

SOUTHWESTERN MONUMENTS

MONTHLY REPORT

OCTOBER 1935



DEPARTMENT OF THE INTERIOR
NATIONAL PARK
SERVICE

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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, Redmen.

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. Roundey, 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:

	<u>October, 1935</u>	<u>October, 1934</u>	<u>October, 1933</u>
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	---	---
<hr/>			
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.

CONDENCED REPORT (CONT)

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 reconnaissance 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

CONDENSED REPORT (CONT)

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 footage 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.

CONDENSED REPORT (CONT)

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

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WHITE SANDS (CONT)

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 roly-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 "Pase 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 mastodon.

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

WHITE SANDS (CONT)

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. Ctero, 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 considerably 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. Peole, 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, Arthur 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 altar. They also made a small excavation in the baptistry. 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

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NAVAJO (CONT).

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 16 to September 17, 1935:

Turkey Vulture	Western Red-tail
Sharp-shinned Hawk	Desert Sparrow Hawk
Least Sandpiper	Western Mourning Dove
White-throated Swift	Broad-tailed Hummingbird
Costa Hummingbird	Black-chinned Hummingbird
Red-shafted Flicker	White-breasted Woodpecker
Say Phoebe	Northern Violet-green Swallow
Long Crested Jay	Woodhouse Jay
American Raven	Pinyon Jay
Clark Nutcracker (Unusual large number in the canyon and on the mesa.)	Mountain Chickadee
Lead-colored Bush-tit	Black-throated Gray Warbler
Rock Wren	Canyon Wren
Western Gnatcatcher	Mountain Bluebird
Green-backed Goldfinch	Western Tanager
Spurred Towhee	Green-tailed Towhee
	Western Warbling Vireo

Butterflies:

Papilio bairdi ---- Bairds Swallow Tail
Papilio rutulus ---- The Western Swallow Tail
Pieris protodice ---- The Common White
Furcraea eurythema amphidusa ---- The Yellow Sulphur
Danaus archippus ---- The Monarch
Aglaia antiopa ---- Mourning cloak
Aglaia antiopa hygiea ---- The Broad Bordered Mourning-cloak
Aberant form ---- The Painted Lady

NAVAJO (CONT)

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.

BANDELIER (CONT)

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 - Claf 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, ECV 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. McPherson, 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

BANDELIER (CONT)

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).

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 pheasant and many magpies were in evidence around the Monument. No evidence of stock around the ruins or of vandalism was noted.

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.

CHACO CANYON (CONT)

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

CHACO CANYON (CONT)

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. Boas, 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.

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.

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,

WALNUT CANYON (CONT)

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.

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.

EL MORRO (CONT)

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,

EL MORRO (CONT.)

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.

TONTONO

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.

TCNTO (CONT)

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.

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.

CANYON DE CHELLY (CONT)

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

CANYON DE CHELLY (CONT)

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.

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.

WUPATKI (CONT)

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.

WUPATKI (CONT)

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.

WUPATKI (CONT)

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.

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.

CASA GRANDE (CONT)

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

CASA GRANDE (CONT)

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.

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

AZTEZ RUINS (CONT)

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 Durango, 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
SOUTHWESTERN MONUMENTS

AZTEC RUINS (CONT)

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.

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

MONTENZUMA CASTLE (CONT)

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.

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

PIPE SPRING (CONT)

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; Pigeon 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.

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 masonry 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

BANDELIER ECW (CONT)

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.

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 Landscape 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.

NATURAL BRIDGES

By Zeke Johnson, Custodian

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.

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 whether 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,

ENGINEERING ACTIVITIES (CONT)

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 caisson and filling between posts and caisson with rock. The caisson 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

ENGINEERING ACTIVITIES (CONT)

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 Vegtie'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.

MISCELLANECUS:

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.

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 Hernalillo 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, Chetro 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

MONTH OF THE BCSS (CONT)

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 pleasant sunset hour in conversation and enjoying that wonderful view off across the painted desert country.

MONTH OF THE BCSS (CONT)

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.

MONTH OF THE BOSS (CONT)

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 dries 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

MONTH OF THE BOSS (CONT)

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.

