographed, and the photographs were pasted on the cards of the respective specimens.

**********

## BANDELIER ECW

By H. B. Chase, Project Supt.

The garage in the utility area group of buildings is now available for housing equipment; there still remain the doors on the two enclosed stalls to hang, some minor grading and masonry pointing to complete the project.

A small crew constructed approximately a mile of the fire trail from Frijoles Canyon to Alamo Canyon completing all work that can be accomplished from this camp. It is planned this project will continue when the proposed side camp is established next spring.

A 1200-foot sewer extension from the existing headquarters disposal plant was completed this month.

A large crew has been planting in and around the headquarters area all of this month---the former barren area west of the office building receiving most of the development.

Considerable maintenance work has been done on the roads in both the principle and detached sections of the monument.

Obliteration of the former utility area on the canyon rim has been in progress all of this month as and when we could vacate a building or an area. One building remains to be removed.

The rock quarry has again been one of the principle projects all month. Excess men were detailed to this project quarrying material for buildings to start immediate construction upon arrival of approved plans.

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# ENGINEER REPORT

By J. B. Hamilton, Assoc. Engineer

Aztec Ruins National Monument:

November 1 I supervised the pouring of concrete for the cattle guard. The next day Mr. Underhill, expert on Bituminuous materials, arrived to relieve me of the Aztec job. A welcome relief; as many projects were under way in my district at this time.

He remained until the 25th. He installed drainage, finished the cattle guard, trued up the sub-grade and give it a pallative oil treatment. He expects to return in the spring to put down the top course. A much better job is promised if its construction can be put off until warm weather.

Chaco Canyon National Monument:

I visited Chaco Canyon October 29 to look over the fencing project in general and again on November 4 to inspect the pouring of concrete for one of the cattle guards.

El Morro National Monument:

I visited this Monument October 28 to inspect the pouring of the lower flight of steps. Foreman Harry E. Brown completed the concrete steps there about November 20.

Inspection trip with Chief Engineer Kittredge:

In preparation for the Navajo Country road meeting at Gallup November 12 and 13 I left Mesa Verde November 10. I expected to look over some of the proposed road routes between Thoreau and Aztec, which I had not seen on my regular trips between these points.

However, a snow storm blocked that plan. Custodian Miller and I left Pueblo Bonito about 11 a.m. November 11 and did not get to Gallup until 6 p.m. We went by way of Crownpoint and Thoreau, but we did not see any new road routes. The usual route was so well covered with slush and mud that we hardly saw even that road. We were well pleased that our wheels reached it even though we did not see much of it.

The 12th and a good portion of the 13th were spent at the road meeting.

The afternoon of the 13th Superintendent Pinkley, Chief Engineer

Kittredge, Assistant Superintendent Hugh M. Miller, Custodians Faris, T. C. Miller, Robert Budlong, and Engineers Underhill, Diehl and Hamilton, and Architect Richey conferred on the problems of the northern Southwestern Monuments. It was there decided to put off paving Aztec parking area until spring, and to try bitumuls stabilized earth paths through the ruins.

T. C. Miller was given a third temporary type cattle guard at Chaco Canyon. Canyon de Chelly's rim road and the completion of the well and sewer system were discussed.

That afternoon Mr. Richey and Hugh Miller, Mr. Kittredge, and myself visited El Morro National Monument. We found Mr. Brown had the concrete steps completed except for removing some forms, cleaning up debris and staining the steps with copperas.

The next day, November 14, Mr. Pinkley and Hugh Miller, with Dale King in one car, and Mr. Kittredge and I in another went to Canyon de Chelly. On the way Mr. Kittredge and I stopped at the Navajo Capital, Nee Alneeg, and discussed the drilling of the well with Mr. Burns of the Indian Irrigation Service. Mr. Burns stands ready to do the job for us very soon after money is made available.

That afternoon an inspection of the work done and being done about Thunderbird Ranch was made.

The next day we all drove to the Monument in Canyon de Chelly. We were accompanied by Emmett Kellem, who is in charge of the work of the Soil Conservation Service there. Under his guidance we saw much of the work they are doing.

Mr. Kittredge, Mr. Budlong, and myself were dropped at the foot of the trail and walked back as far as the "First View" where Mrs. Budlong met us with a car. We inspected the trail and went over the survey of the proposed rim road, made by Mr. Clark recently.

Mr. Kittredge and I arrived at Gallup at 12:30 the next morning. We stopped off three hours or so near Ganado to see a Yaibechai a dance which Mr. Kittredge had never seen. We were guided by Mr. Lee of the General Trading Post.

The morning of November 16 Mr. Kittredge and I conferred with Soil Conservation officials at Gallup on problems at Chaco Canyon. As a result the Director was asked by telegram to furnish money for materials, they to do the work of placing erosion dams across the arroyo. We arrived at Pueblo Bonito that evening.

November 17 was spent inspecting the fence construction and erosion problems, both in the valley floor and in the ruins. We arrived at Aztec that evening.

November 18, after looking over the work at Aztec and inspecting ruin deterioration, Mr. Kittredge left for Gallup with Mr. Underhill, and I came to Mesa Verde.

General:

Sixteen days of the month were devoted to Southwestern Monuments problems, the rest to Mesa Verde. The weather outside of the one storm the 10th was generally good.

****************

# THE MONTH OF THE BOSS

The high spot in my month was of course the road meeting at Gallup on the 12th and 13th, and the next highest spot was the Border meeting at El Paso on the 24th.

The road meeting at Gallup was an important one, the most important, I think that has been held concerning the roads of the Navajo Country for many years. As you know, under instructions from the Secretary you asked me to call the interested parties together and see if some ground could not be found common to the needs of all the interests upon which we could base a logical program of development for that country, which is somewhat larger than some eastern states.

Representatives of the Indian Service, the Park Service, the Bureau of Public Roads for Arizona, the Bureau of Public Roads for New Mexico, the State Highway Department for each State, and the State Highway Commission for each State were present and took part and the Soil Conservation Service sat in as a party in interest.

The startling thing was that in a day and a half of sessions, every motion was passed unanimously and a complete program was blocked out for the whole Navajo Country showing which roads were to be developed and giving an order of precedence in the developing, and this program was passed unanimously. All delegates signified their approval by signing it individually, except the Bureau of Public Roads where the superior officer, Mr. Bright, of San Francisco, signed for the group. As road meetings go, it certainly formed a precedent. The report of the meeting has been submitted to your office, and I trust you will see that it does not get lost but is pushed through to final action.

The meeting at El Paso was with the representatives of the Government of Mexico and was for the purpose of determining if a common basis could be arrived at upon which we could reserve certain adjacent portions on each side of the international border which might be used in common by the peoples of both countries as areas of inspiration, education and recreation. The meeting was successful. Eight basic principles were agreed upon, written up and signed by all the delegates. It was determined that a Commission would be established, of which the

Mexican members were there appointed, which would meet not later than January 15 next and which would examine and report upon certain proposed areas not later than March 15 next. The report of this meeting has been made to you by Mr. Herbert Maier, who was the head of our delegation, and I concur in his recommendations. I might mention incidentally that I obtained the consent of all those present to proceed with the reservation of the proposed Organ Pipe Cactus National Monument if and when we should be ready regardless of the meetings of this proposed Commission as they were all in accord with our plans and agreed that no delay for any report of that Commission was necessary.

The rest of the month was taken up with routine matters. I visited White Sands, Gran Quivira, Bandelier, Canyon de Chelly and Walnut Canyon National Monuments during the month and found things on the whole going well.

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## CLOSING

I think November can be marked down in our calendar as a month of very successful operations and point you to the reports of the individual monuments to prove it. The morale is good, except at a couple of points, and we are working those out. Number of visitors is easing off at some of the higher monuments, and those men are getting time to catch up on their other work. At the lower monuments the visitors are increasing and will continue to increase until about February or March when we expect the peak to be reached. The headquarters work remains about the same. We hope to begin overhauling our six year programs soon after the first of the year and as soon as the budget is published we will begin work on the preliminary estimates for the fiscal year 1938.

Our construction jobs at various points have proceeded satisfactorily during the month, the weather being good. Hub. Chase and the E.C.W. camp at Bandelier are having a little trouble getting enough approved plans to keep lined out. Bill Stevenson and the E.C.W. camp at Chiricahua have a year of approved work ahead of them and are going strong.

Without any intent whatever on our part, this report is the longest one we have ever put out, and yet many items have been omitted and other important items have been given only passing mention. We are sometimes surprised ourselves when we check up the ramifications of our work and look over the multitude of details that are being handled by our comparatively small organization.

We start into December with plenty of pep and a lot of work in sight and hope we get as much fun out of it as we did out of November.

Cordially,

Frank Pinkley

Superintendent.

# SOUTHWESTERN MONUMENTS
# MONTHLY REPORT
## DECEMBER, 1935




DEPARTMENT OF THE INTERIOR
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# SOUTHWESTERN MONUMENTS
# DECEMBER REPORT
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# SOUTHWESTERN MONUMENTS
# PERSONNEL

HEADQUARTERS Southwestern Monuments, Coolidge, Arizona: Frank Pinkley, Superintendent. Hugh M. Miller, Acting Assistant Superintendent. John H. Diehl, Associate Engineer. Robert H. Rose, Assistant Park Naturalist. Dale S. King and Louis R. Caywood, Junior Park Naturalists. Robert L. Cole, ECW Clerk. Luis Castellum, Temporary Clerk-Stenographer.

GENERAL FIELD MEN: Charles A. Richey and Harry Langley, Resident Landscape Architects. J. B. Hamilton, Associate Engineer. Andrew Clark, Topographer. J. H. Tovrea, Chief Engineering Aide. C. E. London, Carl Schmidt, and H. Lloyd Beed, Rodmen.

FIELD STATIONS:

1. Arches---Moab, Utah. J. M. Turnbow, Custodian.
2. Aztec Ruins---Aztec, New Mexico. Johnwill Faris, Custodian.
   Robert W. Hart, Ranger-Archeologist.
3. Bandelier---Box 669, Santa Fe, New Mexico. Earl Jackson, Custodian.
4. Canyon de Chelly---Chin Lee, Arizona. Robert R. Budlong, Custodian.
5. Capulin Mountain---Capulin, New Mexico. Homer J. Farr, Custodian.
6. Casa Grande Ruins---Coolidge, Arizona. W. J. Winter, Custodian.
   Charlie R. Steen, Park Ranger.
7. Chaco Canyon---Crownpoint, New Mexico. Thomas C. Miller, Custodian.
8. Chiricahua---Willcox, Arizona.
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.
    Milton Wetherill, Trail Foreman.
16. Pipe Spring---Moccasin, Arizona. Leonard Heaton, Acting Custodian.
17. Rainbow Bridge---Rainbow Lodge, Arizona. No Custodian.
18. Saguaro---Tucson, Arizona. No Custodian
19. Sunset Crater---Flagstaff, Arizona. J. W. Brewer, In Charge.
20. Tonto---Roosevelt, Arizona. Woodrow Spires, In Charge.
21. Tumacacori---Box 2225, Tucson, Arizona. George Boundey, Custodian.
    Martin Evenstad, Park Ranger.
22. Walnut Canyon---Flagstaff, Arizona. Paul Beaubien, In Charge.
23. White Sands---Alamogordo, New Mexico. Tom Charles, Custodian.
    Barry Mohun, Utility Man.
24. Wupatki---Flagstaff, Arizona. J. W. Brewer, in Charge.
25. Yucca House---Cortez, Colorado. No Custodian.

# CONDENSED REPORT

Coolidge, Arizona
January 1, 1936

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

Dear Mr. Director:

The Condensed Report for Southwestern Monuments for December 1935:

TRAVEL

| | December, 1935 | December, 1934 | December, 1933 |
|---|---|---|---|
| Aztec Ruins | 591 | 336 | 88 |
| Bandelier | 130 | 214 | 110 |
| Capulin Mountain | 500 | 400 | --- |
| Casa Grande | 2,135 | 2,463 | 2,343 |
| Chaco Canyon | 330 | --- | 208 |
| Canyon de Chelly | 23 | 3 | --- |
| Chiricahua | 120 | --- | --- |
| El Morro | 0 | --- | --- |
| Gran Quivira | 200 | 188 | 295 |
| Montezuma Castle | 568 | 775 | 1,045 |
| Natural Bridges | --- | --- | ----- |
| Navajo | --- | --- | ----- |
| Pipe Spring | 214 | 274 | 578 |
| Sunset Crater | 55 | 53 | --- |
| Tonto | 362 | 266 | --- |
| Tumacacori | 1,311 | 758 | 1,134 |
| Walnut Canyon | 283 | 122 | --- |
| White Sands | 1,840 | --- | --- |
| Wupatki | 63 | 42 | 21 |
| Yucca House | --- | --- | --- |
| Actual Reported Registration | 8,525 | 5,874 | 5,822 |

The 13 Monuments which reported both in 1934 and 1935 showed an increase from 5,874 to 6,235---361 visitors, or 6.1%.

The nine Monuments which reported both in 1933 and 1935 showed a decrease from 5,822 to 5,342---480 visitors or 8.2%.

It would appear that December, 1935, as a travel month was 6.1% better than the same month in 1934; 8.2% porrer than the same month in 1933. Actually, 1935 is probably a much better travel year than either 1934 or 1933. More accurate system of checking visitors at Montezuma has tempered former estimates. Casa Grande is now reporting from the 25th of the month, as other Monuments, and thus lost some holiday visitors.

Weather

Moisture in the form of rains and snows has been more than ordinarily plentiful in the Southwest during the month of December. The northern part of the region especially has benefited by the condition, with snows at Capulin and Bandelier and rain at Gran Quivira and Chaco Canyon. The Gila Valley and its tributaries have experienced dry but pleasant weather. Tumacacori, nearer to Mexican highlands, received several rains which reduced travel.

In general, conditions look promising for ranges and crops, yet precipitation has not been great enough to reduce travel materially.

Engineering Activities

Associate Engineer Diehl divided his time between Carlsbad National Park, Saguaro, Tumacacori, and White Sands National Monuments, and the Branch of Engineering in San Francisco. Proposed road work at Saguaro and White Sands was reviewed, and repair work at Tumacacori was outlined.

Associate Engineer Hamilton made inspection trips to Chaco Canyon in reference to the fencing project there, El Morro to check the recently constructed steps, and personally aided in construction of the reservoir walls at Canyon de Chelly.

Chief Engineering Aide Tovrea spent two weeks at Saguaro on road location work. The remainder of the month was spent at Headquarters on plan and profile of road and routine office work.

The field crew worked at Carlsbad National Park and their activities will be reported from that station.

E. C. W. Activities

BANDELIER

1. Final finish items and cleanup completed on utility area.
2. Small crew worked all month on carved informational signs.
3. Four crews worked on transplanting and landscaping around utility area, campground, and area adjacent to CCC baseball ground.
4. Two crews completed grading and trimming half of road slopes and barrow pits in Detached Section.
5. Considerable road maintenance, opening ditches, resurfacing.
6. Rock quarry worked all month.
7. Construction of drainage culvert started on the 27th.
8. Barracks being moved preparatory to construction of museum building.

CHIRICAHUA

1. Additional 1,200 feet constructed on Sara Deming and Echo trails.
2. Rock work 90% complete on Ranger Station and Bath House.

Materials on the ground for these projects.
3. 200 square yards of backsloping completed on Bonita Highway.
4. Maintenance continued on Bonita Highway.

One week of work lost due to Christmas vacation.

PIPE SPRING
1. Boundary fence improvement approximately 65% completed.
2. Guard rail stones marked for use.
3. Ditch diversion about 30% completed.
4. Walks laid out by engineers; rock 50% hauled.
5. Camp ground development about 90% completed. 153 trees and shrubs planted.

Field Trips

Superintendent Pinkley and Engineer Diehl left Headquarters December 18, visited White Sands National Monument on official business pertaining to contemplated relief work there under the Resettlement Program. They returned to Headquarters December 20.

On December 16 and 17 Acting Assistant Superintendent Miller and Park Naturalist Rose attended an E.C.W. conference of educational advisors and representatives of technical agencies held in Albuquerque, New Mexico. The conference resulted in approval of a plan of vocational training which is to be a part of the E.C.W. program.

On the same trip, the two men mentioned visited Gran Quivira and Aztec Ruins National Monuments on official business. Miller also made a trip to Bandelier National Monument on E.C.W. matters.

Junior Naturalist Louis Caywood left Headquarters December 21 for Chaco Canyon National Monument where he assumed charge during Custodian Miller's annual leave period.

Personnel

Trail Foreman Paul Beaubien left Walnut Canyon National Monument December 28 and arrived at Headquarters December 29. His assumption of duties as Temporary Ranger at Saguaro National Monument for the winter season will be reported next month, as the appointment becomes effective January 1.

No other personnel changes occurred during the month.

Visiting Officials

Resident Landscape Architect Charles Richey visited Headquarters during the month on landscape business with particular reference to the proposed museum building at Bandelier.

Resident Landscape Architect A. C. Kuehl made a visit pertaining to problems at Sunset Crater, Pipe Spring, and other northern monuments.

Regional Wildlife Technician A. E. Borell spent several days at Headquarters on wildlife conditions at several monuments. Report of his activities will be made during the next month. Mr. Borell did considerable work at Chiricahua and Saguaro National Monuments during the month.

Headquarters was pleased to receive visits from Custodians Jackson of Bandelier and Miller of Chaco, Trail Foremen Brewer of Wupatki, Beaubien of Walnut Canyon, and Spires of Tonto. Conferences thereby made possible resulted in several conclusions which will be of benefit, it is believed.

Mail Count

| | |
|---|---|
| Incoming, official | 1,072 |
| Incoming, personal | 1,173 |
| Outgoing, official only | 1,661 |
| Telegrams, incoming | 38 |
| Telegrams, outgoing | 44 |
| Total number of pieces handled | 3,988 |

Cordially,

Frank Pinkley

Frank Pinkley
Superintendent

# REPORTS FROM MEN IN THE FIELD

## CASA GRANDE

By W. J. Winter, Custodian

In general this has been a rather uninteresting month, being short of most of the interesting items we usually collect for our monthly report. This, of course, would have to be the case just when the number of pages assigned to us in this report has been raised 100%!

The visitor count was 2135, thirty less than last month. Today, Christmas Day, being a holiday for the Great American Public, they are pouring in by the hundred. For the month, however, our usual brilliant list of distinguished visitors is missing, as to our knowledge no one worthy of very special notice showed up. Of course, this does not include Park Service visitors. Several of those came in, but they for the most part were calling at Headquarters, not the Monument. Cal Miller of Chaco came in for a day and a night, and we were glad to meet him. Without being put under pressure Cal modestly admitted that he had the best monument in the Southwest -- or maybe it was the world, I forget which. Charlie and I noticed in a recent Monthly Report that three different Custodians each proclaimed that he had the "best" monument. We couldn't quite understand such rash claims and decided that the gentlemen involved had never seen Casa Grande.

Sunday, December 22, the ruins and museum were visited by 65 CCC boys from the camp near Eloy, Arizona, accompanied by their medical officer, Lieutenant Lerner. The Lieutenant was well pleased with our Monument and said that he intended to bring similar groups every Sunday until his whole camp of 220 men had seen the place. So, it looks as though the Ranger will have to stop sleeping on Sundays for a while. (Now, listen to Steen cuss -- he guided a couple of hundred visitors that Sunday, exclusive of the CCC group!).

Last month I reported Oklahoma in the list of foreign nations represented on our visitor register. The alert and diplomatic editor deleted the reference, fearing another War Between the States and also knowing that the Arizona Navy already has its hands full with the Californiacs. Now I see that I was altogether wrong and he was right, as yesterday one lady registered as being from "Tulsa, U.S.A., Okla." It <u>is</u> U.S.A. after all!

Weather for the month has been pretty good until just recently. The temperature ranged from 72 on the third to 23 on the fourteenth and sixteenth. Precipitation was .24. Around the 19th and 20th we had several very disagreeable days, wet, windy and generally uncomfortable. Visitors did not stay long in the ruins, nor could anyone blame them for wanting to be on their way.

Speaking of visiting, I did a little myself this month. On a day off the H.C.W.P. and I called at Tumacacori. It had been some

years since I had seen the place and it was Virginia's first visit. We were cordially received by Custodian George Boundey, who explained in detail all about the interesting old mission. We greatly enjoyed the trip and would like to make similar visits to other Southwestern Monuments.

The ranger quarters are again being improved. In September they got a new bathroom. Now, for some reason they seem to want hot water, too, and the temperature hasn't been below 23 this winter! So now we are installing a new water heater. The way we pamper those boys is terrific. Next thing you know they will be wanting a forty hour week and Christmas Day off.

You are familiar with the difficulties we have been having recently with our sewage disposal system. Apparently there have been too many houses added to the system since its installation several years ago. Repairs are in process but the matter is not satisfactorily settled as yet. The job unavoidably costs more than our funds will stand, so we hope there is a Santa Claus.

During the month Hugh Miller and I called on the Indian Service in Coolidge to get figures regarding the costs of getting their electric current into this monument. We found that if we could once get the installation the upkeep, cost of current, etc., would be considerably less than our present plant is costing us. Where to get the funds for such installation is, of course, a question. Undoubtedly the Government would save money in the end by making such an installation.

During the holiday rush here we have had a good chance to see the inadequacy of two guides working according to the standards established here for ruins and museum trips. In fact, with only two guides working it is not possible to give a good ruins lecture and follow it with a complete museum lecture and still handle traffic outside and not make visitors wait too long for their guided trips. You, of course, already know all this. I had been told about it and am now finding it out first hand.

I also find that during a rush it is practically impossible to keep from using the museum as a gathering place. Of course, this is an undesirable procedure, as most visitors will not return to the museum after visiting the ruins if they have spent ten minutes or more in that museum while waiting for that ruins trip. They feel that they have seen all there is to see. Our museum is not self-guiding, especially the largest room. At least a few words of explanation are necessary in there and, of course, there is room for a complete lecture. What is the answer? Apparently either more guides or a self-guiding museum. Frankly, I do not know enough about museums to say whether the self-guiding kind are satisfactory for our type of material or not. If they are, then it looks as though our museum should be made more suitable for giving in-

formation to the visitor without a guide. Otherwise we shall just have to pray for more guides. Of course, in slack seasons the present two guides do have time to give talks in the museum as well as in the ruins, but not during the busy period. Notice that I am basing my ideas only on the use of two guides, without any assistance from the Headquarters staff. It does not seem quite right that the Headquarters outfit should be expected to do any guiding, just because they happen to be at Casa Grande. Other monuments do not have the benefit of such assistance, and the Headquarters boys have their own work to do.

Boss, on looking back over this report I find that I have written some things especially for you and some more especially for other people who read the Southwestern Monuments Monthly Report. It is all right with me if you publish all or any part of it.

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## CANYON DE CHELLY

By Robert R. Budlong, Custodian

Winter is now officially with us, having come in yesterday like a lamb, bringing with it the highest temperature for the entire month. It was really hot -- fifty-five degrees Fahrenheit. I managed to get my feet thawed out for the first time in weeks.

Visitors for the month numbered 23. This is quite an increase over last December, when we had but three visitors. Of our 23 visitors this month, four drove within the canyons and 19 drove to the rim. Of these 19, three descended the White House Trail. Visitors arrived in nine automobiles. Three of our visitors were from Germany.

Weather for the month has been variable, and temperatures somewhat low. Minimum was 4 degrees, on the 17th, 18th, and 19th. Maximum, 55 degrees, on the 22nd. Greatest daily range of temperature, 43 degrees, also on the 22nd. Precipitation for the month, .34 inch. Snow has fallen on the nearby mesas and mountains, and on the canyon rims, with only a few flakes falling at Chin Lee. Roads have been about as usual, and that is not meant as a compliment to the roads.

The Custodian's residence is still in the process of construction, and about 75 percent completed. The roofing is now being laid, and plastering of the outside is expected to be started today. The electricians have about completed their roughing-in work, and some of the plumbing and drain pipes are now being installed.

The water storage reservoir is finished. Associate Engineer J. B. Hamilton arrived at this Monument on December 2. Work commenced December 4, and the reservoir was completed by noon December 13. Local Navajo labor, only, was employed. Only those men who were approved by the officials of the Canyon Chapter were given employment, and this policy I intend to follow in all future work at this National Monument.

