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Vol. I

THE SOUTHWESTERN MONUMENTS.

Frank Pinkley, Superintendent, Blackwater, Arizona.

Nothing spectacular has been done in the work among the southwestern monuments in the last year, nevertheless some real progress is to be noted.

Reports on the various monuments in this district follow:

Astec Ruin National Monument is located in northwestern New Mexico near the Colorado-New Mexico line and is under the charge of Custodian Earl Morris who is serving at a nominal salary. Mr. Morris was again give a leave of absence during the year to supervise excavations in Central America. Mr. O. B. Owens acted as ranger in charge while Mr. Morris was away.

The American Museum again furnished the salary to protect this monument. I have included a salary in the 1927 estimates and, since the American Museum has more than fulfilled its promise made when it donated this ruin to the Government, it is essential that we get the salary and assume this obligation. The ruin is a 800 room communal house of the well known pueblo type. It is in a thickly settled country and has thousands of visitors each year. Unfold damage could be done by vandals in a few weeks should the American Museum decide to discontinue its allotment for a salary and we not be prepared to take it up.

Capulin Mountain National Monument, lies in northeastern New Mexico and is under the charge of Custodian Homer J. Farr of Capulin, who serves at a nominal salary. The reservation was made to protect the magnificent example of a recently extinct volcano which rises about 5,000 feet above sea level and stands about 1,500 feet above the level of the surrounding plain.

No expenditures, other than the nominal salary, were made during the fiscal year 1925, but allotments have been made and road and trail work have been outlined for 1926.

Carlsbad Cavern National Monument, in southeastern New Mexico, is under the charge of Custodian W. F. McIlvain, of Carlsbad, New Mexico, who serves at a nominal salary.

Further explorations were conducted in the cavern during the year with funds granted by the National Geographic Society and we are now more certain than ever that this is one of the great caverns of the world.

The appropriation in the 1935 bill amounting to \$5,000 was expended and encumbered to the amount of about \$4,100. Purchase included one lighting unit, and a pump, tank and galvanized pipe for a water system. Funds were not available out of the appropriation for installation and that had to wait the next fiscal year.

The Carlsbad Chamber of Commerce constructed a stairway through the natural portal of the cavern at an expense of \$1,000, thereby eliminating the former method of ingress by way of an iron bucket and cable to a depth of 170 feet.

A new road is being built from the Carlsbad-Van Horn highway to the cavern on an easy grade so that all cars can reach the portal of the cavern. Heretofore only high powered cars could negotiate the old hill with its 28% grade.

Casa Grande National Monument, in south-central Arizona, has been my headquarters during the year. During my absence on work at other monuments, which amounted to some four months, Mr. George L. Munday was in charge.

During the year we expended \$1314.47 in repair and protection work at Casa Grande.

The prehistoric ruins which cover this reservation are notable as the last standing ruins of the type in the United States and it is important that they be protected and handed down to future archaeological research in as complete state of preservation as possible.

Visitors have come in increased numbers and have taken more of our time. Two of us have been trying to give the same service here that is given in Mesa Verde National Park to a smaller number of visitors by six or seven employees.

Chaco Canyon National Monument. in northwestern New Mexico, is under the charge of Custodian G. A. Griffin who receives a nominal salary.

As examples of prehistoric architectural skill, the Chaco Canyon ruins are without an equal in the whole United States. The ruin of Pueblo Bonito alone contained between 800 and 1,000 rooms and has walls standing at present to a height of nearly 40 feet. There are 40 major ruins on the monument of which Pueblo Bonito is the best known because of the four seasons of excavation which have been carried on under the grant of \$75,000 from the National Geographic Society. The expedition is headed by Doctor Neil M. Judd and is now in the field for the fifth and last year of work.

During the year we expended \$1,362.06 in repair and preservation work at Pueblo Bonito ruin, beginning a campaign which must necessarily last over several years.

By all means we should have a full paid man in charge of this monument and I have again included the salary in the estimates for 1927.

El Morro National Monument lies 13 miles southeast of Gallup, New Mexico, and is under the charge of Custodian E. L. Vogt, of Bannah, New Mexico.

On the smooth face of the sandstone cliff of El Morro are the inscriptions of five of the early Spanish governors of New Mexico, as well as of many intrepid padres and soldiers who were among the first Europeans to visit this part of the world.

We expended \$142.06 at El Morro for signs, toilets and minor repairs. Protection for the inscriptions themselves is planned for next year.

Gran Quivira National Monument. in central New Mexico, is under the charge of Custodian W. H. Smith, of Gran Quivira.

This monument is of special interest because the ruins lap from the prehistoric down into the historic times. The pueblo was inhabited long before the coming of the Spaniards, and the two mission churches were erected, one in 1628-30, and the other after 1650.

The American School of Archaeology, of Santa Fe, New Mexico, expended about \$600 in excavation in the summer of 1924 and we expended \$433.75 in repair and protection during June, 1925. Further work at this monument is planned for next year.

Navahajo National Monument is located on the line between Colorado and Utah and contains many stone walled ruins of great interest to both the casual visitor and the archaeologist.

Owing to a lack of funds we have no custodian and have never done any repair work at this monument.

Montezuma Castle National Monument, lying in central Arizona, under the charge of Custodian Martin L. Jackson, of Camp Verde, is the most easily accessible cliff dwelling in a good state of preservation in the southwest.

We expended \$233.47 in repairs at the Castle in July, 1924, and will continue the work in the summer of 1925.

Mr. Jackson is paid a nominal salary and is rendering excellent service, but it is absolutely imperative, if we wish to preserve this ruin, to put a full paid man in charge.

Natural Bridges National Monument is in southern Utah, under the charge of Custodian Eke Johnson. This monument is reached by trail only, from Blending, Utah, and lack of funds has prevented any improvement of the trail. No money was expended at the monument during the past year.

Havasupai National Monument, in northern Arizona, is under the charge of Custodian John Wetherill and the three fine cliff dwellings form an interesting exhibit.

This monument has not yet come into its own, being far back from the regular lines of travel, but a great increase of visitors is to be expected within the next two years and a summer resident custodian should be planned for by 1928. Mr. Wetherill receives only a nominal salary and cannot be expected to devote the time which will be necessary for the proper protection as the number of visitors increases.

Panage Saguaro National Monument. located in southern Arizona, is under the charge of Custodian J. B. McClain, who receives a nominal salary.

Here we have reserved a typical section of desert scenery which forms a wonderful contrast with the waving alfalfa fields and beautiful orange groves which surround it under the Roosevelt irrigation project.

Petrified Forest National Monument. in northern Arizona, is under charge of Custodian Mr. Nelson.

Mr. Nelson has spent a very busy year guarding his monument against the vandal and souvenir hunter. He has not had funds enough to furnish him with complete ranger service and he has been overworked most of the time.

During the year he has erected many signs warning and guiding visitors, has improved the camp ground and water supply, and has added greatly to the collection of beautiful specimens in his museum.

Next year we plan the erection of a ranger cabin and further improvement of the water supply.

Mr. Nelson's greatest need is additional ranger service.

Pipe Spring National Monument. in northern Arizona, has no custodian due to a lack of funds. We were able to spend \$172.18 in repair and restoration at Pipe Spring during the year and plan further expenditures in the summer of 1935.

Rainbow Bridge National Monument. in southern Utah, the largest natural bridge in the world, has no custodian, and none is really needed as yet. It is reached only by trail with a pack outfit, and no money has been expended on the monument.

Prescott National Monument. in southern Arizona, touches the mission period in the history of the southwest. This mission was first visited by Padre Kino in 1691 and the present walls were erected about 1800. It is one of the most charming and interesting of the ruined missions in the United States.

We expended \$429.73 in repair and restoration during the year and have further work planned for the winter of 1935.

Kupatki National Monument, in northern Arizona, is the most recent addition to our family of southwestern monuments and is under the charge of Custodian J. M. Clarke, of Flagstaff, Arizona, who serves for a nominal salary.

We expended no funds on Kupatki but expect to put up signs, a register box, and make other improvements during the coming year.

The interesting stone walled ruins on this monument make the side trip from Flagstaff well worth while to the tourist who is interested in the prehistoric cultures of the southwest.

Inasa House National Monument, in southwestern Colorado, has no custodian and few visitors. It contains prehistoric ruins which will be of great value for future research workers in aiding to establish the limits of the Mesa Verde culture.

1932
Annual Report

THE SOUTHWESTERN NATIONAL MONUMENTS.

Frank Pinkley, Superintendent, Coolidge, Arizona.

General.

Travel throughout the Southwestern Monuments will show a decrease for the travel year 1932, by the time the attendance figures are tabulated. This can, in a general way, be attributed to the general depressed economic conditions, but, bad roads, at various times, were a contributing factor, at some of the monuments. The monuments located on or adjacent to main highways did not suffer from this cause, as did those located on side roads. Some stress must be placed on the fact that although the travelling public took advantage of the convenience in visiting monuments on or near main highways, apparently lack of funds kept many from attempting visits to monuments not so situated. For a part of the year, uncertain conditions at the Rio Puerco kept the travel attendance from reaching a better figure at the Petrified Forest. These conditions have now been eliminated by the completion of the bridge across the river, and the completion of the road across the monument. 7

The fact that the road between Tucson and Nogales was under construction for a good part of the time kept a lot of travel from going on to Tumacacori. The more or less general poor road conditions in many other places was in responsible for less travel figures, especially when coupled with the general depression. The gravelling and oiling of a 13 mile stretch of road south of Chandler, which has been contracted for, will complete the last link in a continuous paved and oiled road from Phoenix to Tucson, and should mean increased travel for Casa Grande. However, general road conditions near many of the monuments will continue to handicap travel for years to come.

Administration.

The Southwestern Monuments, during the year, were administered by the Superintendent, the Chief Clerk, the Park Naturalist, 7 full-time custodians, 5 part-time custodians, 6 permanent rangers, 9 temporary rangers, 1 temporary ranger-naturalist, and one laborer (the latter appointment beginning July 1).