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 reconnaissance 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

NATURALIST DIVISION (CONT)

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 Amsdens 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 semblance 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.

NATURALIST DIVISION (CONT)

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.

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, restaurants, 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.

CLOSING (CONT)

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 or lack of service next summer.

CLOSING (CONT)

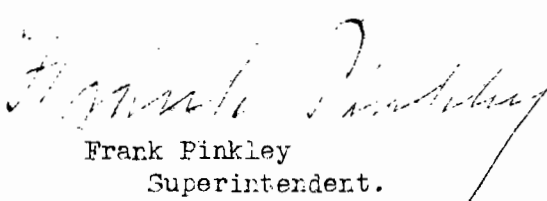
Boundary problems are still bothering us at several of our monuments. Especially do we need to know where the boundary of Canyon de Chelly National Monument lies.

Land problems are also troubling us, the most pressing one being in Chaco Canyon National Monument.

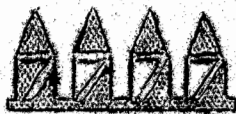
During my recent trip covering the district I had a chance to observe the morale of the men and it seemed to me to be good; not perfect and there are one or two points where it could be considerably improved, but, on the whole, it is good. It must be remembered that we are working under peculiar conditions at many of our places and our problems are in a sense special problems. Our men have much heavier responsibilities than 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)	Amount of Bitumuls Stabilizer used
#40 - 96.0)	was computed from the formula
#80 - 86.0)	15% x 200 Mesh or .15 x 71.3% = 10.7%
#200 - 71.3)	
Wash - 70.5)	

Weight of batch = 2494.75 gm. soil = 5.5 lbs..
 $\times 10.7\%$
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.

$\therefore \frac{1728}{96} = 18$ 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.

ADOBE STABILIZATION (CONT.)

Description of Bricks Tested

<u>Designation</u>	<u>Description</u>
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:

<u>Designation of Brick</u>	<u>Description</u>	<u>Relative Protection against Wind Erosion</u>
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	91.5%

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

ADCBE STABILIZATION (CONT)

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:

<u>Designation of Brick</u>	<u>Description</u>	<u>Water Absorption (8 days)</u>	<u>Efficiency of Waterproofing in %</u>
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

ADOC BE STABILIZATION (CONT).

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,

G. L. MCKESSON, Director
Engineering and Research

TABLE I
TABULATION OF WIND EROSION DATA

	Untreated No. 3	Untreated plus coating		Treated with 10.7% Bitumuls	
		No. 2-U	No. 1-U	No. 2-S	No. 1-S
After drying at 140 Degrees F. for 7 days					
Initial Weight	1247.6 Gms.	1147.0 gms.	1138.5 gms	1021.7 gms.	1057.1 gms.
After 1st Spraying	-	1152.3	1146.3	-	1058.5
Weight					
1st Application	-	5.3	7.8	-	1.4
Weight					
Before 2nd Spraying	-	1156.3	1148.2	-	1062.0
Weight					
After 2nd Spraying	-	1162.5	1155.5	-	1063.7
Weight					
Two applications	-	11.5	15.1	-	3.1
Weight of same					
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
Relative % Efficiency (Basis of no treatment)	0.0	-	71.5%	84.6%	91.8% (badly dis- colored)

TABLE II

ADOBE BRICKS

ABSORPTION TESTS

Date	No. of Days	UNTREATED				BITUMULS TREATED 15% of 200 = 10.7%			
		Plus Erosion Only		Plus Coating (No Erosion)		Erosion Only		Plus Coating	
		No. 3	%	No. 2-U	%	No. 2-S	%	No. 1-S	%
8-27-35	0	1242.0		1166.3		1033.0		1068.8	
8-28-35	1	1395.6	12.3	1306.6	12.0	1038.9	.57	1074.7	.55
8-29-35	2	1448.6	16.6	1347.3	15.9	1041.2	.80	1077.3	.77
8-30-35	3	1479.8	19.1	1386.9	18.3	1043.3	1.00	1079.6	1.10
9-3-35	7	1508.7	21.4	1403.2	20.3	1048.2	1.50	1084.8	1.40
9-4-35	8	1513.6	21.9	1407.1	21.2	1049.8	1.60	1086.7	1.70
% Efficient		0.0		4.3		92.7		92.2	
								17.8	

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

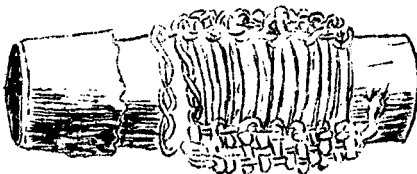
Condition of material: Dessicated.