On December 21 I addressed the Canyon Chapter of Navajos at the Indian School auditorium at Chin Lee. Several hundred Navajos were present. I am grateful to Chis Chili and the officials of the Canyon Chapter for their cooperation and support.

The canyons are not now in condition to permit of travel by cars equipped with ordinary tires. Water is flowing from both canyons, and while the stream is frozen much of the time, thawing occurs in spots, and these places can easily cause trouble.

Superintendent Roger W. Toll, of Yellowstone National Park, accompanied by Acting Superintendent Paul Franke and Harold Nelson, of Mesa Verde National Park, visited this Monument November 26 and 27. We had a most pleasant visit with them the evening of the 26th. On the 27th, Mr. Stamm of the Soil Conservation Service, drove them within the canyons in one of the big-wheeled SCS trucks. The Indian Service cooperated in their usual fine manner in furnishing a room and meals. It was the first time I had the pleasure of meeting Mr. Toll, but I hope it will not be the last.

Milton Wetherill, accompanied by three guests, visited this Monument November 23, and nearly got away without seeing me. I managed to corral him in Mr. Garcia's Trading Post. We spent a most enjoyable evening, and they attended the Yebechai Dance that night. The following morning it was raining, and they departed for Kayenta hurriedly, before the roads became too muddy, without seeing the canyon. They don't know what they missed.

Architect Lyle Barcume has been in on inspection trips several times during the month. Chuck Richey appears to be hiding out somewhere.

And so we enter the season of turkey, cranberry sauce, last-minute shopping, and sadly depleted exchequers. In two days Christmas will be upon us. We extend to the entire personnel of the Park Service best wishes for a most happy Christmas and a most successful New Year.

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## MONTEZUMA CASTLE

By Martin L. Jackson, Custodian

Will make an attempt to get out our first monthly report on the new typewriter. And as bad as it may be am sure it will not be any worse than many that I have gotten out on the old machine, and even if this report is not any better, it is a lot more fun in getting it out.

Our visitors for the month number 568. They hail from 27 states and three foreign countries as Follows:

| | | | |
|---|---|---|---|
| Arkansas | Arizona | New Mexico | California |
| Utah | Wisconsin | Oklahoma | Wyoming |
| Rhode Island | North Dakota | Maryland | Illinois |
| Oregon | New Jersey | Minnesota | Texas |
| Colorado | Washington | Nebraska | Idaho |
| Virginia | Pennsylvania | Louisiana | Michigan |
| Missouri | Nevada | Kentucky | |

The three foreign countries were England, South Africa, and Canada.

Have had the usual run of weather for the month, which means, of course, that the sun shines almost every day. Had a couple of showers during the month, both falling during the night.

Condition of roads leading into the Monument are better than they have been for quite some time. So now there is no reason or excuse for visitors not coming unless it is that they just do not want to see a good cliff dwelling.

The nearby dude ranches report that their winter guests are arriving and from all indications they are going to have a good season. Naturally, we are hoping they do, as they all make our Monument during their stay at the ranches. And they have some of the most influential people in the entire country as guests. We like to get some of these easterners as visitors, as a big percent of them have never visited a national monument, and it gives them an opportunity to see how the moneys appropriated for the administration of Southwestern National Monuments are being expended. And, further, our experience is that the most of them are quite interested in what we are doing. Of course, an interested visitor is almost always an interesting visitor.

Due to the fact that Norman Jackson, the official bird bander at this Monument has been away most of the month, the bird banding has very little to report. However, I walked out one morning after a shower of rain the night before and found that a funny looking old bird had walked into one of the unbaited traps that we had failed to bring in. At first sight I thought I had caught one of your rangers, and rushed madly back to the house to get the gang to back me up in my identification, which they did. The worst is yet to come! After the said bird had shown a little action by moving around in the cage a bit they all with the exception of myself voted that he moved around more like a custodian. Needless to say, I immediately released the bird for fear some bird expert would drop in and would not vote for my side. The bird remains unbanded as well as unidentified as to species.

Earl and Betty Jackson of the Bandelier National Monument, spent Christmas with us. This is Betty's first visit to the Monument, and it so happens that she is our first and only daughter-in-law. We have her word for it that the wife and myself happen to be her first mother

and father-in-law. We think Betty is quite all right as we razzed her a lot and find that "She can take it." I understand their plans are to skid in on your Monument for a short stay and then on back to Bandelier by way of White Sands National Monument. Earl seems to be all worked up about some things Custodian Charles has written concerning some sands to be found there, and I might add that we all are. Will close by wishing each and every one of you a prosperous happy New Year.

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# WALNUT CANYON

By Paul Beaubien, In Charge

Two hundred and eighty-three visitors registered this month, in comparison to the 122 of December, 1934. This increase attests the clear, even-tempered weather. Although cold, I've enjoyed most of the month. However, with the colder weather, few visitors actually enter the canyon to see the cliff dwellings first hand. From the observation Point, they see a dozen in the distance and are satisfied to leave, hoping to return in warmer weather.

Park Service visitors were Roger W. Toll, Superintendent of Yellowstone National Park, Jack Diehl, Hugh Miller, Bob Rose, and Vincent Vandiver.

One visitor came riding down the floor of Walnut Canyon from the west. He took his horse out at the trail by the ranger cabin where I thought it was difficult for a man to climb. I consider this the most astounding feat I've witnessed since coming to Arizona.

I recently made a ladder and then investigated the cistern. I won't take time to tell you all I found there but will say I'm hauling water from town now. Will have the cistern cleaned before leaving so there will be some good water here next spring.

Am gathering all information possible for "trail side" signs. With the help of the naturalists, I hope to see the finest Nature Trail in the world here next summer.

Haven't much to report in regard to bird banding. A little snow lingered over from November and, with a fresh supply on the fifth of this month, I put the water trap in storage for the winter. Desiring to band more than 300 this fall, I set a few traps baited with food. I caught 15 birds this month after expending more time and effort than last month when 237 were captured. Three Pygmy Nuthatches and four Rocky Mountain Nuthatches were caught with tallow bait while three Shufeldt Juncos and five Red-backed Juncos were trapped with chick feed.

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# TUMACACORI

By George Boundey, Custodian

Visitors for the month of December, 1311.

During the month we had several days of rain and very disagreeable weather. There was one day we did not have a single visitor. As a rule the cloudy rainy days are busy as we are on a good highway and people drive out here in preference to taking the longer drives.

Have always made it a point to tell the more interested visitors of other places of interest in the vicinity and this year have had quite a number of visitors ask for further information. Several parties have returned quite enthusiastic over their finds.

On Christmas day a man and his wife, foreigners with a driver and well equipped car, came searching for several large guano caves in the vicinity. They were just from a visit to the Casa Grande National Monument, and I thought probably were sent here by the Boss. When I told them one of the caves had furnished much guano during the war they seemed quite excited.

Brigadier General Hubert A. Allen and wife spent several hours at the mission early in the month. He is very much interested in old Fort Buchanan, just out of Patagonia on the Nogales-Tombstone highway. The General has located the graves of several soldiers buried near the fort. Through the locat Legion posts he hopes to have the bodies removed or taken care of by the Legion.

It is at Fort Buchanan that half a million dollars worth of cannon, small arms, etc., were buried when the troops were called east at the breaking out of the Civil War.

Among those who registered this month was Senator Carl Hayden and wife and a party of the Rascobs from New York City.

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# CHIRICAHUA

By Wm Stevenson

Following is the Monument travel report for the month of December:

During the month 120 visitors arrived in 25 cars.

December 18 we had our first snow of the winter. However, one warm day removed all traces of the storm, and we were deprived of a white Christmas.

December 10 we were honored by a visit from Senator Carl Hayden, John Browell, Vice President of the Bank of Douglas, Harry Clark, General Manager of Phelps Dodge Company, Douglas, Arizona, and Rex Rice, Postmaster, Douglas, Arizona.

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## CHIRICAHUA E.C.W.

By Wm Stevenson, Project Superintendent

I herewith submit the following report for the month of December.

Trails have progressed satisfactorily this month. 1200' total have been completed on the Sara Deming and Echo Trails.

Rock work is 90% complete on the Ranger Station and Bath house. All materials are on the ground for these projects.

Backsloping on the Bonita Highway was resumed the second week of December. Approximately 200 sq. yds. were completed this month, bringing the total to 100 sq. yds.

Maintenance of Bonita Highway continued throughout the month, as storms caused considerable sloughing of cut banks.

One week of work was lost this month due to Christmas vacations.

Visitors for the month include:

December 11 - Al Keuhl, Landscape Architect.
December 15 - Mr. Borell of the Wildlife Division.
December 17 - Mr. Douglas, Auditor from the Washington Office, who was accompanied by Mr. Wagner of the Branch of Forestry.
December 24 - Norman Smith, Geologist, who intends to spend some time here studying the rock formations of the Monuments.

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## CAPULIN MOUNTAIN

By Homer J. Farr, Custodian

Capulin Mountain National Monument, has had a very good December, with a fair run of winter visitors; I would say about 500. Highways have all been open all winter and the road to the top of the old crater

has been passable all winter, but not in excellent condition.

Weather:

Have had three small snows this month; all together have had fair moisture.

The thermometer has been showing about ten above most every night and about 45 at the highest during the day. This has been rather regular all this month, and the three storms we had made very little change in the temperature. Last month I promised soon to write and describe our pictographs near this Monument, but will have to postpone it until some other time.

The custodian plans spending the holidays at Newgulf, Texas. Will be back on the job about January 5. I take this opportunity to extend to all the Service a Merry Merry Christmas.

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## GRAN QUIVIRA

By W. H. Smith, Custodian

Due to the bad weather conditions the last month's travel has been rather slow. I have only registered 200 visitors entering the Monument in 56 vehicles. These visitors register from six states including New Mexico and one from Washington, D. C. One reason that travel has dropped off is that we have had quite a little rain the last month and that made the roads almost impassable. But even with this drop in the travel we are still reporting a few more than we did for the same period last year.

On date of December 14, 1935, we had Mr. E. B. Packer, U. S. surveyor from Washington, D. C., who is surveying some of the major lines of the state. Then on date of December 18, 1935, assistant Superintendent Hugh M. Miller and Naturalist Robert H. Rose of the Coolidge office came by and they and I made a business trip to Albuquerque, New Mexico.

On the night of November 24, a slow rain started here that continued all through the night, and the following day and night. It was estimated that there was about five inches of rain during this spell. It soaked into the walls of the mission and thoroughly wetted up so much of the morter between the stones that there was a considerable slump in the walls in several places. A slow soaking rain of this kind always costs us a good deal of walls. Then again on date of December 4, there was quite a little snow and rain that wet the roads up and stopped all travel by this Monument for some time. At the present time the sky is overcast with clouds, and it is snowing. It looks as if we were in for a big snow this time.

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# WHITE SANDS

By Tom Charles, Custodian

Ordinarily it is a pleasure to get out this report, but I can't claim it this time - too near Christmas. Tonight five of the married children will be at home with the in-laws and the grand children, 18 of us in all. What a grand and glorious feeling. So far there has been but one fly in the ointment; poor Bob, the 5-year-old from Santa Fe was looking at pictures of a golf game at the White Sands: He crowded up to me and after his arm was tight around my neck he said, "Grandpa,it will be tennis courts next, and pretty soon we kids won't have any place to play out there, at all."

The Sun Bowl Carnival at El Paso on January 1 is to be the big holiday event of the Southwest. It is said there will be over 100 floats representing the events and attractions of three states and Mexico. The El Paso management was anxious that the White Sands should be represented with a float. But floats cost money. Commercial institutions are putting as much as $600 or $700 in their floats, and it is said that our good friend and co-worker, the Lincoln National Forest, put up $500 for a similar creation for the State Fair at Roswell recently. There isn't a place where we can squeeze out even $5.00 to portray the beauties and attractions of this precocious child of ours. But, "The Lord temperath the wind to the shorn lamb." The Alamogordo Rotary Club came to our rescue and voted to sponsor the White Sands float. They appointed P. A. Smoll, an old time Park Service official from Rocky Mountain as head of the committee.

The lumber yards contributed lumber, hardware stores the nails and metal lath, carpenters did the building, plasterers the plastering. In fact, every line of labor and every piece of material has been donated. Some 17 or 18 different people came forth with cash or labor. The float will portray a family picnic at the Great White Sands. In the foreground will be the purple pennyroyal and the cactus, along the border the yellow primrose. In the background the rippled, snow white hills, the rugged San Andres, and the gorgeous desert sunset. It is a little early to predict, but it is my guess that it will be some float. I'm betting my money on the Home Team;and what use has the White Sands Monument for money when it has friends like these?

A surprising large number of Otero County people are using the white sand as a background for their Christmas trees. One family combines the Christmas tree idea with the idea of the shepherds and the wise men at the birth of Christ. They have the miniature sheep and camels and men all properly placed in the hills and valleys of the glistening sand. With the one bright star and the colored lighting it makes a beautiful picture.

A group of California tourists were excited this week about finding "bird eggs" on the white sands. Fortunately our ranger had found similar eggs some time before, and we were armed with an

explanation given us by Bob Rose, Park Service Naturalist. Mr. Rose says the "eggs" are but grains of sand which have been consolidated by the action of acid which some insect secreted while preparing for his long, long sleep. These insects build their own coffins from white sand by the use of an acid secretion.

Unfavorable weather conditions elsewhere has forced the tourists this way the past week. Last Saturday there were 137 cars through the monument in 8 hours. Sunday I counted the cars at the junction of the road into the sands and 56 cars passed through the Monument in 1 hour and 30 minutes. The percentage going into the sands is down, but the increased traffic keeps our attendance up.

In a count of 16 periods of 4 hours each 622 cars passed through, approximately 10 cars an hour, 140 a day. At that rate we are having 51,000 cars a year. Sixty percent, 30,000 a year, have foreign license. Our usual Sunday crowd of 200 to 250 visitors is keeping up and we estimate that the total for this month is 1840.

Well, I've muddled through. I hope that the rest of your Southwest family is getting as much kick out of Christmas as we are. It surely gives one the spirit of Good Will on Earth when the family gets together.

With the kindest personal regards to you and a Merry Christmas to the Whole crew, I am.

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## BANDELIER

By Earl Jackson, Custodian

Follows the December Monthly Report for Bandelier National Monument. This report is complete only through December 21, as I am taking part of my annual leave. January's report will cover the missing three days in December.

Visitors:

Visitors numbered 130, arriving in 44 cars, from 18 states and Washington, D. C. Four people came in on horseback. Cars came from 12 states. These states by visitors were:

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| New Mexico | 81 | Massachusetts | 4 |
| Colorado | 11 | Vermont | 3 |
| California | 9 | Michigan | 2 |
| Texas | 5 | Missouri | 2 |
| New York | 4 | Connecticut | 2 |
| Pennsylvania | 4 | Oklahoma | 3 |

Our visitor attendance shows a drop of 84 under December of 1934. This drop is explained solely by severer weather conditions.

Last year seems to have marked the end of one of our cyclical drought periods.

Weather and Roads:

Minimum temperature for the month was 10 degrees above zero. Precipitation was 1.94 inches. We have had three snow storms, one very mild. The last storm, on December 5, brought three inches of snow, which was as heavy as at any one time during last winter. There have been fourteen cloudy and partly cloudy and partly cloudy days.

Road conditions have not been bad. They have been muddy and rutted some, but never impassable.

Special Visitors:

November 26 - Charles A. Richey left after a three-day landscape inspection.

December 4 - Charles A. Richey arrived again for a two-day stay.

Mr. and Mrs. George H. Kittredge, Detroit, Michigan, were very interested visitors to the ruins.

December 6 - Mr. and Mrs. H. S. Ferguson, Belmont, Mass., were another exceedingly interested couple.

December 8 - Jack Diehl arrived for a stay of one day.

Miss Irene McClain, a beauty shop operator from Taos, New Mexico, reports she has never had an Indian customer. The sun-tan complexion seems good enough for Taos natives.

December 11 - Captain F. A. Taylor and Mrs. were interested visitors from Fort Bliss, Texas.

December 16 - Captain and Mrs. R. I. Thornton were visitors from Santa Fe. Captain Thornton organized the volunteer fire department in Santa Fe forty years ago.

Dr. Reginald G. Fisher, of the School of American Research, was in.

Mr. R. O. Longnecker, General Manager, Western American Life Insurance Company, visited the ruins, for purposes of getting material for a radio broadcast.

December 19 - Mr. B. L. Douglas, Field Auditor, E.C.W., accompanied by Junior Forester and Mrs. Claude A. Wagner, arrived for a two-day stay.

December 20 - Hugh Miller and Johnwill Faris arrived for a one-day stay.

Nature Notes:

With the advent of snows, deer and turkey have come down off the highlands. Several turkeys have been seen in the near vicinity, and their tracks are everywhere. The other day a few came down to within a hundred yards of the custodian's house. They appear to be healthy enough, and not to be suffering for lack of food.

Two or three coyotes have been seen, and their tracks are numerous over South Mesa.

Juncos are thicker in the canyon than hair on a dog's back. Very few other birds are seen now, except, of course, the jays.

Last month while down the canyon toward the Rio Grande River we saw evidences of some beaver work. Recently, below the Lower Falls of Frijoles Creek, we found two excellent beaver dams, and one other not so good. And all the way from the falls to the river, (about 1/2 mile) a great number of cottonwood trees have been cut. Eight or ten cottonwoods measuring twenty-five to thirty-five feet in height are down, and probably three times as many small trees.

I doubt if this beaver stays long. He evidently doesn't care to climb the trail around the falls to come farther upstream, and there won't be much for him to eat in the lower canyon unless he does. Frankly, I hope he doesn't come up; if he got into the middle part of Frijoles Canyon around the development area and ate out some fine planted trees, the landscapers would have severe internal hemorrhages, and I don't know as I could blame them.

Betty's report on bird banding for the month will be found in the Supplement.

General:

I took the bull by the horns and got a task performed which has been needed for some time. You've heard about how the ruins in Frijoles Canyon are falling to pieces by leaps and bounds because we don't get a stabilization project authorized? And if you had been here off and on after storms during the past year, you could have seen how one of our best remaining kivas in the whole district was breaking down. Only the last storm brought down a good section of the original wall in this kiva, and the remaining wall was so weakened that it was a question of months until the whole thing came in.

So, with premeditated fell intent, I effected the repair of this defunct wall. The rocks were all replaced, re-mudded, and rubble and cement were put in the trash fill behind the wall to keep pressure

from it. Now it is a swell looking job, and the whole circle looks as though it would stand indefinitely.

It would certainly be a wonderful thing if we could get some definite authorization to proceed at once with emergency repair items like this, rather than wait for that Utopian hour in the remote future, and hour that may be so remote there will be no walls left to repair.

"An ounce in time saves nine," was never more true than in its application to timely preservation of Indian ruins.

So, let us pray that the powers that be will see to it we may proceed to RUINS STABILIZATION within the near future. The cost of repair work to old walls is ridiculously little in comparison to general construction items, and it is criminal for us to postpone such work. We have thousands and thousands of dollars being spent in National Monuments for buildings and machinery to house the agencies which are intended to exhibit and care for our sites of interest, and, in the case of ruins at least, are letting the major item, the drawing card to the Monument, go to pieces in rack and ruin.

Bandelier is coming in for some more publicity. Recently the Director of the New Mexico State Tourist Bureau, Joseph A. Bursey, appealed to me for an article and photos to put in several national travel magazines this winter. I submitted these items, with your approval.

The other day Mr. R. O. Longnecker, General Manager of the Western American Life Insurance Company, was in to see me and asked for data which he might include in a series of radio talks to be given soon on features of interest in the Southwest. I let him have the kiva article which appeared in last month's report supplement, after his agreement to submit the specific talk he wishes to give, based on the article, to you for approval before giving it.

Visitors, although few in number, have been exceedingly worth while this month. I haven't talked with a one yet who wasn't interested.

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# CHACO CANYON

By T. C. Miller, Custodian

General:

Approach roads have been in bad shape most of the month because of so much snow and rain. However, considering the bad roads, wet and cold weather, we have accomplished a lot in the way of construction. One official trip was made away from the Monument during the month to Chiricahua National Monument, by the way of Headquarters. The purpose of the trip was to get a water tank for storage and to

get office supplies, also to talk over with the Boss a few of our problems here in this Monument. From my point of view it was a very satisfactory trip.

Weather:

Maximum for the month was 46 on the 12th. Minimum was 8 above on the 18th and 19th. Precipitation 1.07 rain and melted snow was reporded for the month.

Travel:

330 people entered the Monument in 106 automobiles, coming from the following states and foreign countries: Arizona, California, Colorado, Connecticut, Iowa, Nebraska, New Mexico, Texas, and one party of three from England.

Special Visitors:

Associate Engineer Hamilton was here December 1, and 14, inspecting our fence and Soil Conservation Projects. Emil Kopac, Oshkosh, Nebraska, representing the Oregan Trail and Historical Research, was a Monument visitor on the 19th:

Chaco Fence Project:

To date the Contractor has completed 9000 rods of fence. Two twelve-foot cattle guards complete. Nine twelve-foot gates complete. Concrete for strains, ends and corner post, 90 cubic yards in place. Hauling Government materials complete. The fence will be finished some time in January. Bad weather has slowed up the work and now we are on the mesas where it is rough and all solid rock. Material for the fence is being carried up on the mesas by man power and, of course, that is slow work.

I am making this report on the 21st. Junior Naturalist Caywood is supposed to relieve me today so that we can take a little vacation during the holidays. Mr. Caywood will probably make a report also!

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CHACO SUPPLEMENTARY REPORT By Louis R. Caywood

Enclosed you will find my report for the past month and a little addition to Cal's report if you wish to add it. Also there is a copy of a letter that Cal wished me to send you and a picture that McKinney gave me of the little waterfall behind Pueblo Bonito.

Winnie and I made the trip in fine shape without any more trouble. The road from Thoreau is dry and in pretty good shape for this time of the year.

The place is practically deserted. Everyone has either gone or is going tonight to spend Christmas with their respective families. No visitors have shown up since our arrival but guess that is to be expected this time of the year.

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No additional visitors have been to the Monument since my arrival on Monday, December 23. The weather continues to be cold with snow in evidence on all north slopes of the mountains and canyons. Quite a change from Casa Grande, and Winnie and I feel very fortunate in being allowed to occupy the quarters of the Custodian during his absence.

The Soil Conservation program under the supervision of Mr. Lewis McKinney is going ahead with what seems to be very good results. Following is a brief report by Mr. McKinney:

"Soil Conservation Service is now working 50 men on this area. All small headers have been plugged in Hungo-povi Canyon. We still have one large dam in the large header at the mouth of the Canyon.

"We are now working on a wall behind Casa Del Arroyo to protect the ruin from caving off into the Canyon. We have an earth dike built between Casa Del Arroyo and Kin-Klet-Soi to keep the water from starting any more headers and also to protect those that have already started. We also have one large jetty built in the Chaco Wash a little ways above Casa Del Arroyo to throw the water from the bank that Casa Del Arroyo sets on. We have built small sausage dams in each header that the road crosses, leading down the Canyon toward Penasca Blanco and also have repaired the road and built sausage dams in the headers that the road crosses leading up the Canyon toward Chetro Ketl, Hungo-povi and Una-Vida ruins "

I hope that everyone at Headquarters had a very Merry Christmas and wishing you all a bright and prosperous New Year.

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## WUPATKI

By James W. Brewer, In Charge

Travel:

Twenty-three guests registered at Wupatki Pueblo; at the Citadel group, 42; 2 names are duplicated, leaving a total of 63 visitors to the Monument in December, 1935; 1934, 42; 1933, 21.

States were represented as follows: Arizona 14; California, Illinois, Colorado, Kansas, 3; Minnesota, 2; Nebraska, Ohio, Michigan, Oklahoma, New York, Massachusetts, Idaho, Indiana, Wyoming, and Missouri, 1.

Weather:

November 26 to December 1: high temperature, 55 on the 26th; low, 30 on the 29th and 30th; four sunny and one cloudy days. December 1 to 24: high 55, on the 21st; low 27, on the 21st. Precipitation: .24 inches on the 4th and 5th; 15 sunny days, nine cloudy days.