Additions to Monument Areas.

On February 25, 1932, the President signed a proclamation transferring the jurisdiction of the Bandelier National Monument from the Forest Service to the National Park Service. This area is located northwest of Santa Fe, New Mexico, and comprises 22,075 acres. On March 17, 1933, the President signed a proclamation creating the Great Sand Dunes National Monument in Colorado. This area contains approximately acres. Thus, the Southwestern Monuments have been increased to 20 in number. Approximately 6,000 acres were added to the Blue Forest area of the Petrified Forest, through trade for outlying tracts.

Construction and Improvements.

A great deal of construction work was accomplished, during the year. The following construction was completed at Aztec Ruins: a custodians residence; a public comfort station, and a tool and implement shop. A contract was entered into for the furnishing of irrigation water for the monument. Electric light service has been secured from the local electric company, and telephone service has also been installed. The road between Aztec and Durango is being improved, and will result in an increase in travel from that direction.

At Casa Grande, the following construction was completed: gravelling and oiling of three-fourths mile of stub road from the monument entrance to the parking area in front of the administration building; gravelling and oiling of the parking area; woven wire fence on two sides of the monument (the other sides being protected by irrigation canals); the building of an attractive entrance with massive wooden gates; administration building and comfort station;

residence for the Superintendent; residence for the custodian; a tool and implement shop. Two residences previously completed were wired for electricity. A 2 K. W. automatic Kohler light plant was installed, with a 2 K. W. non-automatic Westinghouse plant in reserve. The picnic and camping area was enlarged and a large shade built as well as six fireplaces for cooking. Contract has been entered into for the construction of a shelter over the Big House, and work is expected to commence with cooler weather.

At Chaco Canyon, some repair of ruins was done, mostly with local Indian labor. Arrangements have been made, which will insure us a good supply of water from private holdings, until such time as we will be able to install our own. The private land situation in that monument seems to preclude any early development.

Fences and roads were repaired at El Morro and a cattle guard installed. Some fireplaces were built for the campers. Considerable work was done on the road leading to the top of Capulin Mountain, and the use of a maintaining machine was secured from the county. The road was kept in good shape throughout the greater part of the year. Trails were repaired and enlarged at Natural Bridges, and road from Blanding greatly improved.

A residence for the custodian at Gran Quivira is under construction and contract has been entered into for the drilling of a well for a water supply. The water supply has so far consisted of a 40 barrel cistern in which rain water was caught. The monument road was gone over and put into shape, and some necessary repairs were made on the old ruins.

At Montezuma Castle, a public comfort station is under construction and a sewer system has been completed. New ladders leading to the cliff-dwelling were built and installed. These ladders are more securely built and more comfortable to use than the old. A retaining wall was built against the hillside west of the museum. This was necessary on account of the erosion that followed each rain, when both the hillside and the road were endangered.

At Pipe Spring, some necessary repairs were made on the old buildings. A good deal of work was completed at Petrified Forest. The following construction was completed: a 16 mile stretch of gravelled road across the monument;

bridge across the Rio Puerco; administration building, a residence for the custodian; two ranger quarters, and a tool and implement shop. A public comfort station and a ranger's quarters have recently been contracted for, as well as the drilling of a well for a water supply. The parking area in front of the administration building has been greatly improved, and some trails laid out leading to the various sections of the monument. A 2 K. W. automatic Kohler light ~~plant~~ plant was installed, with a 2 K. W. non-automatic Westinghouse plant in reserve.

We have completed the following construction at Tumacacori; a ranger's quarters, a public comfort station, and a tool and implement shop. A sewer system was also built. A pump engine was purchased and installed to insure a dependable water supply, which was not possible with the windmill. The monument was fenced with woven wire, and considerable work was done repairing the walls of the mission. The Tucson-Mogales highway construction was completed some time ago. The completion of the ranger's residence will release the old priest quarters, heretofore occupied by the ranger. The building will receive such remodeling as is necessary and will be used to house the museum collection which has gradually been built up at this monument.

Funds have been allotted for road work and other improvements at Casa Grande, Montezuma Castle, Petrified Forest and Tumacacori.

Topographical maps were made by the Engineering Department of the following monuments: Aztec Ruins, Casa Grande, Chaco Canyon, Gran Quivira, and Montezuma Castle.

Museum & Education.

Museums are maintained at the following monuments: Aztec Ruins, Casa Grande, Chaco Canyon, Gran Quivira, Montezuma Castle, and Petrified Forest. An interesting collection has been made at Tumacacori, which will shortly be exhibited in the old priests' quarters of the mission. The collections at Casa Grande and Petrified Forest were moved from their old locations into new exhibit rooms in the new administration buildings. Several new exhibits were added to these collections and the display in both places shows up very well.

(A supplementary report by the Park Naturalist on this feature is attached.)

Visitors are furnished guide service, and are contacted practically 100 percent at the following monuments: Aztec Ruins, Bandelier (seasonal), Casa Grande, Chaco Canyon (seasonal), El Morro (seasonal), Gran Quivira, Montezuma Castle, Natural Bridges (seasonal), Petrified Forest, Pipe Spring, and Tumacacori. We are still working the educational program under a handicap owing to shortage of personnel, but believe that we have made some worthwhile progress.

Camp Grounds & Sanitation.

Considerable progress was made in sanitation by the erection of modern comfort stations at Aztec Ruins, Casa Grande and Tumacacori. Comfort stations are now under construction at Montezuma Castle and Petrified Forest. The drilling of wells, now contracted for, will insure a water supply for these comfort stations. Camp grounds have been improved and enlarged at several of the monuments, and plans for better disposal of garbage are under way.

Equipment.

New equipment as follows has been added: a five-passenger sedan for the Superintendent; a five-passenger sedan for the custodian at Petrified Forest; a dump truck, and a light pick-up truck for the Petrified Forest. A heavy second-hand truck was transferred to the Petrified Forest from the Bureau of Public Roads. Two light pick-up trucks were also transferred from the Bureau of Public Roads, for general use among the monuments. Two automatic 2 K. W. Kohler light plants were purchased, second-hand at a real bargain, and one installed at Casa Grande and one at Petrified Forest. Five non-automatic Westinghouse light plants were transferred from the Department of Commerce. One of these was installed at Casa Grande as a reserve unit, and one at Petrified Forest. The remaining plants have been taken to Gran Quivira, Montezuma Castle, and Tumacacori, where they will be installed soon.

A number of fire-extinguishers were purchased, and have been distributed among the various monuments, according to the number of buildings.

Special Occasions.

Easter sunrise services were held on Easter morning at Casa Grande. These services were sponsored by the various churches in the valley, and are intended to become an annual event in the future. The dedication of the Rio Puerco bridge at Petrified Forest was held on July 3, 1932, in which Governor Hunt of Arizona participated. The Director took part in the ceremonies and formally accepted the bridge on behalf of the National Park Service. On July 4, the unveiling of the Stephen T. Mather memorial plaque was held, at the administration area. The Director was present and took part in the exercises. The Superintendent was present on both occasions. The proposed memorial services for the Stephen T. Mather memorial plaque at Casa Grande, which were scheduled to take place on the same date, were postponed until later on account of the extremely hot summer weather.

Miscellaneous.

The Superintendent, together with Custodian Smith of Petrified Forest, attended the conference held in Hot Springs National Park in April. During the year the following officials visited the monument: Director Albright who in company with Superintendent Pinkley made a two-week inspection trip to the following monuments, in the order named: Gran Quivira, Aztec Ruins, Hovenweep, Natural Bridges, Navajo, Canyon de Chelly, Petrified Forest. Dr. H. C. Bryant, Assistant Director, visited Aztec Ruins, Chaco Canyon, El Morro, Petrified Forest and Casa Grande. Dr. Carl F. Russell, Field Naturalist, spent considerable time at Casa Grande and Petrified Forest last winter, assisting the Park Naturalist with arrangement of the museum exhibits at these monuments. Chief Engineer Kittredge and Chief Landscape Architect Vint made several official visits during the year, as well as several of their assistants. Sanitary Engineer Homan, of the Public Health Service, was also a visitor last winter, on official business in connection with his work.

In conclusion.

Much has been accomplished in our division during the past year, especially in construction work and general physical improvements. The educational end of the service has been considerably enlarged. Progress in museum installation has been made, especially at Casa Grande and Petrified Forest. As educational opportunities are expanded at these monuments, and as developments get under way at some of the newer monuments, increases in personnel and educational equipment will become absolutely necessary.

On account of the decrease in travel, we were able to give more time to other matters that were important. We are well pleased with what was accomplished, but much remains to be done.

Travel by Monuments:

Arches	 Hovenweep	.....
Aztec Ruins	 Montezuma Castle	.....
Bandelier	 Natural Bridges	.....
Canyon de Chelly	 Navajo	.....
Capulin Mountain	 Petrified Forest	.....
Casa Grande	 Pipe Spring	.....
Chaco Canyon	 Rainbow Bridge	.....
El Morro	 Tumacacori	.....
Gran Quivira	 Wupatki	.....
Great Sand Dunes	 Yucca House	.....

EDUCATION:

In educational activities during the past year marked progress has been made. Well designed administration and exhibit buildings have been occupied since early in 1932 at both the Petrified Forest and Casa Grande. These are among the most handsome museum units in the national parks system.

PETRIFIED FOREST

In the Museum:

Two spacious exhibit rooms were made available for display use at the Petrified Forest. Sheer beauty of the richly colored petrified wood is the dominant note in the main room. Beautiful factory made Bampus Style cases were made possible through the Mrs. Leviston donation. These are in keeping with the neat interior.

The central case contains the finest specimens of precious and semi-precious stones found in the region. Polished log sections are arranged about the room on benches which are to be soon replaced by nicely finished individual pedestals. Two cases contain fossils of Upper Triassic reptiles and amphibians collected locally by Dr. Charles L. Camp, Director of the Museum of Vertebrate Paleontology, University of California. The specimens were prepared in the laboratories by Dr. Camp and to him we are indebted for the loan of these unexcelled exhibits.