CEREMONIAL CIGARETTES (CONT)

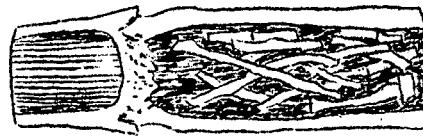
Description: Laboratory No. 1065

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.

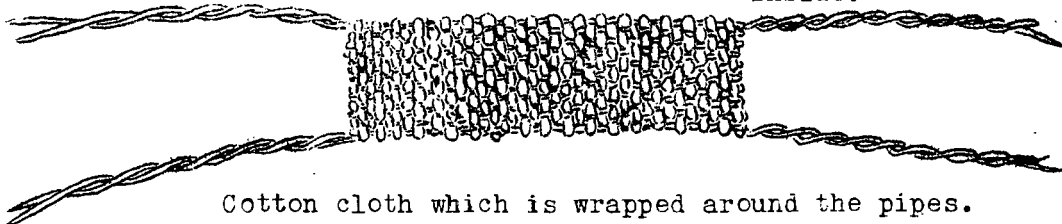
These pipes are made from Reed Grass, Phragmites communis. This grass is the only one native to the Southwest which attains sufficient size and firmness to be called a cane or reed. It is known in that region chiefly by the Mexican name "carrizo". This grass is of very wide distribution in North America, 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 (l.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

CEREMONIAL CIGARETTES (CONT)

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 Hediendilla.

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 bigeloviae. 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.

CEREMONIAL CIGARETTES (CCNT)

Fewkes (l. 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 (l. 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. Mital'sky 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 (l. 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 (l. 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

CEREMONIAL CIGARETTES (CONT)

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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(Article in Handbook of American Indians, Bulletin 30, Bureau of American Ethnology, pp. 767-769)

Fewkes 1

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Casa Grande, Arizona

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(Bureau of American Ethnology, 17th Annual Report, Pt. 2, pp. 527-744)

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The Pima Indians

(Bureau of American Ethnology, 28th Annual Report, pp. 3-389)

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Tobacco, Pipes and Smoking Customs of the American Indians

(Bulletin of the Public Museum of the City of Milwaukee, Vol. 17, pp. 1-994, Pts. 1 and 2)

Lewton, Frederick L.

The Cotton of the Hopi Indians

(Smithsonian Miscellaneous Collections, Vol. 60. No. 6)

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."

Gems 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.

COTTON (CONT)

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.

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.

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.

ABOUT WUPATKI (CONT)

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 Mekkopi 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.

OCTOBER BIRDS AT BANDELER

By Betty Jackson

That little bird I couldn't identify last month turned out to be the Pileolated Warbler (*Wilsonia pusilla pileolata* 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 solitarius 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.

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 Coclidge 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.

LEONARD HEATON SAYS (CONT)

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.

'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

WAY BACK WHEN (CONT)

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.

WAY BACK WHEN (CONT)

(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. Scratch-
ing 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,

WAY BACK WHEN (CONT)

but I think it will be easy to check it again.

Cordially yours,

(Signed) FRANK PINKLEY
Custodian, Casa Grande Ruin.

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.

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.

WAY BACK WHEN (CONT)

(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.

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.

WAY BACK WHEN (CONT)

GENERAL NOTES:

In July I sent for your files a tracing of Compound A drawn on a scale of 1/8 inch = feet. 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.

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-

WAY BACK WHEN (CONT)

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.

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:

WAY BACK WHEN (CONT)

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

'WAY BACK WHEN (CONT)

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 Grande (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.

SOUTHWESTERN MONUMENTS 307 SUPPLEMENT FOR OCTOBER, 1935.

WAY BACK WHEN (CONT)

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 -----	62.65	
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
	<u>206.04</u>

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

WAY BACK WHEN (CONT)

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
	<u>108.04</u>

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