Newsworthy Visitors:

Superintendent Toll of Yellowstone paid us a visit on the 5th. Mr. Toll asked the best way to Black Falls, to which I replied; "Get into the roadster and let me drive you." (The trails are dim and the surfaces are often treacherous). Disregarding any possibility of Monument caliber, I knew Black Falls would be a disappointing sight so I elected to reach it via Wupatki. I am very glad I did this because Mr. Toll seemed to enjoy Wukoki immensely and asked for all the data on it.

We came back by way of the lower Crack-in-Rock road and stopped in at a hogan where Mr. Toll paid Ruby Peshlacai $1.75 for a small rug. (See Navajo Christmas Party).

Engineer Jack Diehl called on the 11th, and we went over the trail work already done and outlined more trails. Jack offered some excellent dope on method for installing the "I"-beam under the pueblo's tallest wall.

Mountain Lion:

The sheepmen herding bucks between Heiser Spring and Arrowhead Tank reporttwo or three mountain lion in the neighborhood of Doney Mountain. Wildlife Technician Grater has, as yet, reported the only tracks observed.

"KISHMUS" PARTY:

The first annual (?) Navajo Christmas party was held on December 21-22 and will long be remembered.

Preparation for the party began early in the month with lists of whom to expect and what to get for them. I borrowed a 15-man camp outfit from the National Forest Service and prepared to feed 30 Navajos three meals each.

Sallie's remarkable shopping provided each woman and child with pans, shopping bags, soap, hand lotion, and toys. Young boys got gloves and socks; the men were remembered with cigars, tobacco, and clothes which were donated.

On Friday Clyde and I went to Sunset Crater and chopped the road-obstructing trees out and looked at piñon suitable for a Christmas

tree until Clyde got across the idea that his father preferred a fir tree. So nothing could be done but get a fir tree from the Forest Christmas Tree area for Peshlacai Etsedi. Arriving home after dark we built a stand for the tree and weighted it securely down in front of the CWA cook shack and covered the base with cinders. A near-sighted Wildlifer might have called it an exotic.

Saturday morning Sallie dressed the tree with garlands, bells, and lead foil icicles, and put the boxes of gifts under the tree. At noon the first family arrived--Clyde, Sarah, and Catherine. Virgil and Aski Yassi were to come after bedding the sheep for the night. The arrivals were dressed as for a sing, and we were properly appreciative of the honor shown by their wearing of best clothes and silver. After unhitching their team they all went down to the end of the pipe line and washed their hair with yucca root.

The next arrival was Mr. Watson Smith who brought fresh loaves of bread (20) and cellophane packages of oranges, candy, and nuts. Then came Mr. and Mrs.Phillip Johnston of Los Angeles (weren't we honored to have them travel so far) who brought scads of clothes collected from all Los Angeles.

The came the wagons--a red one drawn by four bony ponies, a green one full of brightly blanketed women and children; Grand Post (the name comes from his stature) on horseback with his wife in her orange-wheeled desert phaeton carrying sheepskins and children. Last but not least came the Grand Old Man of Wupatki Basin and "daddy of them all" -- Peshlacai Etsedi. When he rode into camp with a twinkle and a wrinkled smile I got my first inkling of what was to happen--the unbending of the Navajo reserve. For the first time in my three years' acquaintance with this family I saw them drop their austere aloofness to register recognizable pleasure.

Dusk was deepening by the time this last wagon was unhitched and the horses hobbled. A big fire was roaring in the old CWA quadrangle. Inside the cook shack the frijoles were brought to boil again and coffee removed to settle. Blankets and pads made the chairs, the floor a table; two huge pots of beans, mutton, bread, and coffee were followed by two boilers of prunes. After dinner too many volunteers made short enough work of the cleanup while Ruby, Sarah, and Gladys (Dinneh) walked beaming and mysteriously about snatching tissue paper for wrapping carefully hidden gifts.

Outside three cars were parked facing the tree and with the placing under the tree of the last minute packages, the lights were switched on.

With the help of Clyde and Phil Johnstone Sallie distributed her purchases and bundles of clothes to the Navajos. Then Clyde stepped into the role of Santa Claus and produced a multitude of small rugs

for all the whites. In addition to three handsome rugs Sallie received a many-turquoise studded ring that had long been a prized possession of Sarah, a hand-made silver bead necklace by Clyde and $1.75 in silver from Ruby (see Toll's visit).

Gathered around the fire a request was made by Sallie for a Navajo song. After a long discussion by Phil and Peshlacai it was decided that while a song suitable to the season and occasion could be sung, it would have to be sung all night; maybe the whites weren't quite up to that--at any rate it wasn't done.

Another point that Peshlacai brought up was: since the tree had been used in a ceremonial capacity, it would have to be treated as Yeibitchai feathers or ceremonial paraphernalia--put where stock, horses, and dogs could not trample or otherwise desecrate it. We resolved to leave it sanding until New Years, then burn it.

After the distribution of gifts everyone adjourned to the cook shack where the boys blew up balloons that frightened the babies and the girls made great pans of pop corn which was referred to as "kicking corn." The men talked and watched--and the women watched. So on into the night.

The next morning there were pecan waffles for the whites "upstairs" and baked ribs, etc., for the reds below. Sallie went down fairly early to get pictures of the guests and found the smaller children and one or two of the men already departed to look after the flocks they had left the night before.

Mr. Johnston, who is struggling to regain lost land for the Navajos, took several Indians and Mr. Carl Beck of Tuba City out to look over the land.

During their absence the balance of the Navajos departed expressing great thanks and hopes for a similar party next year.

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## SUNSET CRATER

By James W. Brewer, In Charge

55 visitors registered at this Monument during the month of December, 1935; 53 in 1934; no record for 1933.

States were represented as follows: Arizona, 20; California, 9; New Mexico, 4; Colorado and Washington, 3; Minnesota and Illinios, 2; Ohio, Oklahoma, and Kansas, 1. Austria and Canada, 1.

Of the three trees, mentioned in the November report, obstructing the road between this Monument and Wupatki the first was removed by the Forest Service road crew, the third I chopped up and cleared up.

The second tree crosses the road at its center which is about 30 inches in diameter; just a bit too stout for me to handle in view of the road crew so near at hand. Since it is on the Forest I believe their crew will remove it shortly.

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## AZTEC RUINS

By Johnwill Faris, Custodian

It seems hardly possible that December is almost gone and that we are on the brink of a New Year, which promises to be one of the most important in the history of the Aztec Ruins National Monument. This month shows a total of 391, the best December since 1929 when we showed through 495. Many of the number have been repeaters and locals, but these are given the same, if not superior attention, to those on their first trip. Ranger Hart has shown a very large percentage of these people and I am pleased to report did so in a fine manner.

Activities at the Monument have been on a par with any of our busy months. The 25 E.C.W. boys were with us every work day and for a part of the month we had 50 boys from the Durango Camp. The greater part of the month was devoted to a planting program, which is certainly showing results. Boss, I swore you could not beat the CWA crew that you supplied me, then I was willing to bet even money that our PWA crew was beyond any reproach, and now the C.C.C. boys are my big moment. They are a fine bunch of fellows, though Boss, and we greatly appriciate the work they are doing and the manner in which they are doing it. It may be entirely out of our line and something that you would appreciate my forgetting, but we here at Aztec cannot but take a personal interest in all our workmen and each of the boys. We do our best to see that in working for us and having contacted the Aztec Ruins, with the Park Service ideals that we endeavor to reflect, that that workman or that boy is better for having worked here.

But, back to what we have been doing during the month of December. The planting and landscaping in and about the parking area and headquarters building is almost complete. We appreciate that a percent of this will die and need replanting, but at present it presents a mighty pleasing unit. Some cleanup was carried on in the area east of the major ruin. Very careful followup was taken, in going over the area where we got our trees and shrubs, restoring it to as natural appearance as possible. The boys are accepting the responsibilities we place on them in fine way, and it is indeed gratifying. Leonard Zink, the foreman, is a wonderful factor in relaying the inspiration that is passed down to us through Former Director Stephen T. Mather, Horance M. Albright, Arno B. Cammerer, and several of our key men in the Service.

This month also finds the cattle guard painted, the museum cases assembled, many displays rearranged, odd jobs attended, etc. In the new display cases it is understood that the arrangement is only temporary.

but we are anxious to get the reaction of our visitor and are using the temporary features as a guide for our more stationary settings. We find that the public is reacting very favorably, in fact, to my surprise there is very little complaint in our moving the specimens out of the old rooms. Of course, we have not moved much of the pottery and the entire row of ancient rooms are still quite full of material, so it may be as the voids occur we may experience more complaint. That, however, is merely a challenge to provide something that will take up the voids and they will not be noticeable.

Several Park Service men have been with us since the last report. Jim Hamilton, Lyle Bennett, and Miller of Platt were in giving our ECW work the once over. Later Paul Franke with several Army men from Mesa Verde were down going over the advisibility of a fly camp for Aztec. Hugh Miller and Bob Rose followed these men and a couple of days later we had Mr. and Mrs. H. B. Chase of Bandelier E.C.W., accompanied by B. L. Douglas, E.C.W. auditor, from the Washington Office. Bennett brought Lyle Barcume down with him on one trip that Lyle might carry on while Bennett is on the coast. Barcume is one of our old CWA friends so it is just like one of us to have him here.

We received a map of the drainage for our roofed Kiva this month, and it is over my head. I imagine it is a wonderful thing but do not see how it can possibly work. Before the engineers get me for that remark maybe I had better qualify it by saying that it might be fine as far as it goes but that it barely scratches the surface. I personally feel that with the expenditure of very little more money we might lower the water level and thus do away with any capillary damage. I surely appreciate the time and attention that the engineers have given to my problem, and am not meaning to criticize, but they have not hit on just what I want yet. No one appreciates any better than myself my inability to put exactly what I want in words, much less in a drawing, but I would like to see an engineer draft a map on Bob Rose's article several seasons back on capillary attraction and its damage to ruins walls. That in itself was deep for me, but I would like to see a picture of it with an actual problem on our monuments, on a blue print. There seems a great deal against digging out our original floor to replace beneath it a sand or coarse sub-floor, but if that is the problem and its solution, maybe that is what we need here, and after all, Boss, I know from experience that if I let Mr. Kittredge and his men alone they will get me a mighty fine finished product. This drainage problem is one that confronts many of the monuments, and I would like several of our men to comment on the feature. Several of the other custodians and rangers should have given this a great deal of thought, and truly I would like to get their comments.

It was my pleasure last week to accompany Hugh Miller to Bandelier National Monument and see the fine Monument that Earl Jackson heads.

Boss, it is a swell place, and I want to congratulate Jackson and Chase on the improvements they have brought about. I know of no monument, other than my own, that is more deserving of attention and improvement than Bandelier, and my advice to the various custodians, Aztec included, is that we better keep on our toes and hit the ball, or Earl is going to put us all to shame. I did not have the opportunity to go over the Monument with Jackson as I wished, nor did I get to go over the E.C.W. work with Chase as I would have liked, but I did appreciate the opportunity of making the hurried visit. The concession people I enjoyed very much. Mrs. Frey was a splendid hostess and while in the canyon we had the pleasure of meeting Mr. and Mrs. Boos. (Mrs) Dr. Boos was formerly of Rockey Mountain.

Well, Boss, I have a lot to take up with you yet on the work here, but I expect that I had better just write a long letter and save the standing of our Monthly Report.

The Aztec Ruins National Monument feels that it has made remarkable progress during the year 1935 and feels too, that it will make even more progress in 1936. We have enjoyed the help and cooperation your office and those of the various departments have given us, and we solicit its continuance.

Wishing for yourself and the entire personnel, a banner year in 1936, I am.....

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## EL MORRO

By Evon Z. Vogt, Custodian

Your custodian returned to his family from the high mining country of Colorado on the 24th. It was a drive of 450 miles made from Summitville near Monte Vista, Colorado, over the road thru La Cuesta and Taos where he ate his supper at what remains from the fire of the old Don Fernando Hotel. Driving down thru the Rio Grande valley and past the pueblo Indian country he spent the night at Santa Fe on the 23rd.

He found that the Laguna cut-off west of Albuquerque was in fine shape and enabled one to drive from Albuquerque to Gallup in three hours.

Considerable road straightening and building is in progress and should result in increased travel to El Morro and this entire region.

I inquired at Grants about road prospects on the straight course to El Morro, and we believe it reliably reported that a road project under WPA has been approved for continuing the road down over the mountain towards El Morro. If this is brought about it means we are not to be another summer without a passable circle drive from Gallup to Zuni, Ramah, El Morro, Ice Cave, and Grants.

Arriving about dark at my ranch home I found the family all busy in the kitchen with a savory supper taking form awaiting my return from the gold camp on South Mountain, Colorado.

Compared to the portions of Colorado that I have seen, New Mexico is in much better shape for safe wintering of live stock. Grass is plentiful where I passed and snow of a negligable amount. Cattle and sheep are fat. Owners more hopeful and encouraged. The cities of Santa Fe and Albuquerque were gay and Christmasy with many outdoor Christmas trees. In the Mexican villages many bright fires in front of the houses lighted up for their nightly procession and pageant of the Navidad.

Our day at home on the 25th was divided by early morning lighting of our pretty White Spruce Christmas trees, the giving of the presents, breakfast, and then a trip to El Morro.

I found the road rough but passable, snow six inches deep at the visitors register and deeper up against the cliff along the north inscriptions. Along the south side the snow had melted pretty well in front of the De Vargas and Oñate inscription area. Several inches of ice covered the water in the reservoir.

As I stood there and took in the view, breathed the wonderful air in the bright, morning sun, the pictures of the Old Indian and Spanish history ran thru my mind. I looked around me and realized that after all this was one of the most beautiful and treasured spots in all America. In my travels since last April, covering 30,000 miles in the western United States and Mexico, I have seen nothing like it. The life of the past goes thru one's imagination in a procession of mental pictures. Hard-pressed Indian tribe living on top in their fortress homes, farming stealthily, always under strain against enemy, drouth, cold, and disease. The later days when the Spanish parties came with their caparisoned horses, their caravans of adventurous soldiers, saintly priests, more or less willing Indian guides.

To sit in silence here under these grand walls against the great pines is to commune with nature at its best, to appreciate the old life and to visualize the history in one of the cradles where history was made and where its evidence is well preserved thru the structures and painstaking records carved centuries ago.

No damage beyond some new water hauling tracks made by farmers coming in for water to the cove is noted. The ground being frozen limits the damage considerably but an effort will be to stop or at least direct the course of the water trucks around back of the ranger cabin.

In the visitors book no one had registered since the party from Dallas and New York that I had out there at Thanksgiving time. During

Shalako time at Zuni pueblo it is reported that several parties tried to reach the Monument but it being at a time of bad mud they failed to see the Monument.

Last night about midnight when I went out we heard the song of the Navajos up in my pasture between the ranch house and Ramah. So my son and I drove up the road and into the timber following the sound of the song. Finally over the hill we came onto the camp of some 20 Navajos singing their wierd song around their big fire. I knew nearly all of them and was glad to see them again. Today there has been a stream of Navajos coming in to see our Christmas tree and decorations and to get presents of candy. Their bright-eyed children never tire at looking at the tree.

I have never heard so many piñoners or piñon jays as are about at this time of the year. This is true despite the fact that there are no nuts for them to feed on this winter.

Christmas day was a bright, snappy day and many of the village folks including my entire family and our guests went to the Ramah Reservoir to skate on the mile-long lake which was smooth and safe.

This exercise developed appetites which caused a complete demolition of our chicken dinner served in mid-afternoon.

Wishing all in the Service a Merry Christmas and Bountiful New Year, I remain.

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## TONTO

By Woodrow Spires, In Charge

Visitors for the month totaled 362 with the majority of them the first 12 days. Comparing this with last year's count for the same period, it shows an increase of 36%. 268 of the visitors, or 74%, climbed the trail to the lower ruin and 10, or 2%, of the total continued to the Upper Ruin.

To date, this has been a very mild winter; in fact, it hasn't been winter; not even a frost. The cottonwoods still have their leaves; the 12th of December they showed their first tinge of yellow, and now most of the outer leaves have turned, but the inner leaves are still green.

The weather figures from the Salt River Valley Water User's Association show a maximum of 69° on December 2 and 4 and a minimum of 32° on the 16th and 17th of December. There were five cloudy days and eight partly cloudy ones. Precipitation for the month totaled .70 inches in the form of one good rain and two light showers. These showers have been sufficient with the warm days to give the entire country a carpet of verdure, on which the cattle are staying

in as fine condition as I have ever seen. One cowman said his herd is in the best condition he has ever seen them at this time of the year.

Dr. Emil Haury of the Gila Pueblo visited the Monument and brought with him for the Monument one of their new rain gauges with which they are checking precipitation in relation to tree ring growth.

In the next report I will be able to give some figures on the number of visitors who stop at the Monument in relation to the number traveling past the entrance road. I have already spent two days geting figures but would like to have at least 10 days count before I release any averages.

General cleanup and trail work has occupied the spare time.

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## PIPE SPRING

By Leonard Heaton, Acting Custodian

Pipe Spring National Monument sends Christmas and New Years Greetings to you and the Southwestern Family, wishes them all the happiness and success in the world for 1936. Let our aim be that we will serve better in '36 than we did in '35, so that it can be said of us, "You are faithful stewards of the monuments; keep up the good work."

We have had splendid weather up here this month: no snow, a little rain and warm days. Today is nice as any spring day could be, which is an unusual thing as we generally have snow or cold winds on Christmas.

Our visitors have amounted to the lowest for some time. We have had the CCC boys up most every day as there is no other place to go after work.

There have been six park officials here the past month, including Messrs. Harry Langley, Al Kuehl and Carter of the Landscape Division. They spent December 3 and 4 here spotting the campsites and arranging tree locations.

I gave Harry Langley a ride in the old Dodge truck. He said "I would not have missed this ride for any thing, for you can't always tell where you are going." Mr. Carter drove the truck one day and he says it has all the diseases a truck can have and some he never heard of. Well, I think it is a darn good truck and I can get a lot of speed and work out of it, which makes me think of the Baling wire medal and the time I have spent on the truck in getting it fixed up so that it looks like somebody owned it.

December 10 Mr. W. H. Wirt of the Forestry Division dropped in on the monument for a day and went over the monument projects with Mr. Draper and myself. Mr. Draper is the ECW superintendent. He also made an inspection of the CCC camp.

December 12,Messrs. Garden and Rozell, engineers from Zion National Park, were out to stake out some walks and drain ditches.

We have had from the following states: Idaho, 5; Utah, 8; Arizona, 3; California, 2; Local, estimated 190. Total for the month, 214.

I have been given a new activity which I have never had the pleasure of working in before, that of giving a talk each Friday evening to the CCC boys on the Park Service and things connected with it. I have not yet made up the list of subjects which I will use. I do not know how long I will be asked to give these talks, but I do hope they will be of some good to the boys.

December 21, with two CCC boys, I went up the Powell monument and rebuilt it as near as we could, placing the pine pole in the mound as it was. I found the place rather scattered and the rocks broken but we got them together OK. There were two sets of initials there---one on a rock that was on top of the mound---"W H M". This we replaced. The other was on the big rock just south of the mound about 2½ feet, "B X T E R." What they mean or wheather they belong to the mound I do not know, but I would rather think they were put there later.

This mound is located in the northwest quarter of the Northwest quarter of Section 17, which the monument is also in. The best I could determine was it is near this point, ½ mile South of the north line of the Section 17 and about 250 yards East of the West line of the same section.

If it were possible to extend the Monument Boundary to include this Powell monument, I would like to see it extended to the south to take in the old Indian ruins just south of the monument.

Could we put a bronze plaque up at the mound if we did not get the place into our monument?

The ECW activities are as follows:

We have had an average of 13 men working on the monument projects this month and they are doing fairly good work, after they have been shown the way we want it done. The following projects have been worked and partly completed:

PIPE SPRING (CONT.)

ECW-131-Boundary Fence. All of the posts in the fence now up have been topped 6 inches above the top wire. The holes dug for the rest of the fence, using ½ box of powder on the northwest corner; about 65% complete.

ECW-203-Road Grading, nothing.

ECW-710-Parking Area, nothing.

ECW-132-Guard Rails, large stones to be used marked.

ECW-308-Ditch Diversion, engineering survey of grade made and 40% dirt moved. About 30% complete.

ECW-718-Walks. Walks laid out by engineer. Rock 50% hauled. There is part of this project that I would like some more information on. I am sending a separate sheet with my suggestions on.

ECW-308-Ditch Elimination, nothing.

ECW-147-Pipe Line, nothing.

ECW-144-Reservoir, nothing.

ECW-711-Camp Ground Development. The last two sub-projects have been worked on and 90% completed. We set out the following trees and cuttings: 25 Carolina Poplar; 11 Black Locust; 55 Lambordi Poplar; 13 Black Cottonwood; 5 Alantoas; 11 Elm; 32 Silver Leaf Cottonwood, total 153. There are yet a few shrubs to set out. The irrigation ditches have been laid out the best I can until the camp grounds have been laid out as to location of the fireplaces and tables. When they are spotted, then I can make the ditches permanent.

If the good weather continues we ought to be able to report a lot more of the projects completed by next month.

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# HEADQUARTERS

## BRANCH OF ENGINEERING

J. B. HAMILTON, ASSOCIATE ENGINEER

General

I visited Aztec Ruins National Monument November 30 on my way to Canyon de Chelly National Monument by way of Chaco Canyon. The pleasure of a talk with Johnwill and Bert was all I got out of the visit as work on the parking area project had ceased for the winter.

At Chaco the next day I talked with Cal Miller a while and, on his assurance that all was going well on the fence contract, pushed on to Gallup.

From Gallup I went out to El Morro National Monument and took some pictures of the completed steps for the final report. I found them not colored as they should have been. Mr. Brown overstained them, then took the stain off with some preparation which continued its action long after he thought it should cease. Vogtie will experiment with some of the cooperas left over and, we hope, get a color to match the surrounding stone.

On my return from Canyon de Chelly December 14, I visited Chaco Canyon again but found both Mr. Miller and Mr. Williams away. The contractors compressor was broken down so no work was going on.

Canyon de Chelly National Monument

I arrived at Thunderbird Ranch December 2 and left December 13. While there I completed the pouring of the 5000-gallon reservoir and the laying of the drain pipe from it. From there I had to make a couple of trips to Gallup to get a few tools and supplies, principally cement and pipe fittings, with which to finish the job.

Budlong and I with the help of Claud Begay built the forms and placed the steel for the walls and roof of the reservoir. Claud was not much of a carpenter and I would not highly recommend either Bud or myself. I could not spend all my time sawing boards and driving nails as I had to see the reservoir was built according to plan. However, I managed to knock some skin off of my fingers.

We were able to borrow the house contractor's mixer for the pouring which proved a great help in producing more uniform concrete with much less hard work. I hope I succeeded in conveying to Lewis Bros. how much I appreciated their assistance.

The Indian Irrigation Service were supposed to have started drilling the well by December 15, but were apparently unable to finish the well on which their rig was working by that time.

Conclusion

On December 20 I left Mesa Verde for San Francisco, arriving December 23. I expect to be in San Francisco most of the winter, working on plans for the seventh period of ECW and such other work as may be assigned.

*****

J. H. TOVREA

Park Engineer Jack Diehl returning from Platt National Monument

spent the first two weeks of December at Carlsbad National Park supervising grading operations on parking area and lining up work for Transitman Andy Clark and party.

Mr. Diehl returned to Headquarters December 13 and en route inspected Saguaro Loop Road location. Went to Tumacacori on the 14th with Engineering Aide J. H. Tovrea and inspected Mission for possible future repair work. Also outlined W.P.A. project for additional boundary wall. Spent 18th to 21 at White Sands National Monument with Superintendent Pinkley reviewing proposed roadwork. Left Headquarters 22nd and spent balance of month in San Francisco Office.

Chief Engineering Aide Tovrea was on road location at Saguaro National Monument first two weeks of December. Spent balance of month at Headquarters office on plan and profile of road and routine office work. Rodman Lloyd Beed took over balance of road location at Saguaro.

Transitman Clark and party spent December at Carlsbad Cavern National Park taking topography of parts of Cavern for trail location.

Rodman Clifford London left the Caverns on the 20th for San Francisco on annual leave.

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# NATURALIST DIVISION

By Robert H. Rose, Park Naturalist.