The Naturalist's Preparation Room which occupies the east wing of the building has been turned into an exhibit room. Panels were prepared to illustrate the highlights in the story of the Petrified Forest. Leading questions which are carefully answered with labels accompanying the charts and petrified wood specimens are as follows: "During which stage of the Earth's history were the trees growing?"; "How did the trees turn to stone?"; "How do we account for the great variety of colors and their distribution?"; "How are the varieties of semi-precious stones distinguished?"; "Why do crystals often form in the seams and cavities?"; "What crystals are found?"; "What other forms of life were contemporary with the growth of the trees?" The designs for these panel exhibits were drawn up by the Park Naturalist several weeks prior to Dr. Russell's trip to Southwestern Monuments. In that way we were able to make all necessary preparations before his arrival so that as much as possible could be accomplished during his brief stay.

In the Field:

At the Petrified Forest one of the most unique Nature Trails in the National Park Service has been laid out. It takes off immediately at the back doors of the main exhibit room taking the visitor at once into the finest area of petrified wood in the world. This arrangement whereby the museum is a very necessary but somewhat secondary adjunct to the real thing itself seems to approach the ideal most desired.

Trails have been made from parking areas into the Third and Second Forests. Frequent guided parties are taken on the Rainbow Forest trail while occasionally especially interested groups are given guide service over the others.

Library:

A nucleus of a good library is started. Many references of general interest have been secured. Nearly all of the U.S. Geological Survey works have been procured through the cooperation of the Washington Office. In the future we hope to build up quite a library on best references in geology, ethnology, archeology, ornithology and natural history of the region.

CASA GRANDE

In the Museum:

Three exhibit rooms and a preparation room are available for museum materials at Casa Grande. Plain cases of pine without glass were made with the limited money available. These will have to serve until adequate factory-built ones are obtainable. Materials that have been accumulating under Mr. Pinkley's supervision for more than twenty-five years have been arranged and classified. A working plan was submitted by ^{the} Park Naturalist several weeks prior to Dr. Russell's trip. Upon his arrival control labels for all materials were made. Charts and maps showing (1) dispersion of Man-kind; (2) the Southwest Culture Area; (3) Food Areas; (4) Subdivisions of the Southwest Culture *area*

THE SOUTHWESTERN MONUMENTS.
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Frank Pinkley, Superintendent, Blackwater, Ariz.

We have had a prosperous year among the southwestern monuments so far as number of visitors is concerned, but we have been under the usual handicap of a totally inadequate force of men to receive the visitors and explain the hundreds of interesting points which we have at each of our monuments. Seventeen of the southwestern monuments had more visitors in the grand total this year than either Yellowstone or Yosemite national parks had last year, yet we were expected to furnish protection to the monuments and information to nearly two hundred thousand visitors with four full-paid and a dozen part-pay and temporary men. Think of trying to run the Yellowstone National Park on that basis!

Aztec Ruins National Monument, in northwestern New Mexico, under the charge of Mr. Earl Morris had 8,848 visitors. We were able to spend some money in repairing walls and protecting this most interesting ruin during the year.

Capulín Mountain National Monument, in northeastern New Mexico, under Custodian Homer J. Farr, had a large number of visitors who enjoyed the drive to the top of this one of the most recently extinct volcanoes in the United States, over the new road which was constructed last year.

Carlsbad Cave National Monument, in southeastern New Mexico, is one of the newer monuments and the public is just learning to appreciate it. An easy trail has been constructed into the cavern and a seven hour trip was given visitors during the year.

Casa Grande National Monument, in south central Arizona, has been my headquarters during the year and two of us have received 16,648 visitors showing them around the ruins and through our museum. The prehistoric ruins which cover this reservation are notable as being the last standing ruins of their type in the United States. We were able to do some protection and repair work on the walls during the year.

Chaco Canyon National Monument, in northwestern New Mexico, is under the charge of Custodian O. A. Griffin.

As examples of prehistoric architectural skill, the Chaco Canyon ruins are without equal in the whole United States. The ruin of Pueblo Bonito alone, and it is but one of twenty major ruins within the boundaries of the monument, had between 700 and 1,000 rooms and has walls standing at present to a height of nearly 40 feet.

The National Geographic Society Pueblo Bonito Expedition has completed its sixth season of work at Pueblo Bonito Ruin under the leadership of Dr. Emil H. Judd. The Society has now expended about \$100,000.00 in the excavation and study of the ruins of Pueblo Bonito and Pueblo del Arroyo on this monument. We have spent about \$2,000 for protection from the elements, but have so far been able to get only a nominal salary to keep a man in charge.

El Morro National Monument lies 42 miles southeast of Gallup, New Mexico, and is under the charge of Custodian E. C. Vogt, of Bunch, New Mexico.

On the smooth face of the sandstone cliff of El Morro are the inscriptions of five of the early Spanish governors of New Mexico, as well as of many intrepid padres and soldiers who were among the first few Europeans to visit this part of the new world.

A good supply of clean water was developed at El Morro this year.

Gran Quivira National monument, under charge of Custodian W. H. Smith, in central New Mexico, is of especial interest because its ruins leap from the prehistoric down into the historic period. The pueblo ruins now on this monument were inhabited long before the coming of the Spaniards and the two missions were erected, one in 1629-1630 and the other between 1680 and 1690. The place was abandoned before the uprising of 1680.

Again during the last year excavation and repair work was carried on in cooperation with the American School of Archaeology, of Santa Fe, New Mexico.

Hovenweep National Monument, in western Colorado and eastern Utah, is out of the general path of travel and the ruins reserved on this monument are not known or visited as much as they deserve. Future road construction will make them readily available and they will then come into their own.

Montezuma Castle National Monument, lying in central Arizona under charge of Custodian Martin L. Jackson, of Camp Verde, is the most easily accessible cliff dwelling in a good state of preservation in the Southwest. We had hoped before this to put Mr. Jackson on a full salary and the 11,000 visitors who went through the Castle this year did more or less damage because we had no one in direct charge. We have thus far been unable to get the funds and must look forward to about 14,000 more visitors next year who will tear down, scratch names and hunt souvenirs in the finest cliff dwelling in the United States.

Natural Bridges National Monument is in southern Utah under the charge of Custodian Jake Johnson. This monument is reached by trail only. No money was expended at the monument during the past year but we plan trail improvements next year.

Navajo National Monument, in northern Arizona, is under the charge of Custodian John Vetherill and the three fine cliff dwellings on the monument form a most interesting exhibit. Thus far visitors have not been numerous enough to this monument to demand a resident custodian.

Pancho Laguna National Monument, located in southern Arizona, is under charge of Custodian J.E. McGinnis who receives a nominal salary. Here we have reserved a typical section of desert scenery which forms a wonderful contrast with the waving alfalfa fields and beautiful orange groves of the reclaimed desert which surrounds it under the Roosevelt Irrigation Project.

Petrified Forest National Monument, in northern Arizona, is under the charge of Custodian Wm. Cox Buckler, who joined our Service last April. Mr. Buckler had three temporary rangers assisting him during the summer months and they did the best they could to give service to the 81,000 visitors and protect the monument from vandalism. The greatest need at the Petrified Forest is for one permanent ranger and three more temporary rangers during the season of heavy traffic.

King Spring National Monument, in northwestern Arizona, has no custodian, due to a lack of funds. Repair work here is going on at the rate of about \$200 per year and we have already made a great improvement in the looks of the place.

Maibow Bridge National Monument, in southern Utah, the largest natural bridge in the world, has no custodian, and none is really necessary yet. It is reached only by trail and no money has yet been expended upon the monument.

Sunset Crater National Monument, in southern Arizona, again touches the mission period in the history of the southwest. This mission was first visited by Padre Kino in 1691, and the present walls were erected about 1800. It is one of the most charming and interesting of the ruined missions in the United States. Some repair work was carried on during the past year.

Wupatki National Monument, under charge of Custodian J. C. Clarke, of Flagstaff, Arizona, had its usual number of visitors during the year. Wupatki contains some very interesting ruins belonging to a little known phase of the prehistoric culture of northern Arizona.

Tucson House National Monument, in southwestern Colorado, is one of our little known and little visited monuments. The ruins on this monument will have to be excavated before they can be appreciated by the visitors. When that is done, Tucson House will be one of our most interesting monuments.

The number of visitors at the various southwestern monuments during the past season has been as follows:

(Report by wire, night of Sept. 20)

September Supplement
To The
Monthly Report.

Dealing with persons and general news.

Chief Clerk Martin Evenstad returned to duty September 10 after having taken his month of furlough. M.O. and family visited the home folks in North Dakota while they were away.

Ranger Hugh Wurry received the sad news of the death of his Mother which occurred at Paw Paw, Ill. on September 8th. She was 64 years old. Mr. and Mrs. Curry have the sympathy of the rest of the force in their sorrow.

The 'Park Service Indian Christmas Company,' operated by Mrs. White Mountain Smith and Miss Isabelle F. Story and sponsored by the Director, is doing a good business.

The idea is for all Service employees to give as many Indian things as possible for Christmas this year. This will help out the Indians, who need the help badly, and you will be giving a unique and interesting present at the same time. There are no overhead expenses, these girls donating their time and energy to the cause, so the prices on the goods are reasonable, being the wholesale cost only, and since Dama Margaret Smith does the buying for the outfit, the wholesale prices themselves are generally whittled down before the deal is closed.

On September 26, Miss Story wrote as follows: "Of the first four batches of Indian material received, (one of them being a special order), with a total value of \$247.05, we have sold \$208.85 worth. That is in less than three weeks. The material sold consists of Navajo rugs, runners, and pillow tops; Navajo jewelry; Maricopa pottery; Papago baskets; and an Apache bead bag. We had a supply of the latter, but they just don't sell.