Staff:

During the month the staff of the Naturalist Division consisted of Junior Naturalists Dale S. King and Louis R. Caywood and the Park Naturalist. Mr. King has been at Headquarters during the entire month while Caywood has been in the field during the latter part of the month on relief duty at Chaco Canyon National Monument. Reference will be made later to the field trip of Mr. Rose. Messrs. King and Caywood are outlining their activities as a part of this report as usual.

Bandelier Museum Plan:

The most important work accomplished by the writer during the month was the completion of the tentative outline on "Educational Survey and Proposed Museum Exhibits Plan for Bandelier National Monument." Preparation of this report involved getting rough draft into shape for stenciling; preparation of drawings as plates; cuting the stencils; mimeographing of some 75 copies; and binding. Copies of the report were sent out to Southwestern field men and

to a few others for comments and suggestions. Particular mention here is made of the thorough and careful work done on the plan by Naturalist King. His comments and revisions are published in the Supplement of this report. Custodian Jackson and Ranger Steen also submitted some well studied notes and comments which have been of material assistance in formulating a better plan.

On December 29 and 30 Custodian and Mrs. Earl Jackson of Bandelier were Headquarters visitors. While here a discussion was held on the subject of the proposed exhibits plan for the museum unit to be constructed. All comments received from the field and other sources received consideration. Agreement was reached on the exhibits as to subject material, sequence and extent of treatment. In general, the suggestions made by Mr. King involving changing the first few exhibits of the series and the suggestion of Earl Jackson involving changes in the Archeology-Ethnology series, were adopted. A more complete account of these points will be found in Mr. King's discussion in the Supplement. Definite decisions were reached as to procedure in assembling data in such manner that the plan can be turned over to museum preparators.

Activities in Wildlife Work:

Regional Wildlife Technician Adrey Borell spent considerable time in our district during December working in close cooperation with the Headquarters naturalist staff and the monument personnel. Mr. Borell's work here is especially appreciated since we have for some time wanted to receive expert instruction in bird skin preparation. The Naturalist Preparation Room for such work is temporarily located in the Service Porch room of the King residence. Practice in skin preparation has been the leading evening amusement of Mr. King and Ranger Steen. With birds on the refrigerator, a table and on shelves together with arsenic and other materials used in preparing skins, the preparation of a meal at the King Manse involves some skillful and careful selection. It seems that as the observations and study on wildlife in monuments advances that more visitor interest in natural features is noted. Even cursory examination of the reports from the men in the field will reveal the extent to which valuable material is being collected and reported upon. A particularly valuable service will be derived in monuments from study collections as a source of accurate information and identification for permanent and temporary personnel.

ECW Educational Work:

On December 16 and 17, the Park Naturalist attended a conference of ECW educational advisors and representatives of technical agencies held in Albuquerque. This conference resulted in the approval of a very practical plan of vocational training which is to be a part of the ECW program. In order that the Naturalist Division

might cooperate to the fullest extent in organizing and maintaining the program Mr. King has been designated to cooperate with project superintendents and supervisory personnel in the two camps in our district.

Reports on Visitor Contacts:

There has long been a need for getting a closer tabulation of visitor contacts made by personnel over the Southwestern Monuments system as a whole. Reports on the total visitor contacts segregated as to field trips, museum attendance and special lectures are requested of all National Park Service units. Custodians reports in the past have, with the exception of Casa Grande, contained only the number of visitors. Doubtless many special contacts are made which are not included, or which are not clearly described. Memorandum to Custodians No 92 and Stencil No. 16 were prepared and it is believed that starting with January 1936, we shall be able to organize a consolidated report for Southwestern Monuments as a whole which will be as complete as those submitted by other units in the Service.

In the Southwestern Monuments we feel that we are particularly fortunate in our visitor contact work in that practically all of our groups are small; are keenly interested in interpretations of the features of the monuments; and are given personal service, where we have personnel, to a greater degree than is given anywhere in the Park Service. It should follow, therefore, that records, field trips, lectures and museum service can be easily kept at least to the degress of detail requested in the forms. As these reports are received from the field each month the data will be consolidated for the system.

Miscellaneous:

Several days of the month were spent attending to correspondence and in taking care of matters pertaining to personnel. On Friday Afternoon of December 13, the writer gave an illustrated talk on "Arizona's National Monuments" before the Desert Womans Club, Coolidge, with an attendance of 20.

Report of Junior Naturalist Dale S. King:

OFFICE WORK:

Between eight and nine days on November Monthly Report.

Approximately 1½ days cutting stencils and editing information pamphlet for Aztec National Monument.

One day assembling monument Manuals of Information.

Wrote 39 letters.

Classified and filed reprints, periodicals, and miscellaneous material in library.

Considerable time spent in assembling December Report material.

Constructed one new bookcase and re-arranged whole library.

Sent prepared bird banding files to Pipe Spring.

Ordered: preparation materials for Navajo, metal catalog tags.

PLANNING

One half day conferring with Superintendent Pinkley and Resident Architect Langley on architectural details for proposed Bandelier Museum.

Two days on comments on Bandelier exhibit plans.

One half day discussing Bandelier exhibit plans with Custodian Jackson, Naturalist Rose, and Superintendent Pinkley.

MISCELLANEOUS

Two hours of government time on trip to Tucson after palo verde seedlings. Planted seven seedlings in area between Headquarters and Monument buildings and Compound A. This completes the screening project. Three hours.

Report of Jr. Park Naturalist Caywood:

The first part of the month was spent in cataloguing the museum and in public contact work at Casa Grande. Almost all the specimens and exhibits in the museum were catalogued with the exception of one case of shell and clay objects and one case of Papago ceremonial objects. As each museum specimen was catalogued all available data that could be gathered from old files and from Superintendent Pinkley were noted on the card.

From December 6 to 16 inclusive I was away on annual leave which my wife and I spent in Long Beach, California, visiting my grandmother.

After my return to Headquarters, December 17, and in the absence of Naturalist Rose, six letters were written in regard to place names in Southwestern Monuments, and one in answer to inquiry asking for a paragraph of information on each National Monument in Arizona.

A list of place names was made up for Chiricahua National Monument and Casa Grande National Monument which will be submitted to the U. S. Board of Geographers for decision as soon as similar lists are received from the custodians at the other monuments.

On December 21 Winnie and I up-anchored and left for Chaco Canyon National Monument to relieve Custodian Miller while he is on annual leave.

For the remainder of the month I will be holding down the fort at Chaco (see Chaco Canyon Report).

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## BANDELIER E.C.W.

By H. B. Chase, Project Superintendent

Final finish items and general clean-up of the garage and all buildings in the utility area were completed this month. The completion of this area has proven to be the most valuable improvement completed at this camp for its operation.

A small crew has been working on carved signs for this monument all month, these signs to be placed at various points for the information of Monument guests.

Landscape work has taken a large per cent of our crews this month, four crews spending all of their time transplanting trees and shrubs to the area around the utility group, camp ground and the area adjacent to the CCC baseball ground. Two other large crews have completed grading and trimming about half of the road slopes and barrow pits along the roads in the Detached Section.

Considerable road maintenance, opening ditches, drainages structures and resurfacing has been in progress all month.

The rock quarry operation has continued all month quarrying and sizing rock for immediate use in construction of the museum and other buildings.

Construction of the drainage culvert under the residential road was started the 27th and roadway excavation will start immediately.

Finaly arrangements were made with the Army with reference to moving barracks No. 1 for the construction of the museum building. This moving operation was started December 27 and to date the bathroom has been moved and all three sections put in shape for the move. We hope to have this move completed within a week to start immediate construction of the museum.

On December 16 and 17 I attended a meeting in Albuquerque with other Southwestern National Monuments personnel, Hugh Miller, and Bob Rose. This meeting was called by Eighth Corps Area Educational Advisor Rogers, and for the purpose of meeting representatives of the technical agencies to formulate plans for carrying on a more extensive vocational training in the camps along with the educational work.

This camp was visited by ECW Auditor Douglas from the Washington office on December 19. Acting Assistant Superintendent Miller from Headquarters met Mr. Douglas here and reviewed findings of his audit and discussed ECW accounting in general. The writer transported Mr. Douglas to Mesa Verde National Park on December 23.

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# CLOSING

You will see, Chief, that we have had another busy month in the Southwestern Monuments, and I would like again to call your attention to the fact that our headquarters work never slackens. The peak loads in the 25 monuments in this district vary in the individual monuments, but the load at headquarters runs steady due to the fact that as the higher locations slack off the lower ones gain momentum.

We are not uneasy about visitors---we have enough of them in the total and are making no particular efforts to bring more of them to our places. We would like to distribute them better as to hours, days and seasons, for we are not able to take care of peak loads properly at many of our places. We would even like to cut down their numbers if we could devise a screen which would keep out the uninterested ones, but thus far no such screen has been developed.

Our personnel problems, while still serious, are in better shape than at any time in the past. We are yet having to give poor service at some places in the district because we have not enough men, and there is still an acute need at Headquarters for both personnel and money. Of course, we are hoping and expecting that these conditions will be alleviated to a large extent by the 1937 fiscal year appropriation.

We are worried about our present and future needs more along the line of construction than that of personnel, administration, protection or maintenance. We have always been handicapped by lack of buildings and general construction for handling the public. We could not put these into the regular estimates because we were to get them out of the emergency funds. We are not getting enough construction to keep up with our regular growth and we are dubious of the future and our chances of catching up through the regular estimates and appropriations when the emergency funds are expended. This is our outstanding problem at present.

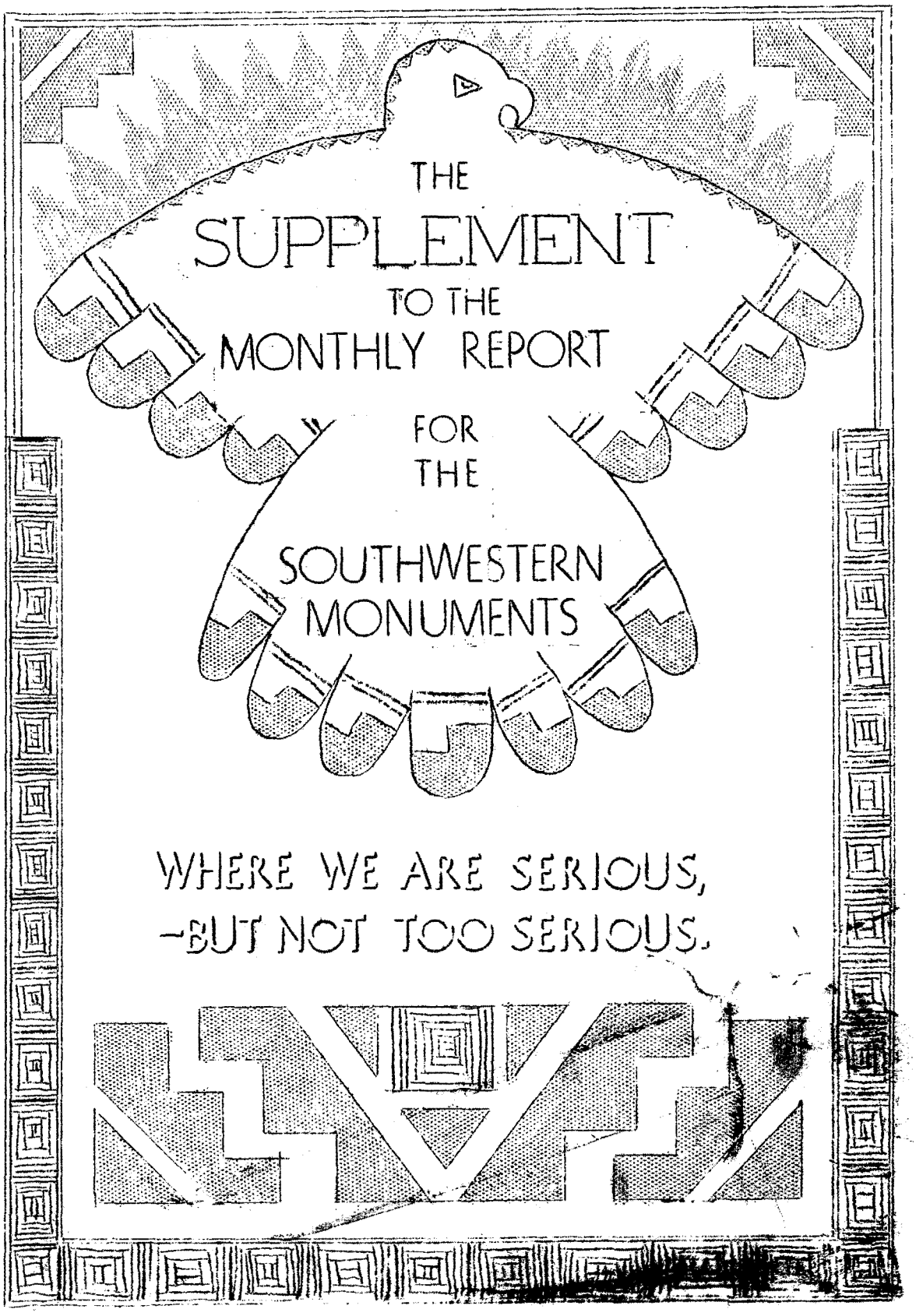
As to our future, we will know within a week or ten days what the budget will bring us for fiscal year 1937 and can begin laying more definite plans for our preliminary estimates for fiscal year 1938 which must soon be submitted. We have already asked the men on the monuments to check their needs and see that nothing is overlooked. This thing of estimating now for money which we will begin to expend a year from the first of next July seems like a long distance forecast in times like these, but we are willing to do our best.

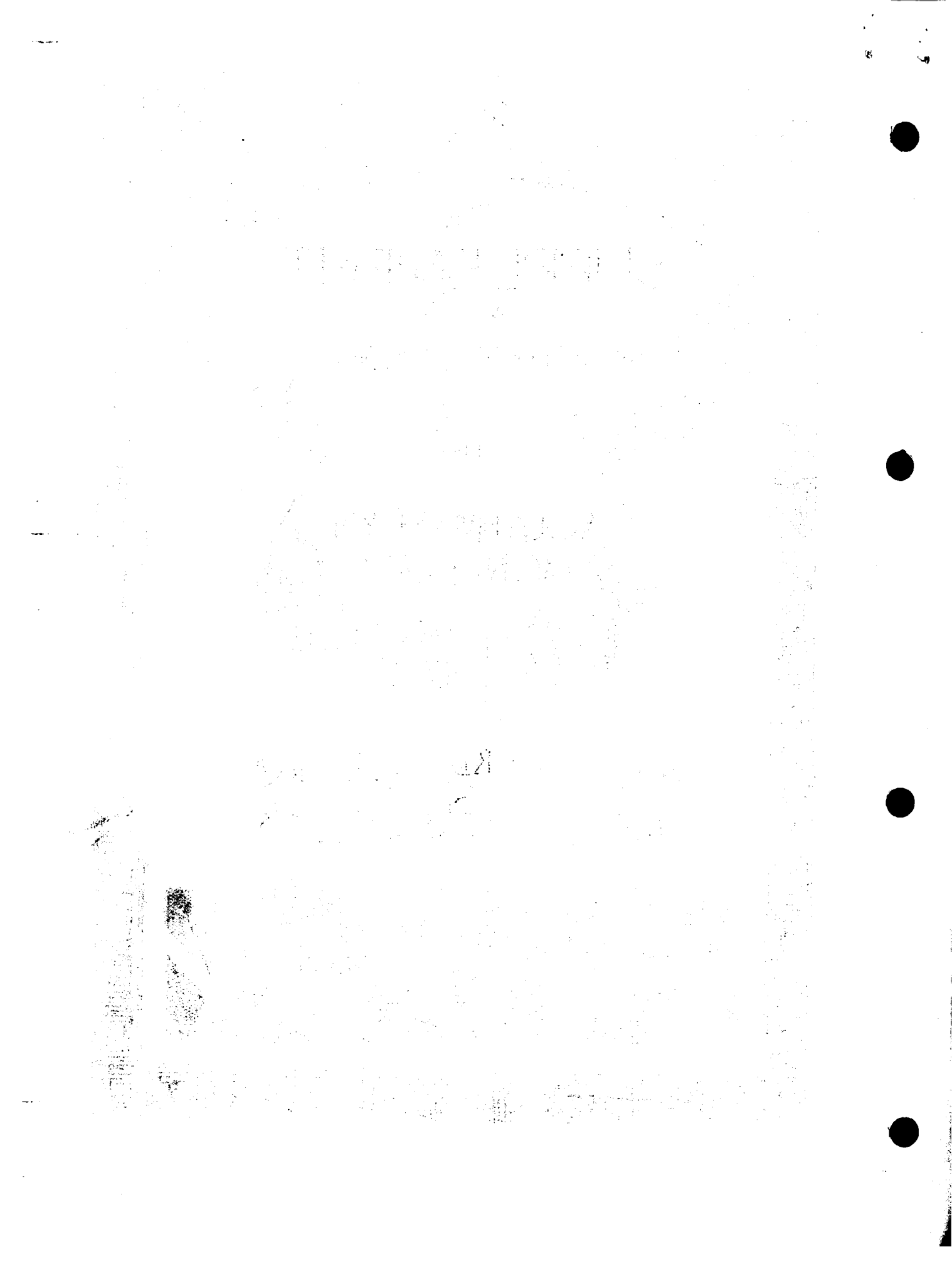
In general, things are going well in our district as we close up the old year and start into 1936.

Cordially,

Frank Pinkley

Frank Pinkley,
Superintendent


THE
SUPPLEMENT
TO THE
MONTHLY REPORT
FOR
THE
SOUTHWESTERN
MONUMENTS
WHERE WE ARE SERIOUS,
-BUT NOT TOO SERIOUS.



# SEVENTEEN YEARS AGO

(Note: Mr. Pinkley's discussion of the Gila Valley elliptical mounds started in his November, 1918, report which was reprinted in the Supplement last month. The discussion continues through his December and January reports. Both are being reprinted this month, since we have received requests for the material.)

Blackwater, Arizona
January 2, 1919.

Dear Mr. Mather:

The following is my report of the general conditions at the Casa Grande Ruin National Monument during the month of December, 1918.

During the month 169 visitors and 85 automobiles entered the reservation. We had one rainy Sunday which cut down our total number of visitors, and, owing to rains, the roads from Phoenix were bad for about ten days during the month.

We are having more rainfall than usual and the general outlook for the range interests in southern Arizona is very good. The through automobile roads from the middle west to California are only in fair condition and, while I am having some visitors who are making the through trip, I am pretty sure the roads are holding up others.

During the month I was absent from Tuesday, December 10 to Friday, December 13, on a trip of inspection to the Tumacacori Mission on behalf of our Service. A report of this trip has been forwarded during the month.

FINANCES:

Income

There has been no income from any source during the month.

Disbursements:

Total expenditures amounted to $22.50, all for labor under the head of General Protection. Pay roll for this amount is mailed under separate cover. This brings the expenditures so far under our allotment of $500 (Service letter of September 9,) up to $298.54, divided as follows:

| | |
|---|---|
| General Protection -------- | $121.95 |
| Custodian's House --------- | 68.55 |
| Well ---------- | 108.04 |

CLEARING UP:

Most of the work this month was clearing up parking and picnic grounds. We now have several places made as pleasant as the desert

growth will permit, and many parties have already commented very favorably on the change.

My Indian workman took the influenza on the 14th and quit work. I have been unable to get another one and may not do more work for some weeks.

Elliptical Mounds:

In my last monthly report, dated December 2, 1918, I devoted several pages to a special type of mound in which I have become very much interested. If you will refer to that report you will find the arguments, pro and con, concerning the uses of this type of mound, too long to be again detailed here.

Let me here quote some of the closing sentances of that report.

> "The above arguments cover the known facts up to the first of last month, but during November I have experimented a little on the elliptical mound between Compounds A. and B. I have sunk some test pits and have determined as a fact that the bottom of the depression in the mound was covered with a Caliche floor, well packed down, and that at least the west side and the north, have sloping Caliche surfaces at least part of the way to the top. I am making a contour map of this mound and intend to sink some further test pits and make this a matter for a special report during December."

During December I was so busy with other work that I could not make up a special report, as I had hoped, so I am enclosing here an account of the work so far accomplished and the data so far gathered on this type of mound.

I am sending with this report rough tracings of the elliptical mound here at the Casa Grande, and one which occurs in the next group of ruins about four miles east of the Casa Grande. These drawings are crude and are subject to slight errors as the instrument I worked with was none too accurate, but if they help to illustrate my descriptions they will have accomplished their purpose.

You will understand that the elliptical mound here at the Casa Grande is about 125 feet by 80 feet between the highest points on the top of the banks, lays north and south, and has a depressed center, the bottom of which is nearly on a level with the general desert outside the mound.

I first sunk a random pit (No. 1 on the plan), to find the formation of the ground. At a depth of about 2.7 feet below the level of

the ground I found a hard Caliche floor which I could sweep off with a broom. I then sunk another random pit to the north of the center of the mound (No. 2 on the plan) and at about the same distance below the ground level I found a floor. After cleaning out the pits, I leveled across from one to the other and found a difference of less than .1 foot between the two floor levels. I then sunk pit No. 3 and found a floor which checked very well with the other two. Going a little to the northwest, I ran a long pit into the western bank of the mound and went down to the floor line. By this time I had settled in my own mind that this floor sloped upward as it left the center of the mound. In this No. 4 pit I discovered the edge of the floor and found a sloping wall had been built pitching upward from the floor at an angle of about 37 degrees. Next I sunk a pit as nearly as I could estimate where the center of the eastern edge of the floor would fall. Here I found the line where the wall joins the floor in pit No. 5. I then crossed over to the west side and sunk pit No. 6, finding the line on that side without trouble. Next I sunk a pit at the southern end where I supposed the edge of the floor would be and another at the northern end. Here the floor was uncovered without difficulty, but instead of getting the 37 degree side wall, what appears to be long, sloping paths were uncovered. These paths were about two feet wide and might have been used for entrances from the top of the mound to the sloping floor at the bottom.

Having now determined the limits of the floor, I measured to its center and there sunk pit No. 9. Here in the center I found a hard, green stone, measuring about 10 by 14 inches, well bedded down in the Caliche of the floor.

Pits 10 and 11 were next dug to check up the shape of the edge of the floor, and No. 12 was dug to see what might be found near the top of the mound. What seems to be a very well marked floor level was uncovered in pit No. 12, the elevation of this floor being 5.90 feet above the floor at the stone in pit No. 9.

I now feel reasonably sure of the following facts regarding this mound.

1. That it had a floor, not quite elliptical, but very nearly so, measuring 81 feet 8 inches on the longer axis and 46 feet 3 inches on the shorter axis.

2. This floor sloped up from the central point 1.09 feet to the east, 1.47 feet to the south, .87 feet to the west and 1.59 feet to the north edges.

3. A stone was placed in the center of the floor.

4. A side wall pitched upward from this floor on the east and

west sides at an angle of about 37 degrees, flattening as it ran toward the ends until at the ends it was low enough to form long pathways or passages, possibly for entrance.

5. The long axis of the floor and wall lays, roughly, N. 2 degrees W.

6. The center of the floor is about three feet below the average desert level.

7. Near the top of the mound at the north end there is the appearance of a level floor 5.90 feet above the level of the center of the floor at the stone.

I went up to the first group of mounds to the east of the Casa Grande group and dug five test pits in the elliptical mound of that group. From these pits I gathered the following facts:

1. It had a floor measuring 59 feet 5 inches north to south and 33 feet 3 inches, east to west.

2. This floor sloped up from a central point, .83 feet to the east, .33 feet to the south, .64 feet to the west and .61 feet to the north edges.

3. There was no stone in the center of the floor when I opened a test pit there.

4. A sloping side wall surrounded this floor in the same manner as that at the Casa Grande, and with similar appearance of exits at the north and south.

5. The long axis of the floor and wall lays, roughly, N. 2 degrees W.

6. The center of the floor is about 2.50 feet below the general desert level.

You will note that these two floors are quite different in size and do not measure an even number of feet in any direction. It is rather startling then, to find that they bear some relation to each other in their measurements. Reducing the measurements to inches and putting them in the proportion of the width of the small floor (399) is to the width of the large floor (555) as the length of the small floor (713) is to the length of the large floor, gives us a theoretical length for the large floor of 991 plus inches, and it actually measures 980 inches. The proportion here is too close to be called a coincidence.