"Yesterday four more packages, valued at over \$300, came in. They contain rugs, jewelry, baskets, and a few of those Chimayo handbags. I'll not report on that until next month, although we've made quite a few sales today."

Most of us among the monuments, of course, can buy Indian stuff on our own front porch, but if you can help this movement out in any way, say by writing your friends about it, I wish you would.

One of our carping critics around the office objects to the Superintendent's usage of the verb 'to yammer' in this month's report. We might say here and now that we are not going to be bound by the mere 400,000 words in the dictionary. Personally, we threw in years ago with the people who make dictionaries and not with those who merely follow them. So 'to yammer' is our verb and we will stick to it and you just come down around Tumacacori or Gran Quivira a while and you will hear the treasure hunters doing it.

On the other hand, here comes H. R. Julian in the report with that word 'ratiocination!' He ought to be charged extra for using a two dollar dictionary word like that when all he means is 'guess'.

Attendance lists will soon be out for all the Parks and Monuments, but as a matter of news among ourselves we print here the total attendance for the year ending September 30 among the southwestern monuments for years 1931 and 1932.

	1932	1931
Arches v v.	480	405
Aztec	8,322	10,710
Bandelier	4,164	-----
Capulin	25,000	18,000
Casa Grande	21,895	27,675
Canyon de Chelly	395	423
Chaco Canyon	2,725	1,780
El Morro	2,700	3,854
Gran Quivira.	3,844	4,232
Great Sand Dunes.	500	---
Hovenweep	400	440
Montezuma Castle.	14,000	14,411
Natural Bridges	344	368
Navajo.	300	300
Petrified Forest.	84,228	93,898
Pipe Spring	2,100	2,300
Rainbow Bridge.	325	350
Tumacacori	13,758	12,036
Wupatki	850	650
Yucca House	240	264
	186,570	193,096

And also, Mr. Julian's Learned List in his monthly report makes us a little suspicious: El Palacio, in its September number carries a report of the Jemez School of Archaeology etc. in which it describes a two day trip of the school to Chaco Canyon National Monument. Now, 'postulating this much' (to use H. R.'s expression), how many representatives of his list of manufactories of learning did H. R. get out of that one party?

That was a mighty fine letter the Director wrote Mr. Boundey last month congratulating him on the nice things that Chamber of Commerce resolution said about him. Nogales has a strong Chamber of Commerce and it is 100% behind Tumacacori and its Custodian.

If next month's report runs up into footage like the September one, we plan to furnish an index with it. Also we will number the pages. Any further suggestions for improvements will be gladly accepted. Remember that if our reports are going to be worth anything, it is the individual Custodian who must make them that way; we can't do it here in the office.

We tried a new trick this month by sending special copies of the report to the Educational, Landscape and Engineering Departments with all the matters in the report connected with that Department marked with blue pencil. This gets our stuff to the Department while it is yet news; before it becomes ancient history, and they know what we are doing and can take action to help us long before they would be able to search it out of the bulky volume of the bound reports of the whole Park Service which reaches them much later.

Now and then something crops out to show that this end of the Park Service is getting soft. We are thinking in too large terms. We must have thousands here and thousands there or the heavens will fall! If we don't get thus and so we are helpless and can't do a thing! Not so very long ago we were delivering a mighty fine brand of service on what now looks to our enlarged eyesight like a microscopic appropriation. In all this rushing and roaring around and growing into a bigger organization, let us watch carefully that the Park Service Spirit, - the spirit of service, - doesn't evaporate. There was a time when visitors were so few that we treated them almost as personal guests and that still holds good at some of our monuments - lucky monuments they are as Mr. Julian brings out in his report this month, where a man can work his head off and have a grand time doing it. However big and complicated our organization may grow, if we can't remember that it is all built on the visitor and see that he gets the same old type of service; then we are growing downward and not upward. We are not going to get much money this year and next, and it is probably a good thing for we will have a breathing spell from all these roads and houses and worrying about whether we are going to have all the material comforts of life this year or will the Heavens fall. We will have some spare time to do some thinking on the real foundation of this whole structure, - the visitor and service.

After all, the pioneer stage is the really interesting stage. We look back on it afterward as great fun even if it did have its inconveniences and leaky roofs. And from such a viewpoint we can't get highly excited about the sad situation of a fellow who can't have the hot water piped into his bathroom this year on account of lack of funds. The poor goof is lucky to have a job which has a house which has a bathroom to pipe hot water to. If you have any doubt about this, go outside and try to duplicate your

present salary, quarters, retirement, etc. in the merry world of business. That will be an eye opener to the fellow who is fussing because his old bath fixtures are nickle plated and the latest thing in bath fixtures is chromium.

We are moved to remark that it doesn't matter much what you do; it is how you do it that counts. This is brought to the surface by the fact that Teddy is going to quit.

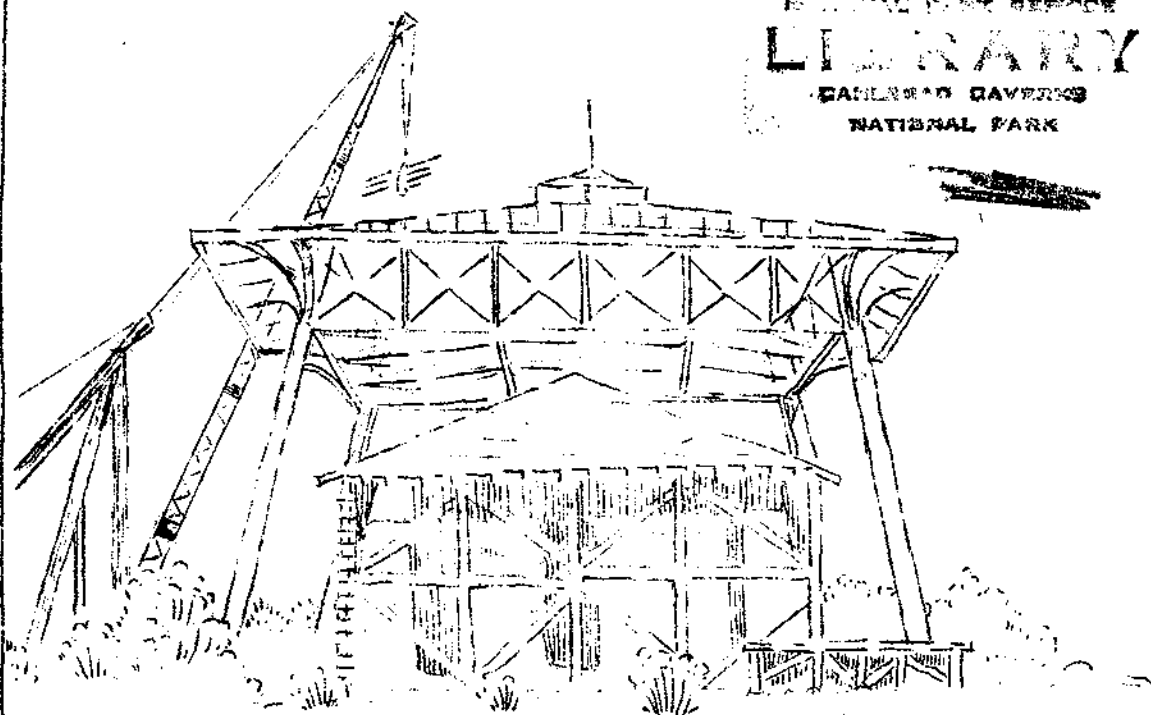
Teddy sweeps and dusts and cleans things up and moves bushes and shrubs and irrigates and cares for the pumping plant and the light plant and is always on the job and never gets grouchy and is, in a word, much nearer a 100% janitor than the rest of us are 100% rangers and custodians and superintendents. So it doesn't matter much what you do; it is how you do it that counts.

Cordially,

Frank Prichard
- The Boss -

THE
OCTOBER 1932
MONTHLY REPORT
OF THE
SOUTHWESTERN MONUMENTS

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CASA GRANDE SHELTER

(CONSTRUCTION)

Nov. 1, 1932

E.A.N.

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October, 1932

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Footnote: Monthly Report Supplement on news and personal items
to follow under separate cover.

United States
Department of the Interior
National Park Service
Southwestern Monuments
Coolidge Arizona

November 1, 1932.

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

Dear Mr. Director:

October, 1932, is now a matter of history and it only remains for us to embalm its operations among the Southwestern Monuments in our peculiar style of English for the benefit of all who may hereafter come seeking such information.

The Weather gave us another good month for general travel. We had a general stormy period over the district the first part of the month; another the 18th, 19th and 20th; and some local storms the 24th, but none of these were sufficient to stop traffic or cause washouts on the through roads.

The Roads in the district are in pretty good shape for the kind of roads we have in Arizona and New Mexico. The new oil surface between Santa Fe and Bernalillo is completed except for a five mile detour at the Santa Fe end which will also be open in a week or two. A 12 or 15 mile section of new road is being completed between Holbrook and Winslow; it is now open to traffic with the gravel surface still going down in spots. Several miles of the road between Flagstaff and Williams is under construction - pretty well torn up but traffic is going through all right. A new job of several miles is about completed between Ash Fork and Prescott. Several miles of new construction is going in between Congress Junction and Wickenburg; this is new alignment and causes no traffic delays. The new Oak Creek Highway between Flagstaff and Jerome is completed except for one detour at a bridge. This road is certainly a fine piece of work and shows up the beautiful canyon to advantage. Reconstruction is starting on several miles of road between Tucson and Nogales and this will be reflected in the Tumacacori attendance record for the next couple of months.

Travel gained a little on last year's record for the district as a whole but is still below normal. I got some indications during the month that travel money is loosening up. The La Fonda Hotel, in Santa Fe had rooms only in the new section and not many there - which means they have nearly a full house. The Harvey House in Gallup reported fine business for the past four or five weeks. At Winslow the Harvey House reported good business. I take these to be indications that people are moving more than they were two months ago.

The Superintendent's Month. Arriving at headquarters on the last day of the month from an extended field trip, the first six or seven days of October were devoted to getting our monthly reports, cleaning up a well filled desk on which matters had been accumulating for about two weeks, and getting the run of things around headquarters. The next four or five days were occupied with current affairs and a little time was spent on the preliminary estimates for 1935.

On the 11th, Park Naturalist Bob Rose and I left on a field trip which lasted until the 28th, covered 2,700 miles, included eight national monuments and raised problems in archaeology, geology, ethnology, history, water supply, forestry, trail and road building, and a dozen allied trades and occupations. The everlasting fun of dealing with these southwestern monuments is that no two of them have the same problems and each one is always springing a brand new set as they grow and change.

We went up over the Black Canyon Road to Dewey and then turned east to the Montezuma Castle through the Hackberry Wash and down the Cherry Creek Grade. The distance was 183 miles, half mountain road making the running time about eight hours. We stopped an hour or so with Jack at the Castle and found things going pretty well except that they were all having bad colds and Hugh Curry had been sick for a couple of days but was on his feet again. We then pushed on to Flagstaff, 73 miles, for supper and afterward went on to Winslow, 39 miles, for the night at La Posada, the perfectly run Fred Harvey Hotel where manager Dooms holds forth.

Next morning we were rolling at 8.15 and ran over to Holbrook, 33 miles, where Bob arranged for a talk before a woman's club meeting that afternoon, after which we went on out to the Petrified Forest, 20 miles. Bob went back that afternoon and put on his lantern talk, Red Gunnell going along to handle the machine. Several of the ladies afterward complimented the Service on having men who could deliver such service. The publicity value of the talk was high because the ladies were gathered from all over Northern Arizona.

On the 13th we left the Petrified Forest after dinner and went as far as Gallup where we stopped for the night.

On the 14th we went from Gallup to Mountainair, 262 miles over pretty fair roads. We went down there to talk things over with the treasure hunters who are backing Mr. Otero on that work for which he has a permit. The treasure hunters came in on the morning of the 15th according to schedule and we all went out to Gran Quivira National Monument and looked over the ground. There was much talk, some argument and a few orders issued and after three hours on the ground we were ready to roll again. I am glad to report that Bob Rose, who was the 'carping critic' objecting to the verb 'to yammer' in our last month's report, is now willing to admit that a treasure hunter can and does yammer, he has both seen and heard them.

We found Mr. Smith settled in his new house and very comfortable except that the fireplace chimney smokes at the wrong end. It is a mighty fine little house and we are very proud of it. It is the same plan we built at Tumacacori and the front door opens outward like the front door down there without any place to hang a screen door, but we understand the Landscape Division has promised to furnish fly swatters free of charge to the folks who live in these quarters. Ask Mr. Tillett if this should be charged to 'Control of Predatory Animals.'

Having told the treasure hunters what they could and could not do, we went on to the Bandelier National Monument for the night, arriving there about five o'clock.

We found Acting Custodian Ed Rogers and the Honorary Custodian entertaining a steadily decreasing number of visitors and preparing to move out on the 18th to Tumacacori where they will spend the winter months.

We spent the 16th and 17th at the monument to give Bob time to digest some of the problems.

Here Walter Attwell and Mrs. Attwell, of the Engineering Division, overtook us and Walter went over the proposed road location which is to bring the traffic in on the floor of the Canyon. I am very anxious to get the complete survey made and the notes worked up as soon as possible to be ready to share in any money which might happen to be loose. Bandelier has gone just about as far as it can go unless a road is brought in allowing visitors to reach the interesting ruins without undue exertion. To the objection that this road will ruin the monument, my reply would be that it would open about a thousand acres of interesting ruins and scenery to the general public and leave 29,000 acres which can only be entered on foot or horse trails, so the monument won't go entirely to pot.

We went into Santa Fe on the evening of the 17th and left there the morning of the 18th for Capulin Mountain National Monument. We arrived at Capulin in the afternoon and Mrs. and Mr. Farr joined us and we all went on over to the volcano. Mr. Farr has the road up the mountain in much the finest shape I ever saw it and we all enjoyed the drive and the view very much indeed. He has quite a problem showing up in the 'unravelling' of the mountain slope above the roadway. Mr. Attwell studied that pretty closely and has some suggestions to offer which will be of interest to the Engineering Division.

We went back to Raton for the night of the 18th and back into Santa Fe on the 19th. We reached Santa Fe in time to look around some of the points of interest and go through the Museum which is in the Governor's Palace. Some of the material which was taken out of the ruins in Frijoles Canyon on the Bandelier National Monument many years ago is on exhibition in this museum as well as the material taken out of Chetro Keti ruin in Chaco Canyon National Monument. In both cases the material is credited to the ruins from which it came but no mention is made of its having come from a national monument or that the United States Government has any connection whatever with those ruins. It seems to me here is some publicity work for our Educational Division in getting us proper credit for those collections.

On the 20th we went from Santa Fe by way of Cuba to Aztec and on to Farmington for the night. Next morning we came back to Aztec and spent the greater part of the day with Johnwill and Dorothy Faris. Messrs. Attwell and Rose looked over the engineering and educational possibilities of the monument and we all enjoyed one of Dorothy's famous dinners with an extra big dish of gravy, - and you know how good she makes it.

That evening we went over to the Chaco Canyon National Monument and remained there the 22nd and 23rd.

We found Jim and Mrs. Hamilton, also of the Engineering

Division, at Chaco and with Hurst and Winnie Julian and Jean and Patsy Griffin; these latter two both part-time Park Service people, we all held a sort of young conference there in the Canyon in which we discussed archaeological, engineering and educational problems by the hour. Aside from its serious phase, this general meeting produced some mighty good results in a good fellowship way and a corking good time was had by all concerned.

We left the Chaco on the 24th and went down to Gallup over a fair to bad road intending to go out to Canyon de Chelly, but while we were eating lunch in the Harvey House at Gallup a storm blew up and we decided to go on to the Petrified Forest instead.

I met E. Z. Vogt at Gallup and had a little talk with him and his friends about his monument and his proposed trip on which they were starting the next day and which he describes in detail further on in this report.

The morning of the 25th dawned clear and cold so we decided to go to Canyon de Chelly, taking Mrs. White Mountain Smith along with us for good measure. We arrived at de Chelly without particular incident but found so much water in the Canyon that we could not go up the floor. We did, however, go up on the south rim and looked into the Canyon from those two fine vantage points and that sold the whole thing to everybody in the party. Earl Morris had completed his work and gone. We were of course not able to get up to Mummy Cave, but I didn't go in to inspect his job; I knew before he started that it would be all right.

Cosy McSparron has bought his partner out and is now the sole owner of Thunderbird ranch. He has some pretty good sized obligations to meet but if he keeps his health he will pull through and I am sure he will work well with us in the development of Canyon de Chelly.

Some discussion has arisen as to where the west line of that monument is going to fall when the survey is made. It looks a good bit like we will have to spot our headquarters at the mouth of the Canyon and there is only about a quarter of a section of available site there. The proclamation speaks of a township line forming the west boundary where it crosses the mouth of the Canyon. This line was simply projected on the map and has not yet been surveyed and Jim Hamilton is afraid it will cross some two or three miles up the Canyon. If it does, we haven't any more headquarters area than a coyote. I therefore feel that we ought to get the Engineering Division to run that west line up from some thirty miles to the south, (a week or ten days of work for three men) and let us find out where it falls and if it goes too far up Canyon we had better get an addition to our monument. I took this up by letter last month but you folks didn't understand the situation and thought I was talking about a very expensive survey of the whole boundary. I don't care where the other lines are right now but I do want to know where the west line crosses the Canyon.

We left de Chelly on the 26th and went back down to the Petrified Forest by way of the First Mesa, finding the road between Ganado and First Mesa in pretty poor shape.

On the 27th we went from the Forest down to the Montezuma Castle. Here we left Mr. Atwell who was to do some surveying and staking of plans on the ground.

Mrs. Attwell, Mr. Rose and myself came to Casa Grande on the 28th, and Mrs. Attwell took the train for San Francisco on the night of the 29th.

On the 29th I went down to Tumacacori to meet Messrs. Vint and Langley, of the Landscape Division. We went over the plans with Mr. Bunday regarding his proposed parking area and looked over the new ranger quarters which Mr. Vint saw for the first time. He asked me to mention especially that the fire-place did not smoke at the lower end, a fact which seemed to impress him deeply, I don't know why. We then came back to Casa Grande where, with Mr. Palmer, we worked on proposed plans until 11:30 at night when Tom and Harry drove into Phoenix.

On the 30th I left headquarters at 6:00 in the morning and drove to Montezuma Castle where Messrs. Vint, Langley, Jackson, Attwell and myself discussed plans for the parking area, road and bank protection.

On the 31st I returned to headquarters just in time to find the same sort of a well filled desk awaiting me that I had found the first day of the month.

Thus closed a fairly busy month.

The Park Naturalist's Month. By R. H. Rose.

My recent field trip, which included several new monuments I had not yet visited, was easily the outstanding event in my activities for the month of October. The itinerary was the same as that of Superintendent Pinkley's which is detailed elsewhere in this report and will therefore not be repeated here. Bandelier, Canyon de Chelly, Gran Quivira and Capulin Mountain, were the monuments visited by me on this trip for the first time. My brief visit to Chaco Canyon last year was wholly inadequate to sense the magnitude of the possibilities at that monument. On our recent trip two full days were spent there which gave me time to see and study most of the major features of interest.

Bandielier.

Bandielier National Monument appeals to me as one of the most effective instruments of popular education in archaeology in the Southwest. This, of course, is not equivalent to saying that it is the most important area in the Southwest archaeologically. Ruins of cliff cities built at the top of the talus and against the Canyon wall extend unbroken for more than two miles. This continuity of masonry ruins and cave houses makes it possible to present to visitors a fine field trip in archaeology in which interest can be sustained to high pitch for at least two and a half hours. Such trip would not include a host of detached additional points of archaeological interest in which the region abounds.