I intend, as soon as possible to check all this data against a third elliptical mound which occurs in a group of ruins about six miles east of the Casa Grande.

I would like to impress upon you the importance of this investigation in the field of archaeology. Mr. Cushing seems to be the only man who was on the right track, and I am unable to find anything he has written about his work on these mounds. Will you have a search made there in Washington for any report he may have made?

Might I suggest that these results of the investigations of this type of mound, so far as they go, offer a very good chance for some National Park Service publicity in the general way of discussion of theories which might be built on what we have found. The imagination can be given a somewhat wider range in an article of this kind than could be allowed to the archaeologist or scientist.

After getting a first flash of publicity for our Service, I would suggest that the matter be turned over to the scientist for complete and detailed investigation.

That the elliptical mound here in the Casa Grande group of ruins should be entirely excavated for the benefit of both the scientist and the layman, strikes every visitor who has examined my test pits. Professor Cummings, the Dean of Archaeology at the University of Arizona, thinks we are on the track of a discovery which will rank high in the field of Southwestern archaeology. Dr. Mason, of the Field Columbian Museum, who was here the other day, said by all means to push this line of investigation. Men like these corroborate what I already felt.

This mound must not, however, be hastily opened and left exposed to the destruction of the elements. An appropriation for roofing and protection must go hand in hand with any appropriation for excavation. This is important and should not be overlooked by our Service. The average scientist simply wants to tear things open and see how they are put together. He isn't much interested in what happens to the field results afterward. It is directly up to our Service to see that the visitor ten years or twenty-five years from now gets as good a look at this mound as the visitor who may happen along just after we open it.

If we would give the permission I think the University of Arizona would open the mound for us, as it is as interesting to them as it is to us to determine its use, but they would not be as interested in its protection as our Service should be. I propose to sound them out along this line and see if they will open it if we will protect it, and then study the cheapest best method of protection. I will then lay the whole proposition before you for your action.

Cordially yours,

Custodian, Casa Grande Ruin

Blackwater, Arizona.
February 1, 1919.

Dear Mr. Mather:

The following is my report on the conditions at the Casa Grande Ruin National Monument for the month of January, 1919.

VISITORS

During the month 344 visitors and 133 automobiles entered the reservation. The weather was mild and pleasant throughout the month and roads were generally in good condition.

I was absent from the reservation from January 6 to January 10 on official business, making a trip to Phoenix, Tucson, and the Tumacacori Mission with Mr. Punchard and Mr. Gleason. A special report of this trip went forward to you under date of January 11.

FINANCES

There has been no income from any source during the month.

Total expenditures for the month amounted to $59.65. This was divided as follows:

| | |
|---|---|
| Labor -------- | $18.75 |
| Material ----- | 35.40 |
| Drayage ------ | 5.50 |
| Total | $59.65 |

Pay rolls for the laber and drayage have gone forward to you for approval. Vouchers for the material are in the mail now for the signature of the payee before being forwarded to you for approval.

This brings our total disbursement of our allotment, (Service letter of September 9, 1918.) of $500 from the Appropriation for the protection of National Monuments up to $358.19 on January 31. This sum is divided as follows:

| | |
|---|---|
| Tools ---------- | $ 25.70 |
| Labor ---------- | 202.80 |
| Material ---------- | 115.69 |
| Drayage ---------- | 14.00 |
| Total | $ 358.19 |

ELLIPTICAL MOUNDS

In my reports, dated December 2, 1918 and January 2, 1919, I discussed various theories and stated several facts which I had gathered concerning this special type of mound which belongs to the ancient

civilization of the Gila and Salt River region. Since you can readily refer to these reports I will not again cover the same ground here.

From my test pits on two of these mounds I was able to state that this type of mound has the following characteristics:

1. A floor, not quite elliptical in shape but very nearly so.

2. The floor slopes from its central point to its edges, the maximum rise being about 1.6 feet.

3. A stone is sometimes placed in the center of the floor.

4. A side wall pitches upward from the edges of the floor at an angle of about 37 degrees on the east and west sides, flattening as it runs toward the ends until, at the ends, it has a low enough angle to have been used for entrance and exit.

5. The longer axis of floor and wall bears nearly due north.

6. The center of the floor is depressed below the desert level, but the top of the sloping sides rises several feet above the desert level.

This data was gathered from the mound of this type which occurs in the Casa Grande group and the one which occurs about four miles east of the Casa Grande. Tracings of contour maps of these two mounds were forwarded with my report dated January 2.

During the month of January, I went to the next group of mounds about six miles east of the Casa Grande, and sunk five test pits in the elliptical mound of that group.

We found this mound to be typical in all respects.

We found a fine center stone, which would weigh fifty or sixty pounds, so placed in the floor that it had a flat surface exposed. It was not exactly in the center of the floor according to our measurements but was displaced about five inches to the east.

Upon raising this stone and examining the ground under it we found a small conical type of marine shell and a small bangle of turquoise. We excavated about two feet below the floor surface but found nothing else.

I called attention in my January report on this type of mound to a striking proportion in the length of the axis of the first two I had examined. This proportion fails in this last mound. The floor measures 68 feet 6 inches from north to south and 36 feet, even, from east to west.

The floor measurements for the three mounds so far examined are as follows:

| | North & South | East & West |
|---|---|---|
| At Casa Grande---- | 81 ft 8 inches | 46 ft 3 inches |
| 1st Mound east---- | 59 " 5 " | 33 " 3 " |
| 2nd Mound east---- | 68 " 6 " | 36 " 0 " |

These figures are subject to slight corrections as it is sometimes difficult to determine the exact point where the wall joins the floor.

I consider the objects found under the central stone in mound number 3 to be offerings, but examination of the centers of the other floors has, so far, revealed no such offerings under either of them.

Mr. Gleason took a picture of this last mound we have examined so if you have received prints of his negatives you may refer to that picture for an idea of the mound before we sunk the test pits.

I think we may consider the preliminary evidence on this type of mound nearly all in, and I would like to urge upon you the value of some publicity for it.

OTHER RESEARCH WORK

I am starting what may prove to be an interesting experiment on an ideal trash mound which lies southeast of Compound B.

One theory of these trash mounds, or those which occur near the Compounds, has it that they are slow accumulation of broken material and that building them up to their present height, as much in some cases as six or seven feet, must have taken centuries. If this theory is true, careful excavation, examination and comparison of the material, foot by foot, might disclose a differentiation in material, workmanship or design of the pottery of the different layers.

So far as I know this experiment has never been tried in the trash mounds of this valley. It will only take some odd hours and might develop something really worth while.

Cordially,

Custodian, Casa Grande Ruin.

Mr. Stepher T. Mather, Director,
The National Park Service,
Department of the Interior,
Washington, D. C.

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# BANDELIER BIRD NOTES

By Betty Jackson

The new traps have gotten under way. Of course, I can't say much for the Potter trap yet, as it has only caught a mouse. And the Woodpecker trap isn't in a very productive place, because not a bird has entered it.

But the two sparrow traps have done well with the Juncos. 29 of them have been banded so far, and the traps are not yet placed where I want them. The carpenters haven't had time to make tables yet.

Of the 29, 15 have repeated at least once. 21 were either grey-headed (Junco caniceps) or Red-backed (J. dorsalis, 4 Pink-Sided (J. mearnsi) and 4 Shufeldt (J. oreganus shufeldti).

But the Jays moved out when the Juncos came, so it is apparent that things could be managed better.

The Ravens are still around, and very noisy. A Rocky Mt. Hairy Woodpecker seems to have taken a liking to the vicinity of our house, but he doesn't seem at all attracted by suet.

Under the lower falls we again saw the Water Ouzel that we saw with Mr. Bowell last month, this time with his very nervous mate.

We haven't seen any robins lately, but there may be a few stragglers still around. I did see one Spurred Towhee, and a Townsend Solitaire. The other birds noticed were Bush Tits, Chickadees, a few Brown Creepers, and a Pygmy Nuthatch.

Early in the month a robin and a Jay were startled bathing together in the creek!

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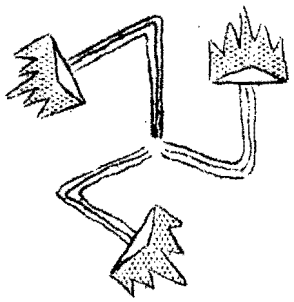
# SOMETHING ABOUT AWANYU

By Earl Jackson

Awanyu, or Avanyu, is recognized by both the Keres and Tewa Indians as the Bringer of Life, or the Bringer of Water. This goddess held the lives of the agricultural Indians in the palm of her hand, for, being in constant contact with springs and other water sources, she could cause them to give moisture or dry up at will.

There are many legends about Awanyu. The following symbol is shown in an article written by Dr. E. L. Hewett:*

* "Vengeance of Awanyu," Field Notes of E. L. Hewett. From El Palacio, Volume 2, Number 1, Page 3.



Quoting this author:

"This symbol occurs in several forms on the ancient pottery of the Pajarito Park. It dominates the symbolism of the entire district. ----In one of its most prevalent forms it reminds one of the ancient triskelion of the Greeks.

"The symbol is a highly conventionalized emblem of the god Avanyu, one of the major deities of the ancient cliff people of the Pajarito. This deity was the antecessor of the 'Plumed Serpent' of the Pueblo Indians of the present day, the latter being of comparatively recent intrusion in the Rio Grande Valley (last four or five hundred years). The former symbol is much more archaic, hundreds of years older, and appears to have passed out of use with the abandonment of the great houses of the Pajarito."

Again he says, "What is seen in the pottery symbols referred to are the prayer plumes of the deity. The prayer plume is not a representation, but rather the symbol of the god Avanyu."

Indian legends today tell us that the reason their ancestors had to leave the Pajarito Plateau and Frijoles Canyon was that they incurred the displeasure of Awanyu, and in his* wrath he left in a hurry. He blazed his path across the heavens, and thus we have the Milky Way marking his route.

When Dr. Hewett started the revival of pottery making among the San Ildefonso Indians twelve years ago, they started using several designs found in ancient cliff dwellings. One of the designs most widely used is an adaptation of the Plumed Serpent motif found at Tsirege, 14 miles northeast of Frijoles Canyon. Serpent designs similar to it have been found in the caves of the Rito. The simplest depiction of this design is as follows:



* References to sex of Indian deities are always vague and frequently inconsistent.

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# ONCE UPON A TIME *

By Hector Aliot

"Once upon a time," said Old Ayacete, "Our people lived in Tyuonyi** before they came here, and it happened this way:

"Once moonlight night, Tiowa, the daughter of the High Priest, was seated on the edge of the cliff dwelling, where the sun emblem is engraved over the door;*** she was listening to the song of Haatse, standing below, when a winged figure passed over the face of the cliff and embraced the maiden. Swift as the lightning Haatse seized his bow and a well directed arrow brought down his winged rival.

To his horror, he discovered that he had killed Kutho, the dog, messenger of the Cloud Gods, who gathered their clan and descended into the Valley of Tyuonyi, and amidst deep lamentations elevated the form of Kutho to the great blue plans of Olibbi, the home of the wind.

In punishment for his crime, the Gods took away as hostage from our people, Awanyu, the water mother.

The streams of Tyuonyi began to dry, and so did those of Kathet-yam, our people deserted one valley after another but finally reached Cochiti, exhausted and dying of thirst.

It was in the time when the beasts of the field talked mantalk, and our people conversed with birds and trees like they do with one another today.

But they all recognized as chief my father of long ago, Tyuon-Tyuonyi, the Great Chief of the Great People, and they came to him for advice. The fishes had long since died in the pools; the birds, the wolves, the deer and many others gathered about Tyuon.

What to do in such a plight, was asked of each in turn. "Awanyu lives in the world below, send the Mole to her that her prayers may be heard at the Altar of the Wind God," said the Owl.**** And the Mole disappeared on his errand of mercy. "Send the Black Eagle in quest of her, Our Mother," interrupted the Beaver. And the Black Eagle soared in the skies while Tyuon sat in silence, waiting for the messages of the Mole and the Eagle.

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* "El Palacio," Volume 1, Number 1, Page 4. By permission.

** Cochiti name for Frijoles Canyon.

*** Supposedly the Sun House of today.

**** Awanyu is the Bringer of Storms, and is depicted in petroglyphic art as the Plumed Serpent.

Meanwhile, the Wasp-Mother buzzed around, annoying everybody, foolishly flying about. Being very small, she could find enough water for her wants in the small, muddy pools. But when the Turtle people came out of the last marshes to interview Tyuon, the last water of Tyuonyi has disappeared. The Wasp Mother, however, tied a blade of grass around her waist, squeezed as some other white wasps still do today, and continued to pester the dying assembly so that they all wished that the Wasp-Mother might be stricken dead first of all the people.

No news had been received from the Mole, lost, no doubt, in the hard earth, nor from the Eagle; the Birds were dying and so were the deer. "Tyuon," said the Turtle-Mother, "why not send Coyote, who is the cousin of Awanyu, to discover her and bring her back to our dying people?" "Coyote, of course," exclaimed Tyuon, "should have been our messenger," and this forlorn hope was dispatched.

For three days and three nights Coyote ran toward the setting sun. In the faraway mountains he discovered a camp of the Cloud dogs, and in a cave nearby, Awanyu, her cousin, kept prisoner by the Cloud dogs.

After two days of pleading, her prayers were at last heard by Awanyu, who raising to her breasts a beautiful basket she had just finished weaving, handed it to Coyote. "Go and bring to my children the Living Water," said she, "that they may live, till the Kutho clan can be assembled and brought to my beloved Tyuonyi."

But the Wind God and myself feel that our people should make everlasting penance for this awful slaying of Kutho -- the clan demands it.

The Wasp-Mother has certainly shown no regret for the crime of the Tyuonyi people, because they are all jointly responsible for the mistake of Haatse.

"Let her be forever punished in memory of this great drought, that the wicked seeing her waist nearly cut in two, may remember the dire cost of killing a Cloud Dog."

And this is why to this day, the Rito Wasps have the smallest waists.

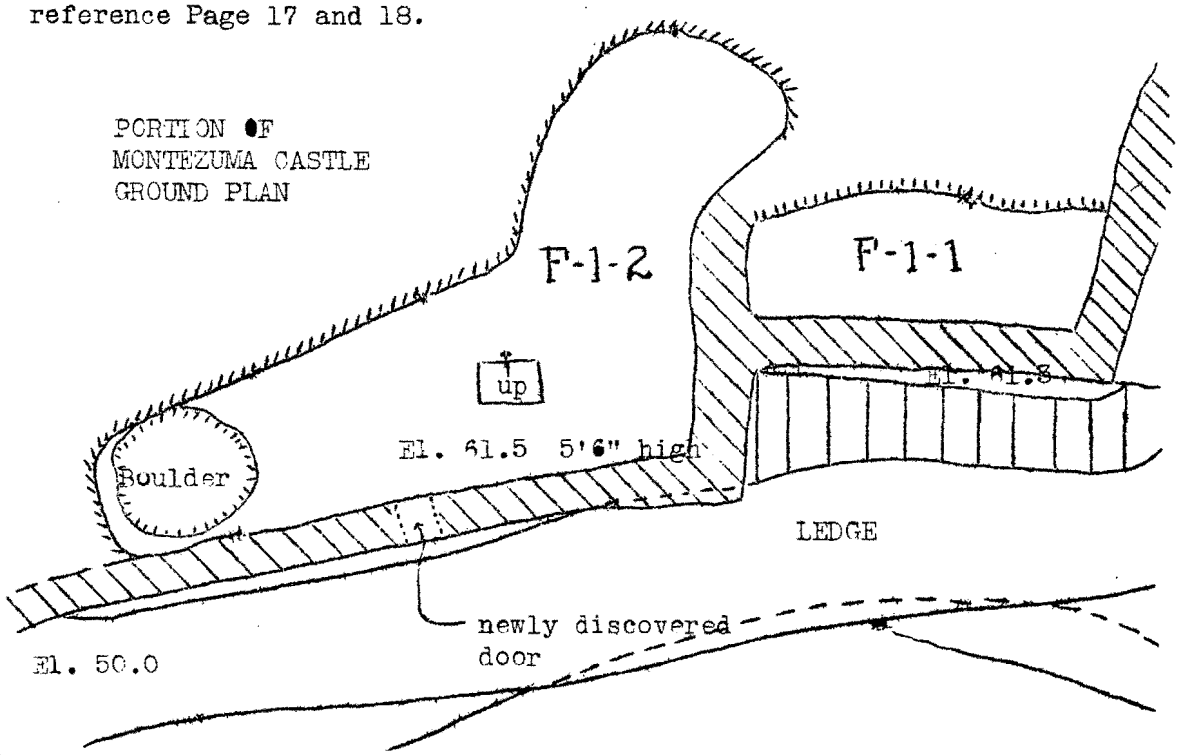
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# HIDDEN DOOR AT CASTLE

By Betty Jackson

When visiting Montezuma Castle at Christmas, Earl took me through the ruin. In room F-1-2 we discovered a blocked up doorway which had not previously been noticed. (See Frank Pinkley's "Montezuma's Castle.")

Mr. Pinkley states in "Montezuma's Castle," "the room has no method of lighting other than the hatchway which opens into the semi-darkened room above and it must have been very dark, yet the walls and roof are smoke blackened and we assume it to have been a living room." (See same reference Page 17 and 18.




This doorway was in the south wall, about in the middle though nearer the east end, and may possibly have been the original entrance. It was filled up and covered by a mud facing. The wall has now dried and cracked so that the mud has peeled away from the joint, revealing it.

It, therefore, seems reasonable that, as Mr. Pinkley states, it was a living room, rather than a storage room or "Dungeon" as it is facetiously called.

*******

This is a most interesting find and proves the point we have often mentioned, that an outsider with an absolutely new view point can see things which we old timers have been overlooking all these years.

This F-1-2 room is interesting to Mr. Jackson, Earl and myself because we had the fun of cleaning the debris out and making the first studies on it several years ago and Earl and I have just been talking over those old days. We all had light cases of dust fever while working in it and we unintentionally gave an Indian a pretty heavy case.

I had told him to work only a little while at a time and then come up on top and get some good air and rest. Being occupied otherwise I did not watch him closely enough and he worked too long in the dust. It knocked him out for a couple of days.

I wouln't be surprised if this sealed doorway which Betty has found at one time was the main entrance to the Castle, and I wish we knew the story which must lie back of its closure.

You may think it was pretty dumb of us not to see it before, but I'm not much surprised. This isn't the first time I've been caught this way, and I've often suspected that Jack is nearly as dumb as I am,-and here's the proof of it at last.

Frank Pinkley

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# COMMENTS ON PROPOSED MUSEUM EXHIBITS PLAN AT BANDELIER

By Dale S. King, Jr. Park Naturalist

On December 12, 1935, was issued a Museum Exhibits Plan for the proposed museum at Bandelier National Monument. This plan was prepared by Park Naturalist Rose upon instructions from Superintendent Frank Pinkley.

The plan was sent to all Southwestern personnel and other interested persons for suggestions and criticisms. The following comments are submitted in accordance with that invitation.

## FORMATIVE STAGES OF THE PLAN

For the Supplement to the August Report, 1934, Custodian Earl Jackson put twelve key questions which the proposed museum at Bandelier should answer. These questions had been formulated in answer to a request from Park Naturalist Rose. Custodian Jackson followed these questions the next month with a carefully considered museum plan which detailed number of rooms and the subjects that should be treated in each.

In October, 1934, Park Naturalist Rose, after a consultation with Custodian Jackson and Museum Technician Louis Schellbach, submitted a revised plan incorporating the discussions and suggestions.

Preliminary architectural studies were released in the November Supplement, 1934, by Jared Morse, who made the first study for the building itself. With several minor changes, the first architectural plans have been followed in present approved plans.

Early in November, 1935, when it became known that construction

of a portion of the building might take place, a short conference at Bandelier was held by Custodian Jackson, Museum Technician Woodward, Museum Architect Miller, and Junior Naturalist King.

The group kept in mind the following inhibitory factors: (1) Only three of the five proposed exhibit rooms and one work room could be built at the present time; (2) few prehistoric artifacts from the area are in possession of the National Park Service and available for exhibition; (3) museum arrangements must be kept supple that new excavations, recognition of new cultural complexes in the prehistoric story, or acquisition of further material might find the museum in such an adaptable and fluid state that rearrangement would be easily accomplished; (4) certain exhibits must be planned to fit the proposed three rooms, and must be capable of insertion in the enlarged scheme when all five rooms are completed.

Superintendent Pinkley has long argued against "fixed" or "frozen" archeological museums. For numerous reasons, the group found itself in agreement. To implement this principle, the group finally agreed on wall display cases with movable backs, so that width, depth, and height of any desired exhibit could be controlled absolutely. It was further decided that every case should be at least three feet deep to allow for dioramas and large objects wherever needed. Mr. Woodward has advocated deep wall cases with movable backs at least since January, 1935, to my knowledge, and probably much longer.

It was further decided that since there was little archeological material to exhibit in the museum, major stress should be laid upon Pueblo V, with special emphasis upon the intensely interesting pueblos whose legends indicate derivation from the Bandelier region. At least one of the three rooms should be devoted to this subject. It was also thought that Pueblo IV deserved at least a room although exhibits would necessarily be confined to architecture and "made" displays, since we have little of the old to show. The small "Lobby" room could be devoted to presentation of various phases of several subjects -- Geology, Flora, Fauna, History, etc.---it was believed.

## RANDOM SUGGESTIONS CONCERNING THE PLAN

Page 2---Community surface pueblos such as Tyuonyi and Tsankawi are omitted in the list of educational features of Bandelier.

Page 3---The Stone Lions, Tsankawi, and probably other isolated sites should be included in locations which should be studied as possible sites for trailsides.

Page 5---The area above Ceremonial Cave is not now a Primitive Area as stated, although, certainly, certain large portions of Bandelier should be studied with reference to the possibility of making them

Primitive Areas.

Page 6---Last paragraph states that three exhibit rooms will be constructed but omits any reference to the proposed work room which supposedly will be built at the same time as the other three.

This work room should have been considered as a part of the plan because eventually it will form a distinct portion of the museum unit. It should be studied by the Custodian, the Southwestern Monuments Educational Staff, and the Field Division of Education to include best arrangement of (1) dark room, (2) sinks, (3) work bench, tool chests, and vise, (4) fumigating cabinet, (5) storage cases, (6) drying trays and presses, (6) lighting, etc. It is quite possible that some fixtures might be installed during the present program.

Page 8---Exhibit I. I see no justification to waste eight feet of wall space on a large map of the National Parks and Monuments in the United States and Territorial Possessions. There certainly is not enough space in the proposed three rooms for all archeological exhibits we can foresee at the present time. Even if the exhibit would find a place in the future museum at Bandelier, I think it would be a great deal better received if restricted to southwestern parks and monuments. Greater detail could then be included. I think there is little need to toot the National Park Service horn. The prime interest at Bandelier is Archeology....the painting of the Washburn-Langford-doane party, which was suggested, probably belongs more properly to Yellowstone.

Page 9---The second half of Exhibit I is a "Bandelier Vicinity Map." This map could very well be combined with the "Archeological Sites in Pajarito Plateau Area" shown on page 18, and with the "Rio Grande Area Showing Inhabited Pueblos" on page 26. Moreover, there is now under construction at Berkeley a relief model of Bandelier National Monument. The four above-mentioned maps, plus maps necessary to show waves of migration into the region, plus various other comparative and distributional maps which become necessary in sundry exhibits, would make the Bandelier museum just a little pimply with maps.

Page 11---A possibly different treatment could be used here. Since Spanish explorations succeeded in missing Bandelier for an exceedingly long time it might be better to preserve only a brief outline and map of Spanish exploration and throw the remainder of the Spanish portion of the case into explanation of the Spanish impact on Pueblo culture---changes in dress, religion, material culture, etc., being careful not to duplicate certain of those subjects which will be treated in the Pueblo V or Ethnology Room.

Reasons for the name Bandelier will occupy a sizeable part of the American History case. Visitors will probably be less interested

in Bandelier's photo then in his accomplishments in the field of science, and the very human story of his life in Frijoles Canyon and among the Pueblo Indians. Likewise, visitors would be more interested in the books Lummis wrote and the phrases he coined than in his photo.

A Bandelier subject would be more fitting for a diorama than either of the two mentioned by the plan:(1) scene from Pueblo Revolt of 1680; (2) Santa Fe in Early Days).