Immense flows of basalt lava; a lake hundreds of feet deep covering the Frijoles region formed by the damming up of the Rio Grande by lava; eruptions of volcanic ash covering the lake deposits to depths of hundreds of feet; and then the final stage, the carving of Canyon of El Rito De Los Frijoles by stream erosion, are the principal chapters in the geological story of this canyon. As I stood at the beautiful upper fall of El Rito de Los Frijoles the chapters of this fascinating geological story were revealed in the formations exposed in the opposite canyon wall.

The geological interest of a trip to the mouth of the Canyon where it empties into the Rio Grande will easily stand on its own feet to say nothing of the deer, wild turkey, interesting variety of trees and shrubs, all of which the writer observed while studying the possibilities of this Rio Grande nature trip.

The present personnel of one Custodian is quite inadequate to handle the present run of 4,000 visitors yearly at this monument. People should by all means be met at the foot of the trail. This requires one ranger. A satisfactory trip requires that this man be gone two and a half to three hours and takes him more than a mile from the foot of the trail. How can one man do both? Yet who can dispute the fact that the least amount of service we should possibly give requires that we both (1) greet people at the foot of the trail entertaining them until the time the next trip starts; and (2) that we take them over this fascinating trip of two and a half hours including the ruins and cave dwellings of the cliff cities? With this as a picture of the present personnel shortage situation in which we cannot even consider the geological trip down the Canyon, what are things going to be in a few years with a good road into the Canyon bringing more than 15,000 visitors annually? Due to its wide fame despite its present accessibility only by trail, I believe an estimate of 15,000 visitors for the first year after completion of a road is very conservative.

Summarizing for Bandelier, the following points stand out:

(1) This monument, though not our best archaeologically, presents itself as one of the most important instruments of popular education in archaeology in the Southwest. This is because of its fame through advertising the favorable location of the cliff cities for sustained interest over a long period of time with a party of visitors; and the beauty of the setting in the Canyon El Rito de los Frijoles.

(2) The geological story alone is one of major interest and should merit an important place in future educational development.

(3) A personnel of only a Custodian is inadequate to care for the problems in handling visitors that now exist at Bandelier with its 4,000 annually. When 10,000 visitors are suddenly added to the present attendance then an emergency will exist which we must meet promptly.

(4) A mimeographed account of the archaeology and geology as well as of the natural history of this monument should be prepared for free distribution to visitors. I plan to get this work under way at once.

Canyon de Chelly.

Scenery of superb character; an immense vividly colored canyon, sheer walled, and more than a thousand feet deep; archaeological features strewn for miles and miles up and down Canyons del Muerto and de Chelly; form one of the really outstanding attractions of the Southwest. Add to these the most characteristic pastoral Navajo Indian life in the Southwest: this in a measure sums up what de Chelly has to offer.

If de Chelly's chief claims to fame lay in its scenery alone, then a development plan similar to that already worked out at Grand Canyon National Park would be the answer there. But Grand Canyon doesn't have a White House, Mummy Cave, Massacre Cave, and many other famous places of interest tucked away in some 25 miles of the rocky inner gorge of the Colorado, and consequently in this respect

our problem at de Chelly does not parallel that at Grand Canyon.

It appears that under no circumstances should we depend upon an up canyon road in del Muerto and de Chelly. The streams constantly shift their courses and such roads would have to be literally floated on the sand. The maintenance of such roads would be a difficult problem even if we wished to construct them.

Canyon de Chelly possesses evidence of human inhabitation from Basket Maker II period down to the present day; a period embracing some 4,000 years of human habitation. Probably no other area in the Southwest offers as fine a section of prehistoric culture over so long a period of time. Here we can show the visitor in the field the justification for the various Basket Maker and Pueblo periods which form the structural organization of the subject of Archaeology as accepted by most of the leading authorities in the subject. Likewise here is a rare opportunity for a completeness in museum development that can be made second to none in the Southwest for such museum must embrace the whole subject of archaeology and not a particular Basket Maker or Pueblo period as is true in most of our archaeologic reserves. Starting museum development with no plan except the assembly of so much material is not the answer to museum development there. However a carefully thought out general plan is possible for de Chelly with a clearness of sequence and arrangement that would be attractive and logical. The climax of a research museum is not even a good start in the organization of a Park Museum where our chief aim is the education and inspiration of the lay public. The writer wants this principle of service to the public in museum development burned into our minds with red hot iron just as forcefully as service to the public is considered uppermost in our other educational activities. Keeping these thoughts in mind constantly I feel that we can successfully meet the great museum development opportunity offered by Canyon de Chelly National Monument.

Educational development at Canyon de Chelly will be to a great extent influenced by final decisions on (1) locations of roads and trails to the floor of the canyon and to points of archaeologic and scenic interest; (2) location of headquarters area; (3) the extent to which personnel needs will be met promptly; (4) cooperation of local people and scientific institutions in supplying museum materials; (5) and funds that will be available for museum installation.

Chaco Canyon.

The importance of Chaco Canyon in Southwestern Archaeology is well known to National Park Service field men and to our personnel in the Southwest. A great deal has been said in past reports about future improvements of roads connecting with the main transcontinental highways. When this happens attendance figures at this monument will leap to some twenty times the present numbers and once more a major problem will descend upon us in the Southwestern Monuments like a clap of thunder and when it does we must be prepared to meet it.

I was particularly interested in the field trip and caravan possibilities in Chaco Canyon in the future. Pueblos Bonito, Alto, Chetro Keti, del Arroyo, Penasco Blanco, Kin Klizhin, and Casa Rinconada were points of interest visited in my two full days at this monument. The question arose in my mind as to whether or not these places are of sufficient interest individually to sustain the interest

of visitors for the two or three days that would be required to include all of them in a program of automobile caravans and hikes. The answer to this question is plain. At Mesa Verde visitors visit Cliff Palace, Square Tower House, Sun Temple, Balcony House and other points of importance with highly sustained interest. These great pueblos of Chaco Canyon possess just as much individuality of their own as do the cliff dwellings in Mesa Verde and for that reason several caravan trips including Chaco's outstanding ruins, lasting at least two days, would, I believe, meet with the enthusiastic approval of visitors to that monument. In fact the visitors themselves will virtually demand this much service of us and we'll have to meet the problem squarely with trail expansion and increased personnel.

Custodian Julian, with the assistance of Mrs. Julian and Miss Jean Griffin, has worked wonders in the little museum at Chaco Canyon. Mrs. Julian ("Winnie") has drawn up interesting charts on the four masonry types used in the walls of the ruins of Chaco Canyon while Jean has done a unique bit of work in going up and down canyon, drawing the more interesting pictographs, then making up wall charts with these picture carvings shown. Most visitors cannot take the time to explore the canyon walls to see these pictures or cannot do the necessary climbing over the rocks, so by means of these charts Jean brings the pictures to the visitors. The museum quarters are much cramped at present and before full development and logical arrangement can be effected more space will be necessary.

While out on the recent field trip I had an opportunity to visit the museum of the School of American Research in the old Governor's Palace in Santa Fe and many other points of interest. This museum is developed along the lines of a research collection and serves this purpose very creditably. However, the more museums of university and research institutions I visit the more firmly convinced I become in the opinion that National Park Service museums have a much different mission to fulfill. Their climax is only our beginning. We must go them one better by taking their neatly and correctly classified materials, arrange them attractively in groups, and by means of popularized educational methods including charts, pictures and control labels with connections to several individual labels, make all of these materials fit into a general scheme of telling the story about which these materials were associated or had their origin. These visits made me realize once again that a National Park Service museum must be made into a unique institution. If we take a research institution museum with all of its materials neatly and correctly labelled, arrange these materials into various groups, and apply to their arrangement the best methods of graphic illustration leading to the telling of the main story, we then begin to have the scientific museum made over into a National Park Service museum.

At Chaco Canyon there is need for some printed matter containing the story of the peoples who here achieved such high cultural standards in prehistoric times. This matter has been taken up with Mr. Julian and I'm sure before the opening of the travel season there next spring we will have met this need.

Gran Quivira.

In addition to observing that treasure diggers do 'yammer' and that the infinitive 'to yammer' should be added to the English language, I noted the particular points in which educational

development at Gran Quivira will be unique. Here is one of the few places in our monuments where pueblo culture and Spanish occupation overlap on the same spot. Here we have a splendid opportunity to outline the history of the Spanish conquest as it affected the Pueblo Indians. Two Spanish Missions and extensive prehistoric Pueblo ruins are close at hand, - a unique situation indeed. Custodian W. H. Smith has made a start toward developing a museum at that monument and in the near future I hope we can give him a hand toward further development. A mimeographed pamphlet of some two pages giving the salient points of interest in the Pueblo and early Spanish history associated with Gran Quivira would fill a need at that monument. This work I also have on tab for the winter.

Capulin Mountain.

Like the other Southwestern Monuments, we could use another man at Capulin with advantage to the service if we had him. However it will be some time before another man can be placed there for there are at least a half dozen other monuments in which more of an emergency need for increased personnel exists at present.

The story of the formation of Capulin Mountain as a built up volcanic cone should be placed into the hands of the visitors to that monument. This story should contain geological facts and theories on how volcanic cones in general are built up and should include a diagrammatic section through a volcanic cone showing the connection with the interior of the earth. This the writer plans to do, and in the near future this material will be prepared for distribution to visitors as they register at Custodian Farr's office.

Miscellaneous.

While at the Petrified Forest Superintendent Smith asked that some further study be given as to the next step in additional installation there for which there is some money available.

On October 29th I was at Montezuma Castle familiarizing myself with the progress of plans for construction work there. Final decision on work there will have considerable bearing on the development of our educational program at Montezuma Castle.

Finally.

I realize that each monument has its individual problems. Yet I see some broad general principles which can be applied to them all. We are laying the foundations at present for the development of more than a dozen new museums in the Southwestern Monuments. I hope we can realize that right from the start we are making museums for the benefit of our visitors, and not for the sake of fulfilling some personal pet scheme or for storing a lot of material without organization, or for a lot of aimless missing of the point by not laying plans properly before hand. (1) An outline of general policy for educational development of all the monuments; (2) A detailed study of each monument such as the recent study on Montezuma Castle submitted by the writer; (3) Increased personnel problems; (4) Preparation of descriptive material for visitors at monuments not having literature for distribution; (5) and justification for regular appropriations for museum work so we can properly lay the foundations for museum development in monuments now in the pioneering stages; - these are some of the more important administrative problems in educational work confronting us at the present time. As studies of these problems are compiled from time to time they will be presented as individual manuscripts.

Bandelier National Monument

Dear Mr. Rose: Our visitors for the month total 575.

We were very fortunate to have had with us this month Mrs. and Miss Attwell of the San Francisco Office and Bob Rose and the Rose of our own office. It is always a pleasure to have these people with us and we hope they will come again soon. Tom Vint has been all around us but may not get in this time.

Things are about as usual. The material that was stolen has been returned and settled for in full. I want to say for the fellows that they were nice about the settlement.

This is some report. By the time it goes in I will be off in the hills and hope to have a deer. Will let you know on my return just the luck that I have.

Frank Kohl will be in charge during my absence.

You may remember that the stolen material which I mention was a case of some visited high-grading a couple of important specimens, causing John Will a lot of time and trouble in running them down and getting the material back. He was successful and then not only returned the articles but paid John Will's expenses for the two days or so which it took to find them - some thirty dollars.

Bandelier National Monument

Dear Mr. Pinkley:

We had 241 visitors up to and including the 15th which, considering the time of the year and the location of the monument, I think was very good. A week of this period was rainy and cloudy weather which kept travel for that week down to nearly nothing.

We had a killing frost on the 15th with the thermometer at twenty in the morning. Mr. Frey, who has kept the weather records for eight years says this is only the second year that September has passed without frost.

Superintendent Pinkley and Park Naturalist Rose arrived on the 15th. They were especially interested in working out a more satisfactory method of caring for the visitors for the next year.

Miss Attwell, accompanied by Mrs. Attwell, arrived on the 17th. Mrs. Attwell inspected the proposed road location into the canyon.

During the month I went over to the Stone Lions, Painted Cave and the Rio Grande Loop Trail. The trail was passable but in very poor condition in some places and needs considerable repairs and maintenance.

We left Bandelier on the 18th with the San Pedro Christo Range white with snow which had fallen the night before.

In the morning we started at Thursday noon after battling rain and with a slight dash of snow. We have about dried out now.

We found the jump was just 926 miles not counting the half mile on the floor of the canyon and the 200 feet of cable to the rim of the canyon.

According to my figures this would total at least 9700 miles.

Those who wrote that last paragraph, I agree with it because I've climbed that trail twice too long times myself.

I believe no future of this trail is of any help.

Under date of October 11 Mr. Rogers reported as follows:
"On September 6th I got a horse from Mr. Frey and went over the trails as you suggested; that is, over the Stone Lions, Painted Cave, Rio Grande loop trails.

"Adding up the total sign mileage I found it is twenty-five miles instead of eighteen that we were talking about and it is all of that too.

"All the trail I covered needs maintenance, but from here to the Stone Lions is very good. From the Stone Lions on around the loop it is fair but has lots of loose rocks and a few boulders. The worst part is down Frijoles Canyon where there have been some rock slides. This is about a mile from the Rio Grande. There is also a poor section going from Capulin Canyon up to the Stone Lions.

"I found the Stone Lions and Yapashi ruin very interesting but didn't care much for the Painted Cave.

"I saw five deer and one lion track, also some beaver sign along the Rio Grande."

Also on the 11th, Mr. Rogers at my suggestion submitted the following report on the season's operations with suggestions as to betterment for next year.

"I will try to summarize the runner in which visitors were handled at Bandelier this summer and some suggestions for next year.

"Looking over the ruins here upon my arrival I found that they extended up and down the canyon for about two miles. The foot of the trail by which visitors enter has ruins on either side. The part that we are most interested in at present extends down the canyon from the foot of the trail about one eighth of a mile and up the canyon for three quarters of a mile.

"I thought I could be of most service to the greatest number of people by meeting them at the foot of the trail and conducting them over the nearest ruins. I found that I could not make the trip to the Ceremonial Cave with a party in much less than two hours.

"This system I tried to carry out during the busy part of the season but it had lots of disadvantages. If I had a party below the trail another party might enter and, unless I abruptly left my party, the new arrivals were likely to go up canyon without my having a chance to talk with them. On the other hand I have been up canyon with a party and seen others come down to the foot of the trail, walk over to the nearest ruins and then start back up before I could get to them. Sundays were especially bad.

"The average person is an interested visitor at this monument, much more interested than I have observed him elsewhere. This is no doubt due to the fact that the monument is well off the main highway and incurs a hike into and out of a 600 foot canyon. After he makes the trip in here he is entitled to some attention on our part. To take a very interested party over only a small part of the ruins then drop them and not be able to connect up with them again is not satisfactory. Spreading one's self quite thin was about the best that could be done this summer. I did not try to hold a small party at the foot of the trail and wait for others because there is neither rhyme nor reason to the way they come down the trail and no way to determine when the next party will be in."

One Sunday I had 86 visitors, most of them coming between one and three o'clock in the afternoon. On days like that it becomes more of a police job than anything else.

"With two men on the job here during the rush season I am sure a much more satisfactory arrangement could be worked out. One man could work from the foot of the trail to the Community house and restored talus houses. The second man working from the excavated talus ruins of Group D to the Ceremonial Cave. The first man would meet the visitors and escort them over his section and send them on up to the second man. The unequal division of the ground would be balanced by only about half of the visitors making the trip to the Ceremonial Cave. This arrangement would also give us a chance to install a register somewhere near the foot of the trail.

"By this arrangement all visitors into the Canyon would be met and during their visit would have the services of a ranger.

"From June until Labor Day is the time of the real rush on this monument."

Capulin Mountain National Monument.

Mr. Farr writes, under date of October 25th as follows:

"Dear Mr. Pinkley: From September 26th to date we have had only 1,200 visitors. This is a very sharp decline over last month but was to be expected.

"The Custodian was honored by a very brief visit from The Boss, Mr. Pinkley, Mr. and Mrs. Walter G. Attwell and Mr. Bob Rose. Mr. Attwell is from the Engineering Division of San Francisco and Mr. Rose is our Park Naturalist. Their visit was entirely too brief to suit me and the Boss will not be seen forgiven for rushing off and not staying over night. However the visit, even though very short was enjoyable to us here and we hope they will again soon be able to call on us and stay longer. Some road work has been done this month on the monument and the road is now in fairly good condition."

Short as our visit was we enjoyed every minute of it with Mr. and Mrs. Farr and I hope Homer understood that only the necessities of business could have called us away from one of Mrs. Farr's good meals, several of which, of blessed memory, come easily to my mind as I think of former visits.

While we were at Capulin Walter Attwell had an inspiration in which he remembered that there might be a spare tractor at Wind Cave which would furnish the motive force for a grader which the County presented to Homer for use on the volcano. We are going to trace this down and see if we can effect a transfer with Dick. If it works out, Walter will have more than paid his way on the whole trip with that one suggestion. He had another corking good idea in proposing to gunnise the untravelled slopes on the upper side of the road at Capulin. He is going to give me a report on that so I will not go into detail on it here. I might say however that it is a nasty problem and had me up a high tree.

Casa Grande National Monument.

Mr. Farr reports as follows:

"Dear Mr. Pinkley: We have a very interesting report

to make regarding our travel this month in that it is the first time for 21 months, since January 1931, that we show an increase of travel over the preceeding year. In October 1931 we had 1754 visitors and this month we had 1847, and the increase is 93 visitors or 5%. This is a small increase but it is encouraging and is far better than a 20% decrease which was the average for the last travel year.

These 1847 visitors came in 525 cars of which 66% or 345 were from Arizona and 34% or 180 were from out of state. 575 visitors or 31% were from out of state and 1272 or 69% were from Arizona. 34 states, Washington, D.C. and Canada were represented. 232 personally conducted tours were taken through the ruins of Compound A and 226 tours through the museum. During part of the month it was impossible to take visitors into the Casa Grande owing to the fact that construction of the temporary protective cover was in progress and entailed a certain amount of danger.

"During the absence of the Superintendent and Naturalist Rose from headquarters and owing to the press of other work in connection with the erection of the steel shelter, Francis Seago, a former ranger at Casa Grande, was put on in order to help Frank Fish handle the visitors. Francis also busied himself in painting and staining museum and office cases, the Ford pick-up and other general work.

"J.L.L. (Teddy) Baehr, who has been our Junitor and general handy man for the past three or four months at the magnificent remuneration of two dollars per day, left us on October 18th to go to Chicago to get married. 'Teddy' was a good man and an inspiration to us all. We miss him. His place is now filled by Benny Lee at the same 'salary' and, although we thought no one could ever fill 'Teddy's' shoes, Benny is doing excellent work and keeps things in apple pie order. All of which goes to prove that no matter how good any of us may be, or how indispensable we may consider ourselves, there is some one just around the corner equally as good if not better to carry on if anything happens to us.

"We were visited on the 29th by Mrs. Walter Attwell, wife of the Associate Engineer of Field Headquarters. On the 8th Phil Murray, Ranger from the Petrified Forest, while on furlough, spent a couple of hours at the Monument. Ranger Dinsmore (Dinty) of the Petrified Forest and Ranger Curry of Montezuma Castle stopped on the 23rd on their return trip from Tusacacori. Mrs. Richard Peale Gilliland, Department President of the American Legion Auxillary of Arizona, from the Grand Canyon visited the Monument on the 29th. Mrs. James Beane, of Sacramento, California, daughter of the late Dr. Cook, early Missionary to the Pima Indians, was an interested visitor on the 12th.