Page 14---Since our Natural History space is so limited, it might be possible to supplement the case with pressed herbarium specimens in a Multiplex display affixed to the wall somewhere between the fireplace and the Natural History case.

Page 18---The Tyuonyi model and diorama in one room would be useless duplication.

There is little difference, if any, between a Cavate Dwelling and a Dwelling at Bandelier, I believe.

It would be highly difficult to make a restoration model of Tsankawi and a model of its present condition would show little, since the ruin is unexcavated. Perhaps photographs and sketches would be better.

It seems to me the primary comparison of the case is wrong---rather than comparing various Rio Grande ruins with each other, it would be better to compare Pueblo IV (Rio Grande) styles of architecture with their chronological predecessors, wherever found. Since the museum space is small at Bandelier it was the intention to eliminate temporarily the chronological approach as used at Wayside Museum at Grand Canyon and at Mesa Verde. To do away with this "lead-up" material is awkward at best, and one of the few places where we gracefully can tie back into earlier periods is in this comparative architecture case.

Rather than the models as outlined, I would suggest a series of models, supplement by drawings, showing the evolution of Pueblo houses from Basket Maker times to today. Then a series of drawings and photos would show the three or four types of Pajaritan Pueblo IV houses---cavate, community, etc. This would bring in Puye and other ruins. A final series would show comparisons between Pajaritan houses and those during Pueblo IV in other parts of the Southwest---Little Colorado, Chihuahua, Gila Valley, Etc.

Since there is a full-sized reconstruction of a Talus House to be seen on the regular ruins trip, there is no need for a model of that type of house, but a large reconstruction model of Tyuonyi would be an extremely valuable addition to the Museum. I think it should be placed on a table in the center of the room and not put in a wall

case. It should be large enough so that small human figures could be shown at daily tasks---making pottery, cutting wood, cooking, etc.

The space gained in the wall case by eliminating large models might be used for a fairly large model and detail drawings of a kiva of the region. The sugject of Pueblo religion is going to be discussed quite fully in the next room, and here is a good chance to lay the groundwork so that visitors will be convinced there is a factual basis for ascribing to the ancients religious customs which are practiced today.

Page 20---This case layout calls for more prehistoric pottery than can be obtained at the present time, it appears. Objects other than ceramics, such as bone, stone, and shell, have not been mentioned in the stratifigraphic exhibit. Since the latter part of these suggestions will include a new proposed layout, it is not necessary at this place to go further into detail concerning this case.

Page 26---There is much modern Pueblo material on exhibit in Santa Fe, Albuquerque, and other points in the region. For the Bandelier Museum to be outstanding, it must treat the Rio Grande Pueblos in a brief general way and concentrate on the pueblos which claim Bandelier as their ancient home---Cochiti, San Ildefonso, and possibly Santa Clara and others. These must be portrayed in a complete, well-rounded manner, with much more emphasis on handicraft than is shown in the plan.

Page 27---Exhibit II should also show the present diversification and change in pueblo art....the new wares being experimented with....the copying of styles from other pueblos and other peoples.

Page 30---An ethnobotanical exhibit will be difficult to make interesting. It should, however, be used in a modified form, but something must be said about uses of animal products also. Stress probably should be laid on the adaptation of the Indian to his environment.

Page 32---All paintings of Cochiti, San Ildefonso, or Santa Clara dances which are included in the Sczwecki reproductions should be purchased and placed in the case on Ceremonials and Customs. Other watercolors and paintings can doubtless be obtained to complete a fine exhibit.

SUGGESTED RE-ARRANGEMENT AND CHANGES

It is difficult to make criticisms of this nature with limited time for preparation. If the critic disagrees with some portion of the plan, he must first prove the portion is incomplete or erroneous. Then he must submit a better idea---and that takes time and research.

Hurriedly, however, there have been thrown together a suggested re-arrangement of the three rooms (See Plate 1), which will be found

on a succeeding page, and several rough sketches of exhibits which might prove more valuable than the exhibits eliminated from the original plan. They need infinite polishing---it is comparatively easy to decide how much space should be given to each subject---the difficulty comes when details of what to put in the space are reached.

"Temporary Lobby" (We should not speak, as does the plan, of the word "lobby" at the present. There is no space in the proposed three rooms for a lobby, so let us forget the word until we get the complete building.)

Exhibit I---To be deleted completely. Suggestions:

Orientation Maps. Six lineal feet of wall space. See Plate 2.

---Small map showing North American food areas to introduce the visitor to types of Indian life in North America.

---Small map showing Southwestern Culture Areas to acquaint him with the fact that in different sections of the Southwest the ancient people developed specializations due to isolation.

---Small map showing Rio Grande drainage to show Bandelier's relationship to its cultural area.

---Large map of north central New Mexico to show (1) principal archeological sites, (2) occupied pueblos, (3) principal topographic features, (4) some modern towns and roads for orientation. This map to be in colors, approximately $3\frac{1}{2}$ by 4 feet, and to include the territory north to Taos, south to Los Lunas, west to Jemez, east to Las Vegas. This will include almost all Rio Grande pueblos, and will be large enough to allow much detail.

Physical Type. Four and one half lineal feet. See Plate 3.

---Preferably a full size wax or plaster male figure clothed in breech clout, sandals, jewelry, and possibly blanket of the prehistoric type. Equipped with agricultural tools or with weapons.

---At least two skulls, Norma Facialis and Norma Lateralis, with labels and detail sketches to show why scientists know Pajaritans were Mongoloid, had hard cradle boards, etc.

---One skull, Norma Basalis, to show mastoid processes, and explanation of cranial differences which enable scientists to tell sex from skeletons.

---Long bones, with labels showing relationship between length of long bones and stature. Diagrams showing comparison of Pajaritan stature with world average, U. S. average, Plains average, and enemy Athapascan average.

---A complete burial, if obtainable.

---Stress all through the exhibit that inhabitants of Frijoles Canyon were asiatic in origin, were ancestors to modern Rio Grande Indians and looked like them, were medium in stature, were afflicted with many diseases which attack us. Try to make the Pajaritan a human being and not a freak.

Stratigraphy. Six lineal feet. See Plate 4.

---Idealized cross-section through a midden which was begun in BmIII times. The BMIII trash overlaid by a water washed sterile deposit of clay, and then a Pueblo I slab house cut through it. After abandonment of the Pueblo I house, successive occupations deposited other layers above.

---Above the cross-section which will utilize actual sherds, stone, shell and textile, will be a small diagram of an occupation site on the edge of a small mesa. It will show how the inhabitants would throw their trash over the edge of the mesa and accumulate just such a midden as is shown partially below.

---In remaining space will be diagramatic drawings portraying how archeologists trench middens which have accumulated in different fasions.

---Labels will tell how archeologists can detect developments and sequences of material culture by examining ancient "city dumps."

"Temporary Lobby" Exhibits II (Spanish & American History) and III (Geology and Natural History).

Criticism has been given previously.

Bandelier Archeology Room: Suggested Sequence. See Plate I.

Dendrochronology. Six feet of lineal wall space. See Plate 5.

---This case to be prepared with the work of Douglass and Stallings as a basis. To be worked out in much less complicated fashion than the one at Mesa Verde, yet complete enough to tell the full story. This is no easy job, and it is not in the scope of these suggestions to start it.

---Interesting would be a small sliding panel with handle by means of which the visitor could attempt to date a ruin himself. A fragmentary skeleton plot from a beam would be marked on the panel and if slid to the right position, would coincide with the master plot.

---On the left margin of the case and extending into the next case will be the "Pottery Family Tree," and the skelton plot will serve excellently to tie the two together.

"Pottery Family Tree": Six and one half lineal feet. See Plate 6.

---This case to be based on Dr. Mera's excellent paper "Ceramic Clues to the Prehistory of North Central New Mexico." Actual ceramic specimens to be used where space permits, and full series of sherds to be shown against the various stems and branches. Labels will explain how, with the help of stratigraphy and tree ring dating, scientists can work out the sequences of pottery and other artifacts and thus date fairly accurately other ruins which yield no timber. If the geneaological tree becomes unwieldy, stress should be laid on those lines which culminate in Tewa Polychrome, for Tewa Polychrome will be treated extensively in the Ethnology Room.

Waves of Migration: From Where Did the Pajaritans Come? Six lineal feet. See Plate 7.

---Very few Southwestern Monument museums built in the near future are likely to have such a helpful paper as Dr. Mera's "Ceramic Clues to the Prehistory of North Central New Mexico." This and other reference works were neglected in the original plan, but should be used wherever possible.

Maps 1, 2, 3, and 5 of Dr. Mera's paper contain excellent material for showing where influences originated which developed into cultures found at Bandelier. These maps, somewhat simplified, drawn in color, accompanied by descriptive labels and small diagrams showing routes of migration, will serve to show where Pajaritans came from, what cultures influenced them, and how it is possible to guess at language spoken in some localities in prehistoric times. The last point should be stressed particularly.

Other exhibits in the remainder of the Archeology and Ethnology Rooms have been criticized sketchily previously. Plate I shows approximate weighting I would place on each subject.

GENERAL COMMENTS ON THE PLAN

At the present writing it appears that the proposed three rooms will be built without windows or skylights. So much the better, for neither have place in an archeological museum. Difficulties connected with display, proper lighting, and preservation of valuable exhibits preclude their use. If necessary, I should go on record as favoring a museum at Bandelier lighted by a flashlight until electricity can be procured rather than allowing skylights to ruin valuable exhibits and windows to do the same, plus pre-empting valuable space.

It is almost needless to mention that windows are acceptable, even obligatory, in the work room.

The plan places every diorama in a corner. Such places are acceptable in case of emergency, but are far from optimum locations.

Thus far, all parties concerned with the plan have calmly accepted the fact that all material should be placed under glass. For the present I agree, for I feel that it probably will be a hard task to get cases, and we may as well procure as many as possibly quickly. Most of the material to be exhibited in the three rooms will need protection, but at some later date I believe that we will want to place certain exhibits in the open, to be handled, used, and examined by visitors. Stone axes, reconstructions such as wooden tools, some types of ceramic objects, etc., when very sturdy and very easily replaceable, gain intensely in interest when the visitor is actually allowed to touch them.

We seem to have persons in this museum discussion game who think that the human animal gains impressions only from his eyes; others from his ears. Why not use the tactile sense also? Some day a certain modicum of open cases will be used in every monument museum---which is a point advocated by Superintendent Pinkley for a long time.

Nothing in these suggestions is to be construed that the museum is to be self-operating exclusively. With present inadequate personnel, it must act so for a time, and must be used as a gathering or waiting place. But when personnel is available for a museum attendant, parties there should be accompanied if they so desire. Results are such that they can be obtained in no other way. I see no reason why a museum with labels will not be perfectly suitable for conducted trips as well as unconducted ones.

Personally, I favor wall cases at least three feet deep with movable backs so that they can be altered to suit new conditions. I'd ask for cases five feet deep if I were not afraid of being wasteful of expensive space. Our museums must be kept adaptable to new conditions, and in no field is this so true as in the southwestern

archeological area. Important facts frequently become relegated to a back shelf by new discoveries. A curator never knows when someone will start a new excavation and swamp the museum with new material or else throw such interesting light on a new problem that much former exhibit material must be re-arranged or replaced.

Before any specific case for the new museum can be constructed, questions of color scheme, label type, backgrounds, and borders must be settled. At the present rate, all western park and monument museums bid fair to become stereotyped. Maps are always done in brown, monkscloth backgrounds are almost universal, borders follow the same pattern.

In order to give visitors a true picture of each monument in relation to the rest of the Southwest a certain amount of duplication is necessary in our museums. If has already been decided definitely that we avoid as much duplication as possible by giving each similar subject a different treatment in each museum. It is my idea that elimination of duplication might well start with such basic things as color scheme, borders, and backgrounds. Even such details as family of type used in printing might be varied somewhat---Bandelier to have Cheltenham labels, Tumacacori Goudy, Casa Grande Caslon, etc.

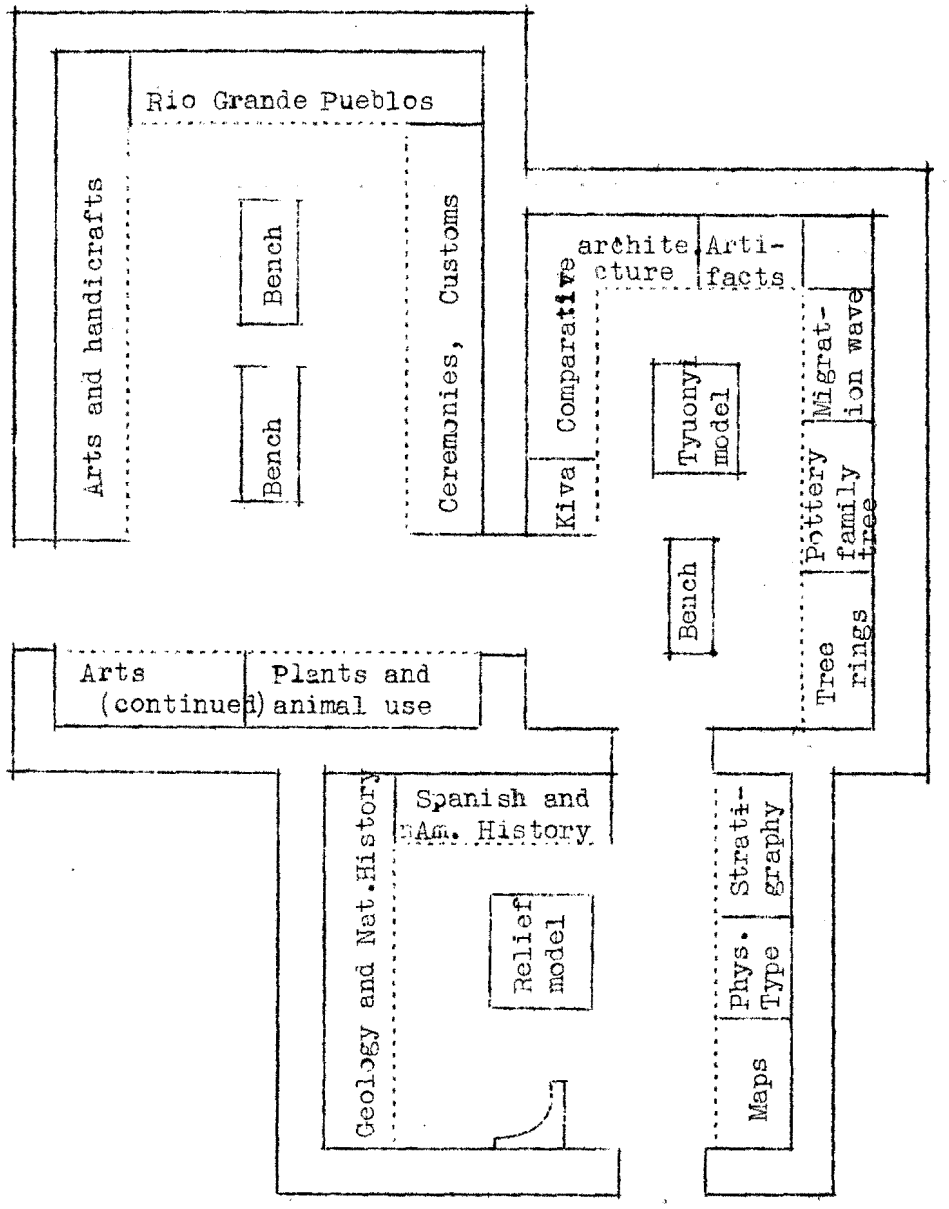
It would be well to use Celotex backgrounds at Bandelier. Various textures can be obtained, the material is relatively cheap, and it is not so subject to fading as is monkscloth. Custodian Jackson might well consult a competent artist and develop a color scheme which will show off the typical pottery of the region to the best advantage. Thus, the general tone of the museum would be the neutral celotex gray, heightened in strategic places by richly colored velvet or other backgrounds to show off superlative pottery or other specimens. Maps might depart from the monotonous tan by having the predominant color a greenish gray, a soft lavender, or some other shade which will be used uniformly throughout the exhibits. Some colors of the kind are almost as effective against eyestrain as the usual brown.

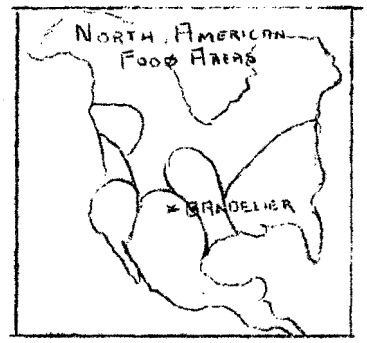
Almost every map or drawing has a border. Simple borders are best, of course, but if a fairly large border is required, nothing could be more fitting than some of the simpler geometric border designs originated by the Pajaritans themselves. A good artist can make these effective and keep them from being too glaring.

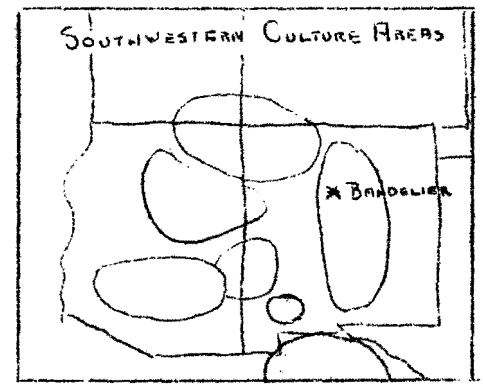
In other words, I hope we make the Bandelier museum completely distinctive in itself and entirely representative of its area and the colorful heritage of the region. We ought to go out of our way to employ some usuable technique, treatment, or development which is peculiar to the region. Museum interiors as well as exteriors should conform to the atmosphere of their environment.

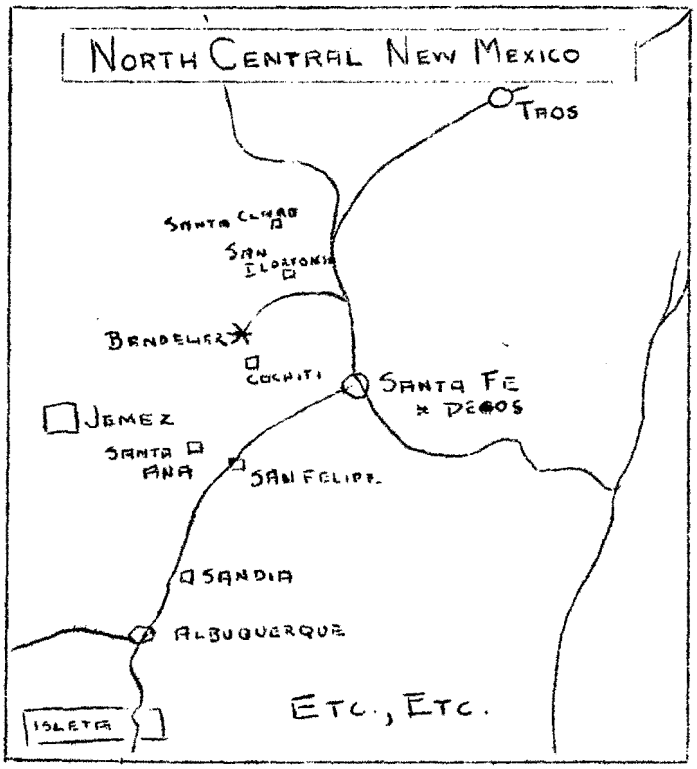
PLATE 1

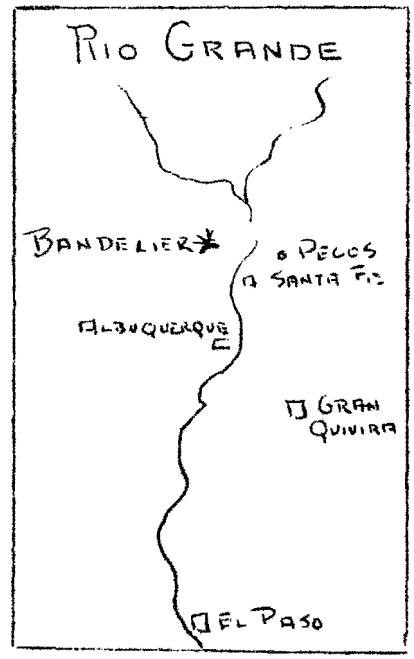
(Note: Custodian Jackson, in a conference with Naturalists Rose and King and Superintendent Pinkley December 29, 1935, suggested certain slight changes in sequence of the "Artifacts", "Kivas", and"Ceremonies" cases. These changes have been incorporated in the plan below, and will make the connection between Pueblo IV and Pueblo V rooms more logical, it is believed.)




NORTH AMERICAN
FOOD AREAS
BANDELIER


SOUTHWESTERN CULTURE AREAS
BANDELIER


NORTH CENTRAL NEW MEXICO
TAOS
SANTA CLARA
SAN ILDEFONSO
BANDELIER
COCHITI
SANTA FE
PECOS
JEMEZ
SANTA ANA
SAN FELIPE
SANDIA
ALBUQUERQUE
ISLETA
ETC., ETC.


RIO GRANDE
BANDELIER
PECOS
SANTA FE
ALBUQUERQUE
GRAN QUIVIRA
EL PASO

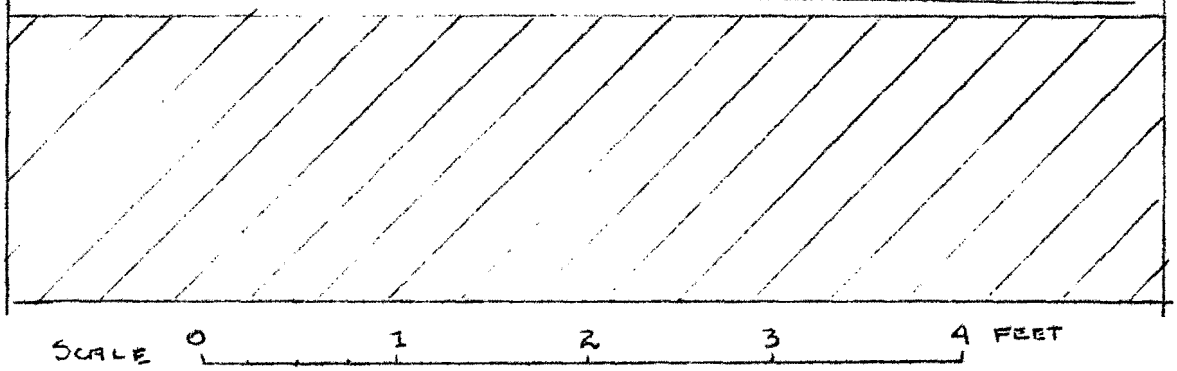

SCALE 0 1 2 3 4 FEET

PLATE 5

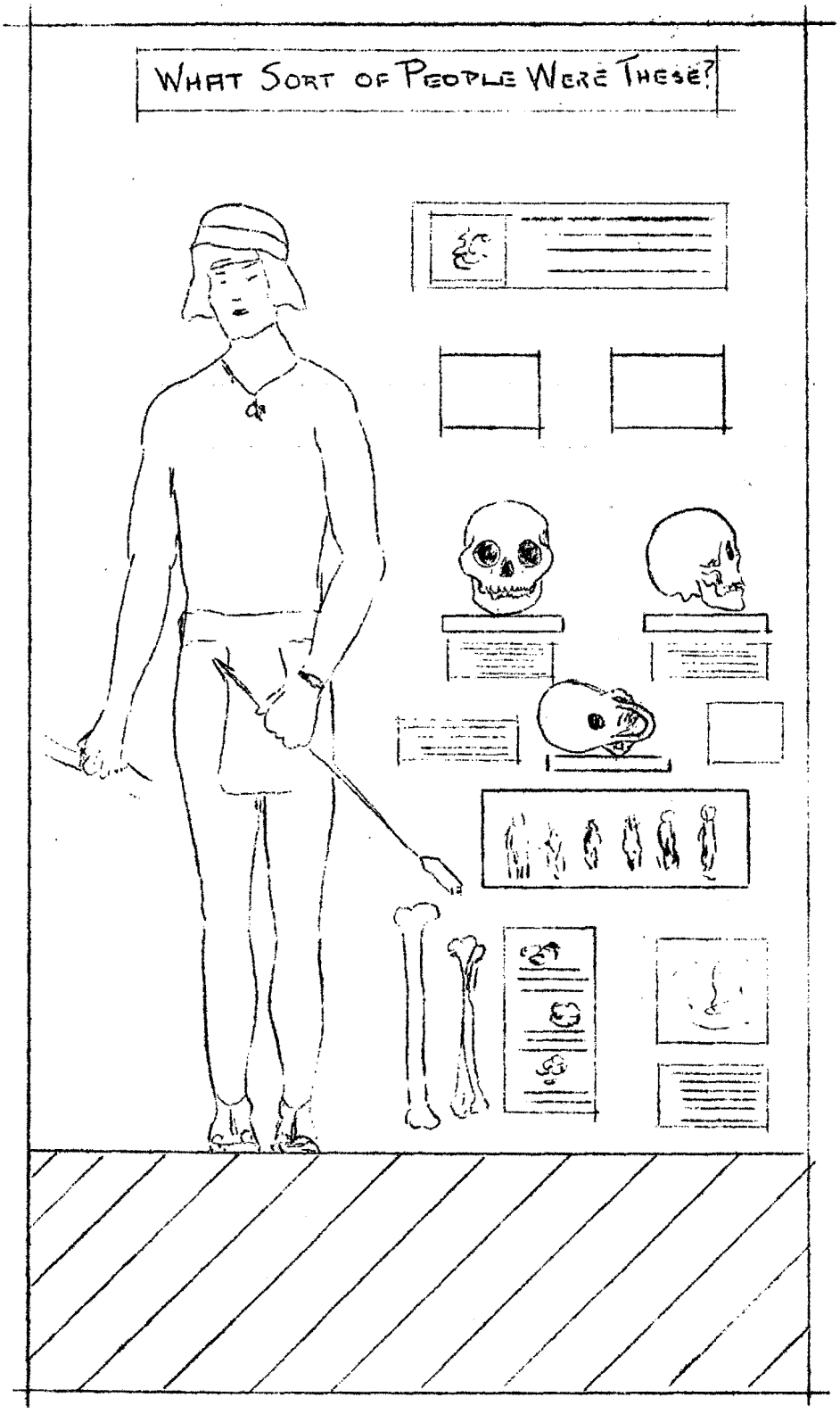
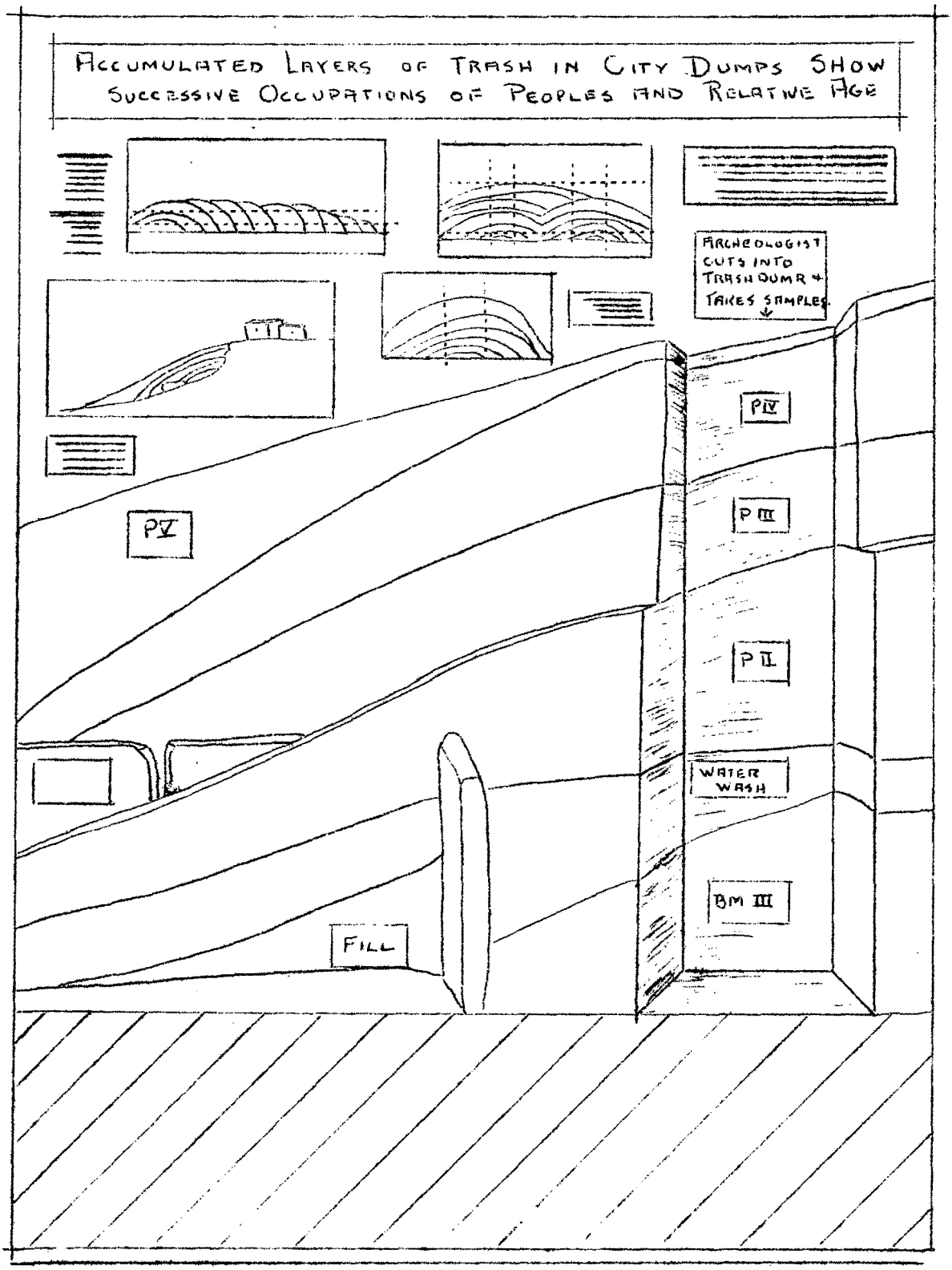


PLATE 4


ACCUMULATED LAYERS OF TRASH IN CITY DUMPS SHOW SUCCESSIVE OCCUPATIONS OF PEOPLES AND RELATIVE AGE
ARCHEOLOGIST CUTS INTO TRASH DUMP & TAKES SAMPLES
P V
P IV
P III
P II
WATER WASH
BM III
FILL

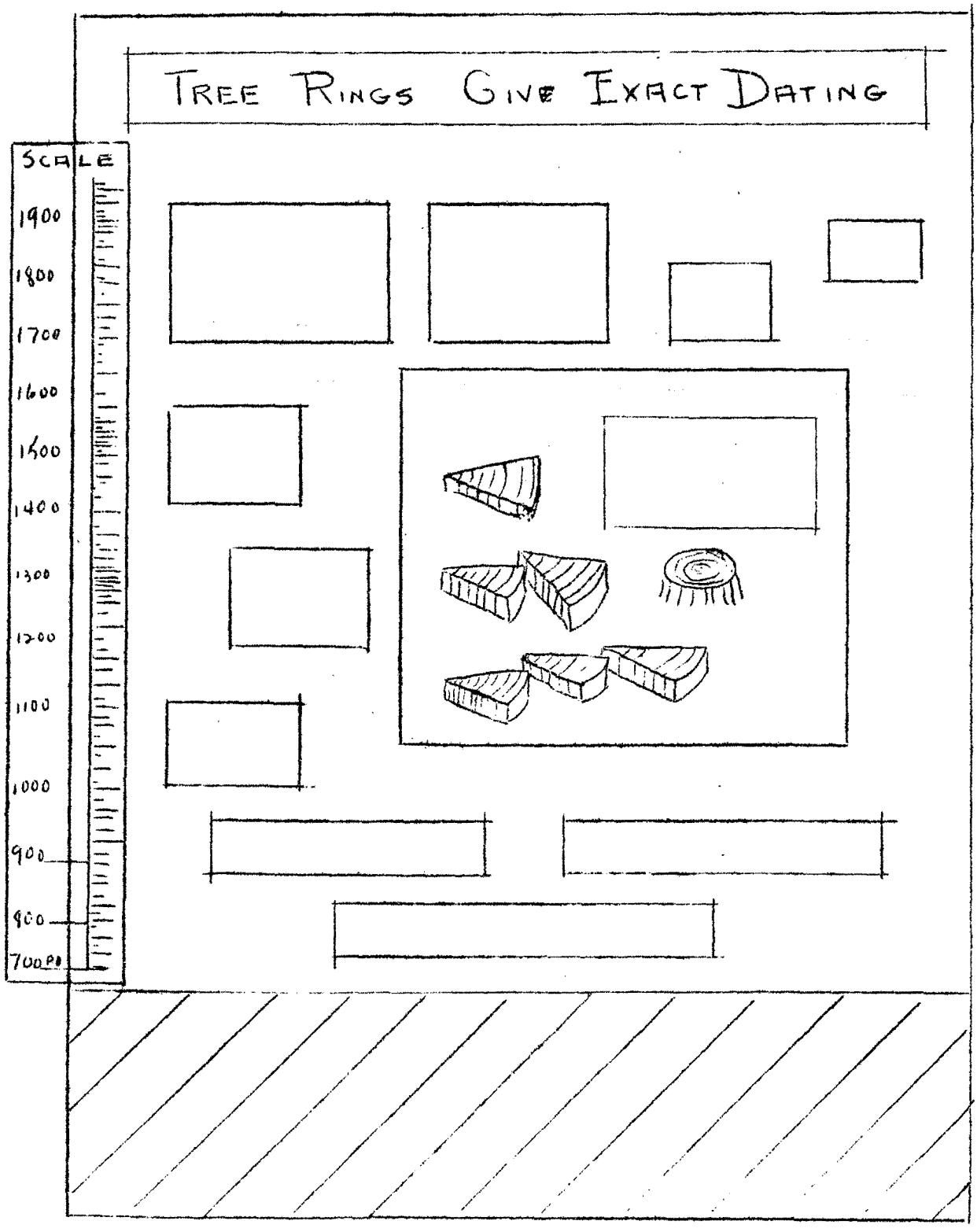
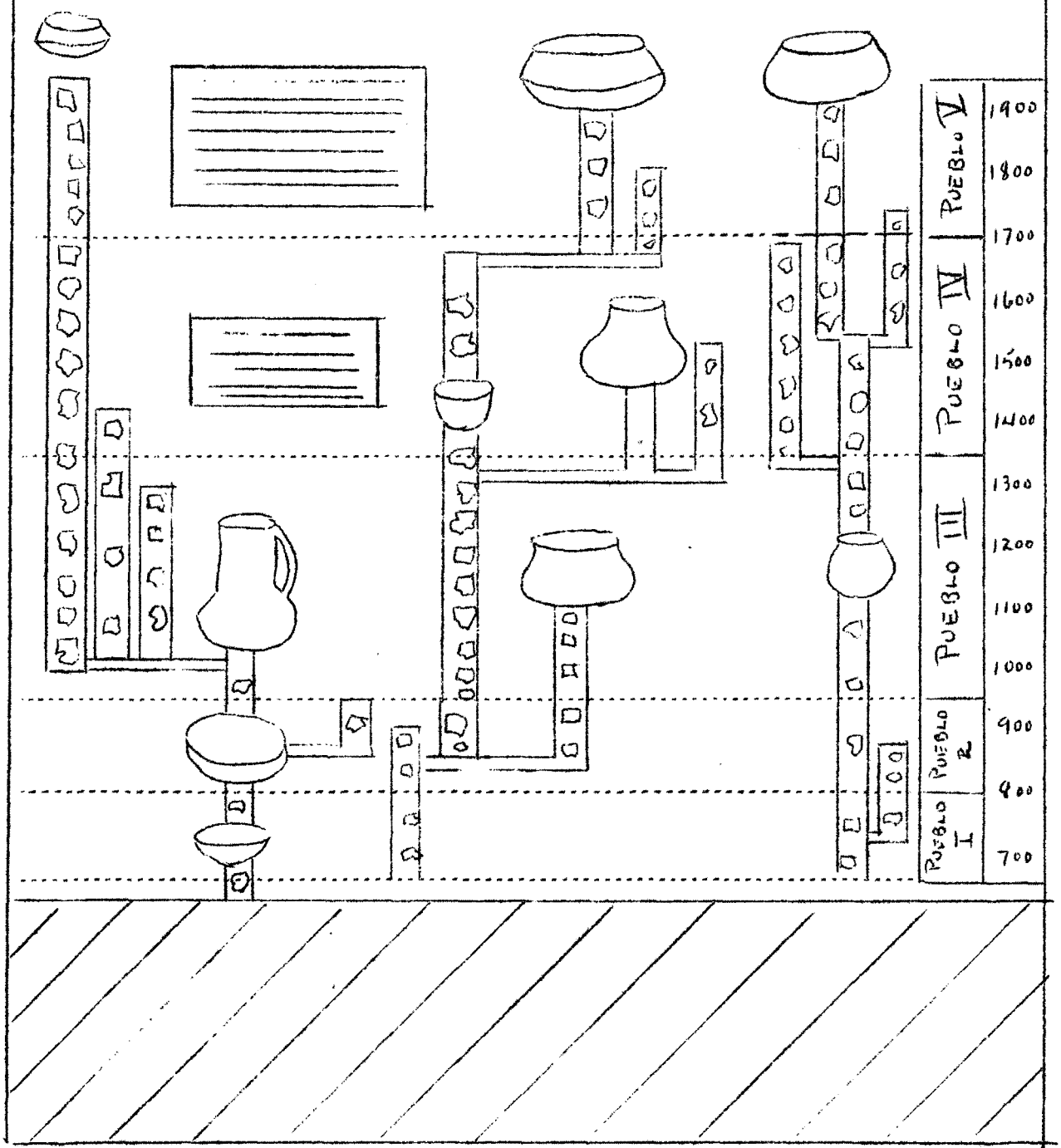
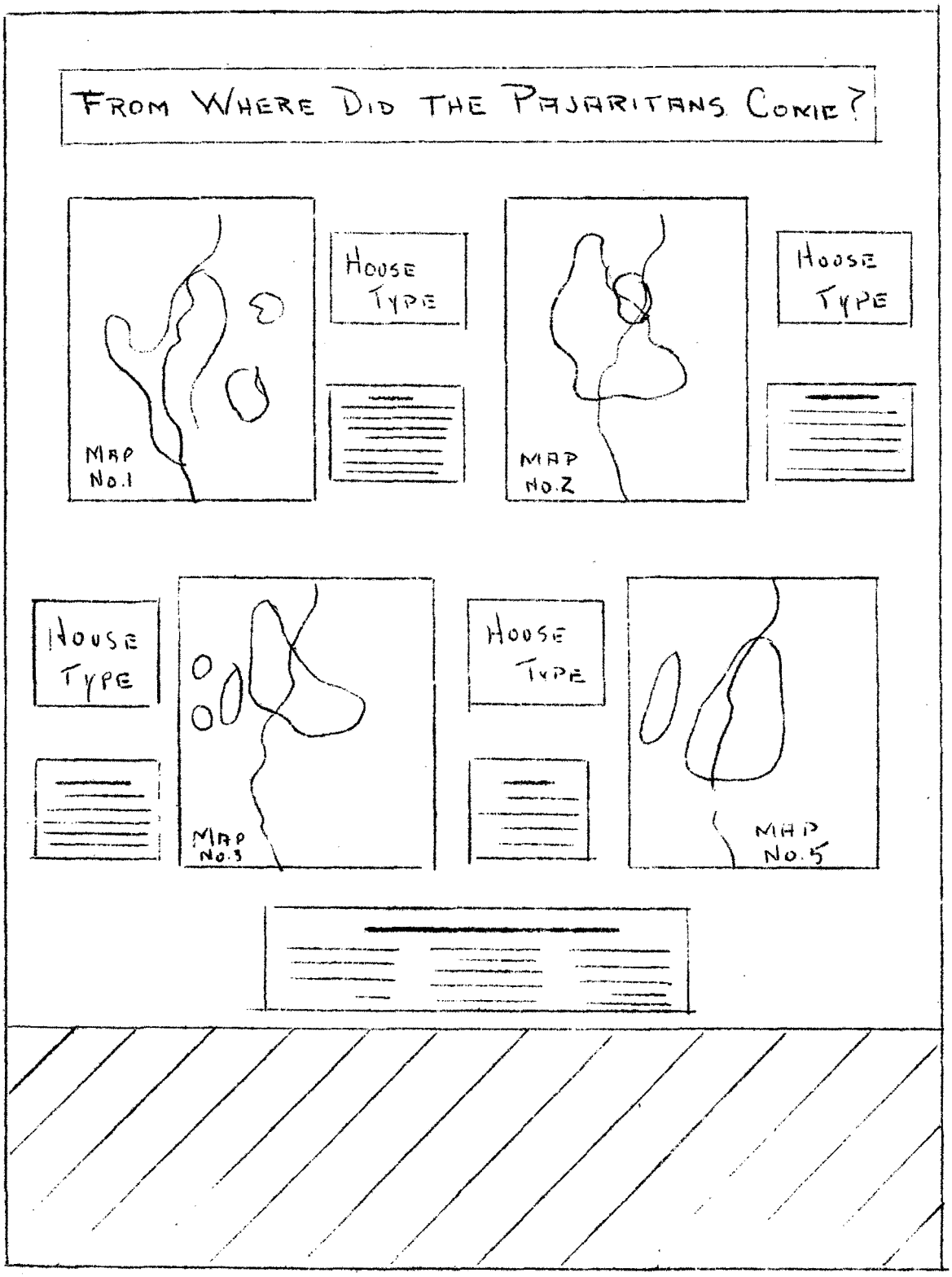

TREE RINGS GIVE EXACT DATING
SCALE
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700 B.C.

PLATE 6

# "FAMILY TREES" OF POTTERY AID IN DATING




FROM WHERE DID THE PUJARITANS COME?
MAP No.1
HOUSE TYPE
MAP No.2
HOUSE TYPE
HOUSE TYPE
MAP No.3
HOUSE TYPE
MAP No.5

# MORE SUGGESTIONS.....

By Earl Jackson

Mr. Robert H. Rose, Park Naturalist,
Southwestern National Monuments,
Coolidge, Arizona.

Dear Bob:

Have been studying your "Educational Survey and Proposed Museum Exhibits Plan" for Bandelier National Monument. As a whole, I think it is excellently done. You have made a remarkable consolidation of our ultimate exhibit plan for the restricted three-room space allowed.

My suggestions follow in order with the headings in your plan:

Temporary Lobby, Exhibit I.

II. Control Label for Bandelier Vicinity Map.

a. I recommend that the central map showing routes and places of interest in the Bandelier-Santa Fe region be a picture relief map. That is, the topographic features will be pictured, to render the map vivid and graphic.

b. b. Photographs of leading places of popular interest arranged at sides and bottom of this map. This idea is good, in part. But I recommend we picture only archeologic or natural scenic sites. There is no use picturing the modern Indian pueblos in this exhibit, for we have not sufficient space to warrant more repetition than is absolutely necessary.

The label you suggest at the bottom of this exhibit will make sufficient mention of spots of varied tourist interest.

Good pictures or sketches might be as follows: The Valle Grande, Puye, Pecos Ruins, Ruins of Tsirege (12 miles Northeast), Pueblo Bonito, Aztec Ruins, Pindi (large excavated ruin on river flat six miles west of Santa Fe, made of adobe), and White Rock Canyon.

Temporary Lobby, Exhibit II.

Plate IV, Note:

I suggest the diorama be a Scene at Acoma during the Spanish invasion, when this site was stormed. This would be very colorful, and more interesting as suggestive of earlier contacts than scenes of early Santa Fe.

Temporary Lobby, Exhibit III.

II. Control label on the Natural History of the Bandelier Region.

a. Life zones diagram O K as given. I suggest that the riker mounts of foliage, flowers, etc., be given over to principal ground cover types. We have insufficient space here to give even a smattering of flowers or smaller plants, so better to cover the ground cover type in detail than do it all haphazard. I suggest we show twigs and cones, and even small pictures of the different forms seen in conifer growth trees. Show mounts of the Ponderosa Pine, the Piñon Pine, the Junipers (Monosperma, Scopalorum, Sibericus, Pachyphloea) Douglas Fir, White Fir. Then show Quaking Aspen. For principal canyon growth show Western Narrow Leaf Cottonwood and Box Elder.

Archeology Room. Exhibit I.

II. Control Label on Architecture is Bandelier's Ruins. The model idea is fine, but if we are cut on how many models we can have, I would prefer the following; Model of Tyuonyi, Model of reconstructed section of Talus House, and Model of Great Kiva in Frijoles Canyon. Then, for Tsankawi and Puye we could well do with sketch studies for comparison.

In lieu of my former idea, which had in mind diorama groups of life showing house types from the primitive unit type structure through the stages into historic times, it would be most necessary to show sketch studies of house development from earliest times in Northern New Mexico into modern. The location of Tyuonyi in this scale could be shown by a legend or string, from the model.

Sketches showing stages in house development could show:

1. Unit type houses on the mesas.

2. First occupation in caves of canyons (artificial caves).

3. Construction of Talus units in front.

4. Construction of Community Houses for defense purposes, either on Canyon Floor, as in Tyuonyi, or on mesa, as at Puye. (We must be careful to indicate, however, that although talus houses and community houses may have been of different building periods, they showed contemporary occupancy.)

I think the diorama for this case could show Indians climbing into the Ceremonial Cave. This is a model which would be relatively simple to make, and very attractive.

Archeology Room. Exhibit II.

III. You state the corner in common between Exhibits II and III will be utilized for a meriam Turkey represented in its natural

setting.

I do not see any use here for a Merriam Turkey. We have already shown a painting of a Merriam Turkey in the Temporary Lobby, and that seems to me sufficient. We need the space between Exhibits II and III for extension of artifact space.

The diorama space on the right of Plate VIII is a good spot to show miniature figures of women making pottery and grinding meal.

Archeology Room. Exhibit III.

Plate IX.

In the right corner of this case is excellent space for skeletal remains of the Indians. In here I want sketch and label material showing perhaps half a dozen of the commoner measuring points on skulls for determining head type. Then small pictures of people of different races should be given, showing the short Broadheaded Pajaritans as being closer to the modern Pueblo Indians than any others.

A male and female skull should be shown, with sex determining points marked. From these points strings will run to a chart on the wall. Also, an infant skull should be shown, and brief chart information in determining age by bones will be placed somewhere between the three skulls. If it doesn't require too many strings, the rough ages of the three specimens can be located on the chart the same as with sex, above.

Of course, if we ever get an interesting and complete burial, we will want it shown in situ in this room. Probably lack of wall space would require that it be shown in the center of the room.

Ethnology Room. Exhibit I.

Plate XI.

Principal inhabited Pueblos of the Rio Grande Area shown by picture and photo in central panel could include, in addition to those listed, San Juan, Santo Domingo, Tesuque.

Ethnology Room. Exhibit II.

Plate XII.

I think, as you suggested, the panels at either end might be used for pottery. I am convinced we will need all of this case to show what we want to in modern pottery, to illustrate different techniques, cases of copying or imitating, stages in early and late, etc.

I. Control Label on Modern Pueblo Indian Pottery and Art.

c. Here you suggest using old pottery below specimens of historic pottery, for comparison. I think here, because we will not have any too much old pottery any way, and because it would be some-

what in the nature of repetition to put here, after showing it in the archeology room, we should do the following: Place underneath the modern pottery some color plates showing essential design elements of prehistoric pottery, and (and this is important) use a lot of the designs found in rock carved art. Petroglyphic art is intensively used by some modern Indians, especially the San Ildefonsos, in their ceramic decoration. This use of petroglyphic material dates largely from modern attempts at revivifying the old art.

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Hope these criticisms are what you want. When you want specific data for labels, etc., fire the priority at me and I will do what I can.

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By A. E. Borell, Regional Wildlife Technician

In accordance with your request I have studied the Natural History exhibit case proposed (page 14) by Park Naturalist Rose for Bandelier National Monument.

Since the space available for natural history is so small I feel that too many subjects are portrayed. I suggest the following changes: (1) Eliminate the wild turkey painting, since the turkey will be exhibited in the archeological room. (2) Eliminate the reptiles, as they are not attractive or easily seen in alcohol. We may find some small space where a few common species can be exhibited. (3) Eliminate the plant specimens, because most of the common species will be shown in the Ethnology room as described on page 30, of Mr. Rose's report. (4) Life zone charts are interesting, but to only a small percentage of visitors. This chart might be eliminated or reduced to a narrow strip along the top of the case. (5) In place of the above-mentioned exhibits I suggest a single exhibit. A habitat group of birds from the headquarters area would be attractive and interesting, but I believe the case is too shallow (3 feet) for a habitat group. An exhibit of mounted birds on a panel, similar to the exhibit at Mesa Verde, may be the only solution. However, the Museum Department may be able to work out a habitat group even in this shallow case.

It must be remembered that you will need a competent taxidermist to prepare the bird mounts. Poor specimens are worse than none.

If the bird exhibit is agreed upon I will be pleased to assist with the collection of birds and selection of species most desirable for the exhibit.

I feel certain that artificial lighting for the cases will be necessary.

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By Robert W. Hart

Notes and Comments.

Pages 1 to 7, inclusive. Your plans for protection and interpretation at Bandelier seems very fine. I like the idea of field trips for visitors. Here it seems is a great field for your specialist. I would thing about 75% or more of the visitors to Bandelier would only visit the museum, and the short trip to the closer ruins would be taken. Your Ranger-Archeologist would shine here. Then for those wishing to go into the primitive area, also the trail to the Rio Grande and falls, the naturalist and geologist would be in his realm. Conducted trips to these points would lessen the fire hazard somewhat and give the visitor who is interested in botany, geology, etc., a chance to see Bandelier and what it has to offer in these fields under guidance of a competent man versed in the subjects.

Pages 8 to 10, inclusive. Exhibit No. I in Temporary Lobby seems very good, but the maps should be very outstanding to attract attention. The observation here at Aztec is that maps do not attract very much attention except to comparatively few visitors. Don't make the mistake of making your maps the same color as the Southwestern Archeological map at Aztec which is very dull in color and background. Particularly since the is the opening exhibit for the visitor, it must be as attractive as possible. With electricity, lighting effects could make a map exhibit very attractive, but until then, the reaction may prove unfavorable. I like the setup of Exhibit I so far as content is concerned.

Exhibit II. Temporary Lobby.

This case should create quite a lot of interest as it gives both American and Spanish History of the region. However, I wondered if it would not confuse the visitor with the maps showing Spanish land grants under American History. I think I understand the purpose of it here, but it might get the average person unfamiliar with the history of the region rather mixed up. Here again the maps should be very outstanding to create sufficient interest. I fully realize that this is only a temporary plan for a tryout and may work fine.

Comparative Architecture Case

This case should arouse much interest with its restored ruins and models. Visitors have reacted very favorably to the few models on display at the Aztec Ruin. Don't you think in your model section that 1, 2, and 3, should cover the Cavate Dwelling, Talus Ruin, and Bandelier Kiva? Then 4 and 5 could cover the proposed model for Jemez and Pecos Ruin. I may be all wrong in my surmises about this setup and I'm not sure just what the setup portrays, but you asked for comments, so I'm trying. When I said I wasn't sure of what this

setup portrayed, I meant the planning of the Pecos or Jemez model between those of the Bandelier region.

Exhibit II - Bandelier Archeology Room.

An excellent plan, especially the cross section of a trash mound. The "Story of the Trash Layers" Exhibit at Aztec Ruin has created more real interest than almost any other case with the possible exception of the Burial Case and if the real pottery is used on the sides of the section to show the different periods, it should create still more interest.

Exhibit III - Archeology Room.

This exhibit seems to me to contain too much material. You have practically your entire exhibits of the artifacts and other material all thrown in one case. However, as you would probably say, what am I going to do about it? If your case is divided with a partition, the setup would not be so bad. Such may be the case as line may indicate. Yet, with only three cases in your Archeology Room, I don't see what other setup you could use to show all you want to.

EXHIBIT I - Ethnology Room.

This case seems to be ideal in content to arouse interest and orient visitors in regard to the modern pueblos of the Rio Grande area. Can suggest no changes.

Exhibit II - Ethnology Room.

This setup seems fine, but aren't you repeating with more detail part of Exhibit No. I in your Ethnology Room? If you have pictures of Maria and Rose in Exhibit I, would you want to repeat in Exhibit II?

Exhibit III - Ethnology Room

Can offer no suggestions or unfavorable comments on this case. It seems such an arrangement would show clearly to the visitor the entire procedure from the plants or trees to the finished product.

**********

By Charlie R. Steen

Following are my criticisms of the proposed plan for a three-room museum at Bandelier National Monument, as formulated by Park Naturalist Rose. Since these arguments were just submitted the entire plan has been fairly well ironed out in a series of discussions so no attempt is made in this paper to do more than suggest certain revisions.

Due to lack of space it is imperative that all superficial and

irrelevant material be excluded from the exhibit. In room I it seems to me to be unnecessary to devote eight feet of wall space to maps and charts describing the Park Service and its units.

It seems to me that with all the advertising done to both by the Service and by various commercial concerns that most visitors are aware of the existence of the National Parks and Monuments and to some extent are familiar with the aims and policies of the Service. I believe that any specific questions could best be answered by the ranger.

The idea of a Bandelier vicinity map is good, the choice of ruin to be illustrated can be improved. Ruins depicting more closely the development of the Pueblos in the middle Rio Grande Valley should be chosen - Pueblo Bonito, Aztec, and Taos are not pertinent.

I suggest a map showing probable migration routes into the valley with details of features of the topography which attracted the primitive immigrants and which influenced their mode of living. This could be done with numbered side panels shown with the principal map.

This entire case is the place to give the visitor a background of Southwestern archeology leading up to the occupation of the Pajarito Plateau. To go into the archeology room and show with no foreword an exhibit dealing with Pueblo III and IV is not desirable---perhaps the first of Exhibit I could contain a chart or diagram showing the development of the agricultural peoples of the Southwest. The Bandelier vicinity map, which narrows down the area under consideration, be moved next to the door through which one passes into the archeology room.

Exhibit II

Rather than a mere description of events during the Spanish, Mexican, and American occupations of the territory, a panel showing the effect on the life, religion, customs, and dress of the Indians through contact with the European peoples. As the case stands at present there is depicted not much more than a bald statement of a series of historical figures and events. One of the most interesting stories which history tells is the effect of contact between two foreign groups. This is particularly true in the Southwest and an exhibit showing this might easily be one of the most popular in the museum.

Archeology Room

Why has the largest exhibit in the archeology room been given over entirely to mere physical details of house construction? These models would necessarily be too small to be effective and I doubt if measurements are available which would permit reconstructions to be made---the first case is the important one---Here is where the life

of the prehistoric pueblos of Frijoles Canyon should be told in terms of their artifacts and household goods. A merriam Turkey - even in a natural setting - is entirely out of place in an archeological exhibit and uses much valuable space.

One important phase of the story has been entirely overlooked---a description of the people themselves. One of the first questions of nearly every visitor is "What sort of people were these?" A section of a case should be reserved for busts and skeletal remains---sketches showing the effect of a hard cradle board on the skull of the infant are needed---if it is possible to acquire a few stray mandibles. They could be used to show the effect of a constant use of gritty food on teeth---several very interesting and important problems of the physical anthropology of the region could be shown.

Exhibit III

There is goo great a tendency to regard pottery making as a phenomenon entirely different from the manufacture of their artifacts. I am in favor of displaying objects of stone, shell, wood, etc., with the pottery, or at least, in close association.

Ethnology Room

Cases I and II should carry the same story. The photographs of the villages with a brief discussion of their histories should be shown with examples of the handicraft of the village---with the arrangement as proposed, the story is broken.

Case III - This is really a repetition of case III in the archeology room. If the ethnology exhibit is well done and contains a few judicious displays of large articles, such as clothing, this could very well be included.

**********

# KEET ZEEL

By John Wetherill

The first record we have of Keet Zeel was an expedition for the American Museum of New York, headed by Richard Wetherill, in 1894-5. The Wetherills financed the trip, with the understanding that the Hydes, Fred, Tabot, and their father would take the material after it was collected and pay for it out of their own pocket. The collection with the notes and photographs were taken by them and paid for, for the Museum.

The next visit to the ruins was the Bowler and Whitmore party of 1896-7. Before the trip was finished Bowler and Whitmore withdrew and left the expedition to the Wetherills. This was taken over by the Hydes and turned over to the Museum in 1897. There were quite a few artifacts from Keet Zeel. In 1897 there was no wash near the ruins. There was a lake one and one half miles below the ruins; now

there is an arroyo forty feet deep two hundred feet from the ruins.

In 1908 a party of prospectors visited the Ruins. Later in the season Dr. Edward L. Hewitt visited the Ruins. The following year Dr. Byron Cummings visited the Ruins, and did some work for the University of Utah.

From 1910 to the present time there have been a few tourists each year. In 1933-34 the CWA expended about $10,000 in working the trail and cleaning out and strengthening up the walls of the Ruins.

In cleaning out the rooms there were about 1200 artifacts taken from the Ruins and turned over to the Museum of Northern Arizona, at Flagstaff. These relics are to be returned to the Navajo National Monument, as soon as a building can be built to house them.

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# EDUCATIONAL CONTACTS

By Rober H. Rose

Following is a tabulation on educational contacts for the travel year ending Sept. 30, 1935. An "educational contact" is an indication visitor service. The total number of educational contacts is the total number of visitors who have received services of the rangers and ranger naturalists through lectures, field trips, museum visits and other activities having as their chief purpose the interpretation of the features of the parks and monuments. Suppose out of a group of 10 people, all attended a conducted trip afield; 8 of the same 10 were museum visitors; while 6 were at a campfire lecture. There would be entries of "10 field trip contacts;" "8-museum contacts," or "8-museum lecture contacts," depending upon whether a ranger personally conducted the group; and "6-campfire lecture contacts." These are sample entries as they would be listed on Stencil Form No. 16 which was designed for keeping daily records and has been distributed to custodians. Notice that out of the group of 10 visitors there resulted A TOTAL OF 24 EDUCATIONAL CONTACTS.

The tabulation following is based upon estimates. Totals by months are shown at the bottom; totals by monuments for the year are in the column at the right. HOW DO THESE FIGURES REFLECT THE SERVICE GIVEN AT YOUR MONUMENT FOR THE YEAR?

These daily records of visitor service are fully as important in the administration of your monument as your equipment records, maintenance of physical improvements and other administrative details and yet we have no records from the system as a whole upon which these tabulations can be made with a satisfactory degree of accuracy! It is hoped that careful attention to the daily records expected on Form 16 will correct this situation for 1936.

# SOUTHWESTERN BIRD BANDING TOTALS

| Species | Bandelier | | Casa Grande | | Chaco | | Montezuma | | Navajo | | Pipe Spg. | | Walnut | | Wupatki | | Tot. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Prior | Dec. | Prior | Dec | Prior | Dec | Prior | Dec | Prior | Dec. | Prior | Dec. | Prior | Dec. | Prior | Dec | |
| Bluebird, Chestnut-bkd. | | | | | | | | | | | | | 215 | | | | 215 |
| Crossbill, Bendire | | | | | | | | | | | | | 17 | | | | 17 |
| Chickadee, Mountain | | | | | | | | | 6 | | | | 3 | | | | 9 |
| Dove, Western Mourning | | | 2 | | | | | | | | | | | | | | 2 |
| Finch, House | | | 25 | 51 | | | | | | | | | | | | | 76 |
| Flycatcher, Ariz.Crested | | | 2 | | | | | | | | | | | | | | 2 |
| Goldfinch, Green-backed | | | | | | | | | | | | | 2 | | | | 2 |
| Jay, Long-crested | 3 | | | | | | | | | | | | | | | | 8 |
| Jay, Woodhouse | | | | | | | | | 6 | | | | | | | | 6 |
| Junco, Gray-headed | | | | | | | | | 3 | | | | | | | | 3 |
| Junco, Montana | | | | | | | | | 9 | | | | | | | | 9 |
| Junco, Pink-sided | | 4 | | | | | | | | | | | | | | | 4 |
| Junco, Red-backed | | 21 | | | | | | | 2 | | | | 5 | 5 | | | 33 |
| Junco, Shufeldt | | 4 | | | | | | | 13 | | | | 2 | 3 | | | 22 |
| Mockingbird, Western | | | | 1 | | | | | | | | | | | | | 1 |
| Nuthatch, Pygmy | | | | | | | | | | | | | 20 | 3 | | | 23 |
| Nuthatch, Rocky Mount. | | | | | | | | | | | | | | 4 | | | 4 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Owl, Western Horned | | | 1 | | | | | | | | | | | | | | 1 |
| Phoebe, Say | | | 14 | 3 | | | | | | | | | | | | | 17 |
| Quail, Gambel | | | | 10 | | | 5 | | | | | | | | | | 15 |
| Road Runner | | | 3 | | | | | | | | | | | | | | 3 |
| Robin, Western | | | | | | | | | | | | | 7 | | | | 7 |
| Sapsucker, Red-naped | | | | | | | | | | | | | 3 | | | | 3 |
| Sapsucker, Rocky Mt. | | | | | | | | | | | | | 2 | | | | 2 |
| Siskin, Pine | | | | | | | | | | | | | 1 | | | | 1 |
| Solitaire, Townsend | | | | | | | | | | | | | 7 | | | | 7 |
| Sparrow, Gambel | | | 35 | 11 | | | | | | | | | | | | | 46 |
| Sparrow, White-crown | | | | | | | | | 6 | | | | | | | | 6 |
| Swallow, Rough-winged | | | 3 | | | | | | | | | | | | | | 3 |
| Thrasher, Bendire | | | 3 | | | | | | | | | | | | | | 3 |
| Thrasher, Crissal | | | 6 | 1 | | | | | | | | | | | | | 7 |
| Thrasher, Sage | | | | | | | | | | | | | | | 2 | | 2 |
| Woodpecker, Gila | | | 2 | 4 | | | | | | | | | | | | | 6 |
| Woodpecker, Mearns | | | | | | | | | | | | | 3 | | | | 3 |
| Wren, Cactus | | | 25 | 2 | | | | | | | | | | | | | 27 |
| SUB-TOTAL | 8 | 29 | 121 | 83 | 0 | 0 | 5 | 0 | 50 | 0 | 0 | 0 | 232 | 15 | 2 | 0 | |
| TOTAL | | 37 | | 214 | | 0 | | 5 | | 50 | | 0 | | 307 | | 2 | 605 |

# RUMINATIONS

And now comes the yowl of the stencil cutter that it is time for the ruminations and then we will begin gathering this report and getting it into the mail. If you believe it is easy to sit down and ruminate with a stencil cutter waiting at your elbow for copy and a mimeograph singing its song in the next room, come out and try it some time.

The natural thing to do in the December Report is to look back over the year spotting all the highlights where we covered ourselves with glory, overlooking all the dark spots where we fell down pretty badly and coming in with a complimentary close inferentially patting ourselves on the back and winding up with a prognostication that next year will be the biggest and best and we have nineteen different kinds of New Year's Resolutions which we are going to put into effect.

The trouble with that scheme, Chief, is that you would know well enough when we were using too much color in painting our glory and keeping quiet about those failures would simply emphasize the fact to you that they were there. In view of the fact that we have written you eight hundred pages of narrative reports this past year, you ought to be fairly well acquainted with what is going on down here in this district. If you haven't read any of those eight hundred pages, I am frank to say they can't be boiled down into a page or two of ruminations and I am not going to try.

As to making of New Year resolutions, we are too busy keeping one jump ahead of the work down in this district to do any promising two months ahead to say nothing of a whole year. I take it as a matter of course that the next year will see some sharp changes. We have been working for several months with that in mind and are trying to shape our affairs the best we know how to meet the conditions as they arise. We have some changes of our own in mind which will appear in due time but they are nothing to make resolutions about.

It looks like we will just have to close this volume of narrative reports, covering the last half of nineteen thirty-five, tack the index on it; bind it; put it on the shelf as a reference book, a sort of log by which we can check our future improvement; and then turn our faces forward into 1936 and tackle the January work with the hope that we won't at least make the same mistakes we made in 1935.

As a last word before I turn this over to the stencil cutter and memeograph operator, I would like to say that with all its failures and successes; with its surprises and disappointments; with its hectic periods and its dull spells; as we look back over it we seem to have had a lot of fun out of the job as we came along through nineteen thirty-five.

Cordially, The Boss

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# EDUCATIONAL CONTACTS SUMMARY FOR TRAVEL YEAR BY MONTHS AND BY INDIVIDUAL MONUMENTS

| MONUMENTS | OCT.1934 | NOV. | DEC. | JAN.1935 | FEB. | MAR. | APR. | MAY | JUNE | JULY | AUG. | SEPT. | TOTAL CONTACTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ARCHES----- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | 20 | 20 | 60 (Field) |
| AZTEC------ | 645 | 666 | 336 | 298 | 278 | 282 | 554 | 960 | 903 | 1675 | 2250 | 1891 | 10,738 (Field) |
| | 645 | 666 | 336 | 298 | 272 | 282 | 554 | 960 | 903 | 1675 | 2250 | 1891 | 10,738 (Museum) |
| BANDELIER | 1803 | 632 | 214 | 233 | 294 | 427 | 643 | 735 | 2083 | 2092 | 2475 | 1594 | 13,225 (Field) |
| DE CHELLY | 129 | 62 | 3 | 9 | 1 | 0 | 101 | 23 | 179 | 163 | 135 | 153 | 958 (Field) |
| C/PULIN | 200 | 360 | 80 | 80 | 70 | 120 | 100 | 300 | 500 | 1000 | 1000 | 1000 | 4,810 (Field) |
| CASA GRANDE | 1825 | 2389 | 2463 | 2327 | 2923 | 3335 | 3766 | 2443 | 1359 | 1198 | 1376 | 1691 | 27,095 (Field) |
| | 1825 | 2389 | 2463 | 2327 | 2983 | 3335 | 3766 | 2443 | 1359 | 1198 | 1376 | 1691 | 27,695 (Museum) |
| CH/CO | 826 | 492 | -- | 361 | 207 | 308 | 472 | 340 | 649 | 672 | 1031 | 875 | 6,235 (Field) |
| | 826 | 492 | -- | 361 | 207 | 308 | 472 | 340 | 649 | 672 | 1031 | 875 | 6,235 (Museum) |
| CHIRICAHUA | -- | -- | -- | -- | -- | -- | -- | -- | 700 | 1766 | 958 | 576 | 4,000 (Field) |
| EL MORRO | 100 | 100 | 40 | 40 | 40 | 40 | 40 | 100 | 373 | 381 | 333 | 240 | 1,827 (Field) |
| GILA CLIFF | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 000 | 00 | 00 | 00 | 00 | 0000 (None) |
| GRAN QUIV. | 288 | 299 | 188 | 200 | 216 | 373 | 293 | 396 | 386 | 950 | 385 | 545 | 4,519 (Field) |
| | 288 | 299 | 188 | 200 | 216 | 373 | 293 | 396 | 386 | 950 | 385 | 545 | 4,519 (Museum) |
| HOVENWEEP | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 000 | 000 (None) |
| MONTEZUMA | 1080 | 1299 | 775 | 321 | 1167 | 592 | 1350 | 1400 | 1587 | 1847 | 1910 | 1782 | 15,110 (Field) |
| | 1080 | 1299 | 775 | 321 | 1167 | 592 | 1350 | 1400 | 1587 | 1847 | 1910 | 1782 | 15,110 (Museum) |
| NATL. BR. | -- | -- | -- | -- | -- | -- | -- | 70 | 70 | 140 | 120 | 87 | 487 (Field) |
| NAVAJO | -- | -- | -- | -- | -- | -- | -- | 134 | -- | 86 | 140 | 100 | 460 (Field) |
| PIPE SPG. | 210 | 130 | 137 | 74 | 14 | 98 | 106 | 207 | 231 | 115 | 128 | 236 | 1,686 (Field) |
| RAINBOW BR. | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 000 (None) |
| SQUARO | -- | -- | -- | -- | -- | 900 | 1520 | -- | -- | -- | -- | -- | 2,420 (Field) |
| SUNSET | -- | -- | -- | -- | -- | -- | -- | 10 | 10 | 20 | 30 | 15 | 85 (Field) |
| TONTO | 150 | 250 | 160 | 275 | 360 | 475 | 500 | 240 | 270 | 200 | 225 | 200 | 3,305 (Field) |
| | 259 | 421 | 286 | 425 | 599 | 749 | 818 | 398 | 447 | 324 | 360 | 338 | 5,398 (Museum) |
| TUM/CACORI | 1155 | 876 | 738 | 828 | 2116 | 1632 | 1687 | 1281 | 843 | 712 | 906 | 987 | 13,976 (Field) |
| | 250 | 200 | 200 | 225 | 500 | 450 | 400 | 300 | 225 | 175 | 250 | 250 | 3,425 (Museum) |
| WALNUT | 499 | 272 | 122 | -- | -- | -- | 314 | 600 | 1306 | 1982 | 2047 | 1214 | 8,356 (Field) |
| WHITE SNDS | 100 | 100 | 100 | 65 | 500 | 200 | 350 | 800 | 1000 | 1000 | 1000 | 750 | 5,965 (Field) |
| WUPATKI | 141 | -- | 42 | 60 | 50 | -- | 175 | 125 | 175 | 265 | 250 | 250 | 1,505 (Field) |
| YUCCA | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 000 (None) |
| FIELD--- | 9151 | 7929 | 5398 | 5231 | 8236 | 8987 | 11897 | 10164 | 12727 | 16287 | 16759 | 14056 | 126,820 TOTAL |
| MUSEUM- | 5173 | 5766 | 4228 | 4157 | 5890 | 6069 | 7647 | 6237 | 5556 | 6841 | 7562 | 7572 | 72,518 " " |
| TOTALS MONTH | 14324 | 13695 | 9626 | 9388 | 14126 | 15076 | 19544 | 16401 | 18283 | 23128 | 24321 | 21628 | 199,338 GRAND TOTAL |

TOTALS SUMMARY

CONTACTS FIELD-126,820
CONTACTS MUS. - 72,518
GRAND TOTAL --199,338

TOTAL TRAVEL FOR YEAR
198,480

$\frac{198,480}{199,338}$ equals 100.4%,

Therefore 100.4% is comparison of contacts with total travel.

126,820 contacts field.
2,093 contacts Tonto Museum not contacted in field trips
126,913--different individuals contacted.

$\frac{126,913}{198,480}$ equals 64%

This means 64% of the visitors were actually contacted and that 36% were not. This is true because of the 199,338 contacts, 70,000 are "double contacts" due to being counted both in field trips and in museum.

* THESE FIGURES BASED UPON ESTIMATES BUT PROBABLY HOLD TRUE AS A WHOLE.

| | | |
|---|---|---|
| 3 | 02 | |
| 4 | 02 | |
| 5 | 03 | |
| 6 | 04 | |
| 7 | 05 | |
| 8 | 06 | |
| 9 | 07 | |
| 10 | 08 | |
| 11 | 09 | |
| 12 | 10 | |
| 13 | 11 | |
| 14 | 12 | |
| 15 | 13 | |
| 16 | 30 | |
| 17 | 31 | |
| 18 | 32 | |
| 19 | INVENTORIES BEGINNING OF MO. | |
| 20 | TOTAL DIRECT CHARGES | |
| 21 | DISCOUNTS | |
| 22 | 301 TRUCK OPERATIONS | |
| 23 | 302 TRANS. & HANDLING | |
| 24 | | |
| 25 | | |
| 26 | | |
| 27 | | |
| 28 | | |
| 29 | | |
| 30 | | |
| 31 | | |
| 32 | DEDUCTIONS: | |
| 33 | REPAY COLLECTIONS ALLT.OO. | |
| 34 | TOTALS | |
| 35 | | |
| 36 | | |
| 37 | | |
| 38 | | |
| 39 | | |
| 40 | | |
| 41 | | |
| 42 | INVENTORIES CLOSE OF MO. | |
| 43 | TOTALS THIS MONTH | |
| 44 | TOTALS PREVIOUS MONTHS | |
| 45 | TOTALS TO DATE | |
| 46 | BALANCES | |
| 47 | COST LIMITATIONS | |

'orm approved by Comptroller General, U.S. Nov. 11, 1927