"The Coolidge Woman's Club entertained the Casa Grande and Florence Women's Clubs at the monument picnic grounds on the 27th. The Custodian gave them a short address on the relation of the National Park Service to Archaeology.

"During the month considerable work has been done on some new museum cases. Six new cases were built and stained. When they have all been installed our museum will be uniform throughout the three rooms. Plain lumber book cases in the offices were painted to match the new office furniture installed last month.

I am inclosing a report by Associate Structural Engineer, Nickel, from Field Headquarters, on the progress made during the month on the new steel shelter being erected over the Casa Grande. Mr. Nickel arrived on the 14th to relieve Associate Engineer Attwell who left on the 15th. From Mr. Nickel's report you can see that the work is progressing satisfactorily. I want to call your attention particularly to that part of his report dealing with the carefulness with which the work has been done so that no damage to the ruin has resulted. As soon as work was started around the ruins Mr. Nickel issued an order to the workmen and obtained each man's signature to it calling attention to the fact that the specifications and Allen Bros. contract required that all workmen must be careful that no damage resulted to either the Casa Grande, the nearby ruins or any of the natural features and warning them that any wilful carelessness would call for dismissal. It certainly had a good effect and so far not the least damage has resulted. On two or three different occasions I heard men on top of the construction call to men on the ground, 'Don't let that rope drag on that wall!' The construction foreman, Mr. White, and his crew are to be complimented as Mr. Nickel says, but Mr. Nickel himself is largely responsible for the care they took because of his unceasing careful supervision. He has been on the job every minute. The more we see of these Engineers the more we realize just how efficient an Engineering Division the Park Service has. Mr. Nickel evidently forgot to mention that the old cover was scarcely off before the sky became cloudy and it began to rain. After 29 years the Casa Grande got wet. We became so concerned over the outlook for a day or two of rain that by long distance telephone we located in Phoenix two tarpaulins large enough to cover about two thirds of the ruins which we rented to use in covering the Casa Grande if the rain should continue. It was put on one night but fortunately it rained very little right here although we had miniature cloud bursts all around us. Had we gotten as much rain as they did at Florence, Casa Grande or Sacaton some damage might have resulted, but as usual, our desert gods were with us.

During the time that the old roof was off the Casa Grande some excellent photographs were taken. Comparisons between these pictures and those taken in the early 90's show practically no change in the sky line. When I have obtained copies of these photographs a set of them will be furnished to the Washington Office.

The weather has been seasonal; the mean maximum for the month was 86.4, the mean minimum 31.5 and the mean temperature was 68.95; the maximum for the month was 96 on the 4th, 7th and 16th and the minimum 36 on the 19th; greatest daily range was 47 on the 16th; there was a total of .50 inches of rain during the month with .32 inches on the 21st; 24 days were clear, three partly cloudy and four were cloudy. There were six days upon which there was precipitation exceeding .01 inch.

A new gasoline pump and tank, purchased second hand, were installed on the 14th. No longer will we have to guess at how much gasoline is put into a car, the Kohler lighting plant, the pumping engine, etc. accurate records are now being kept.

Our winter birds have arrived and the Phoeniceplos, thrashers, mocking birds, cactus wrens, and a new bird, which has not yet been identified by us, are very much in evidence.

October has been a busy and interesting month and being busy we have all been happy and are looking forward to the coming months with a hope that we will soon be back to normal, visitorially speaking."

The following report was submitted by Mr. Nickel to Mr. Palmer on the Casa Grande Ruin Shelter:

"Dear Mr. Palmer: I wish to submit the following report of the progress on the Casa Grande Ruin Shelter for the month of October.

"The blue prints, indicating the design for the temporary covering were received from Mr. Kittredge, of Field Headquarters, on October 3rd. The first order for the necessary lumber was put in on the 4th, totaling 18,500 B.M.

"The steel erection equipment of Allen Bros., the general contractor, arrived by trucks on October 6th and October 8th. This equipment was completely installed and ready for use on October 12th.

"The fabricated steel arrived Oct. 10, by rail requiring five freight cars. This material was furnished by the Virginia Bridge and Iron Co., Birmingham, Ala, sub-contractor on the steel.

"The concrete footings were completed on October 10; the footing excavation work and 50% of the concrete work was done in September.

"The roofing material, (corrugates Transite), arrived Oct. 15 and was delivered to the job by October 15th.

"Due to the poor condition of the old protective covering it was found necessary to remove it and replace it with sound and stronger materials, to guarantee against damage to the ruin from falling materials.

"This work required eight and a half days of time utilizing the entire Allen Bros. construction organization and equipment. It is with pleasure that I report that no damage was done to the ruins during this work and the contractor is to be complimented on the efficiency of his organization under such exacting conditions.

"As soon as the temporary wood protective covering was completed, at noon, Wednesday, October 26th, the work of raising the steel started, and is still in progress. It is now about 60% completed.

"The following work remains to be done before the structure is completed:

- Completion of steel erection.
- Riveting of steel connections
- Painting of entire steel structure.
- Installation of roof covering. (transite) and sky lights.
- Installation of copper gutters and downspouts.
- Installation of lightning conductors and grounds.
- Removal of temporary protective covering.
- Clean up of grounds."

Chaco Canyon National Monument.

I have the following report from Mr. Julian, dated October 26:

"Dear Boss: This month we have another unusual and very important discovery to announce. This is not for your benefit for you already know all about it, but from the Director's last letter it seems that our monthly reports are pretty generally read, and this is in the nature of an announcement to the Service.

"In a recent issue of 'El Palacio', the publication of the

School of American Research, edited by Frank A. F. Walter, there is an account of some inscriptions placed on the canyon walls by soldiers in the year 1876. This article was called to the attention of a party consisting of Mr. Finley, and the Engineers Attwell and Hamilton. An investigation was planned. During the course of the investigation, Assistant Engineer, Hamilton, observed that there were zigzag, or switchback lines across the face of the cliff, above the inscriptions. These lines proved to be troughs, something less than an inch deep and over an inch in width. They crossed the face of the cliff, which is not perpendicular at this point, but presents a convex surface to the observer.

Their use was obvious. All the water which came down this section of the wall was collected in the troughs and delivered to a table slope house which stood at this point. The house was suggested by the beam sockets in the cliff. Perhaps a thousand years ago there was a house with running water in it on the Chaco. There are only two such houses today. However the present systems have the advantage of supplying water even if it is not raining.

The weather the past month has been, with a few minor exceptions, clear and cold. October's bright blue weather. Ideal for visitors, but for the fact that the class from which most of our visitors are drawn are now back in their university class rooms.

Work is progressing in a satisfying (at least to me) manner. With the reduction in the number of visitors, there is now time to do all the thousand and one things that have been neglected during the rush of visitors this summer.

The roof of the house has been mended. The job is guaranteed because it has been done just as the Boss advised doing it. It cannot leak this winter. Temporary shelters have been erected over four original cellings and a rock and brush rip rap wall has been constructed to protect the last remaining site upon which water is available. This wall, composed of alternating layers of juniper brush and stone is 180 feet long, about six feet wide and about five feet high. The cost of construction was a little less than a dollar a foot. Since it was a small job, and since the brush was 14 miles away, this is a satisfying outlay.

In addition to the advantages we hope to derive from the protection of the well site, this wall is also in the nature of an experiment in erosion control. If it works and if there is no opposition to the plan, I hope to spend all the next year's protection allotment in the same manner, not to protect well sites but to protect the one and only remaining Colorado type kiva at the Chaco group of ruins. Last year we lost half of it. Next year we will probably lose the other half unless something is done. In the pioneer spirit if we cannot get what we want we will use what we have. To have rocks and brush. "It would be a tragedy to lose the Colorado Kiva. If we lost it there is would be necessary to send the visitor to some other place to see one of the important archaeological features of the Southwest. At present we have practically all of them at the Chaco, at least so far as kivas are concerned. The inspection trip of Engineers Attwell and Hamilton have given hope to the plan of protecting this kiva temporarily in this manner."

"Assistant Engineer, Hamilton has been at the Chaco several days this month. He arrived on the 20th and left on the 25th. Among other things Mr. Hamilton has made the topog map for the proposed administrative site, and, more important yet, made a survey of the 'Place-where-the-rock-is-propped-up' as the Navajos call the cliff overhanging Bonito.

"This propped up rock is a potential menace to the most important part of the largest of the prehistoric ruins in the United States. Mr. Judd estimated this rock to weigh one hundred thousand tons. Mr. Hamilton and I have made careful measurements of it and will, as soon as possible, give our estimate of the work. I say 'our' but all I did was to hold the tape because there was no Indian handy to do it for Mr. Hamilton.

"Indications are that the supporting wall was erected under this rock very early in the period of occupancy of Pueblo Bonito. Just when this wall was built will be determined in the near future. Miss Hawley of the Tree ring Laboratory has consented to date timbers taken from this wall last summer. Apparently the retaining wall was built later. It is of a more advanced type of masonry.

"I do not wish to appear as an alarmist, but if this rock were to fall, in addition to the damage to the greatest of ruins, it would also destroy what is perhaps the highest developed example of prehistoric engineering in the United States, namely, perhaps the first terrace and retaining wall, of major proportions constructed north of Mexico.

"Dr. Hewett, when consulted, felt no alarm. Perhaps there is no danger. But Dr. Kera, of the Laboratory of Anthropology, was much concerned. After all, we know that this gigantic section of the cliff must fall some time. It is not in the principle of nature to establish such equilibrium permanently. Our survey was to determine the center of gravity and, if possible, estimate the danger of this fall occurring in the next hundred years or so.

"Associate Engineer Attwell and Supt. Finkley spent part of October 21st, all of the 22nd, the 23rd and part of the 24th at Chaco on what, to me, proved to be one of the most interesting and valuable inspections or visits of the season. They gave me considerable hope that all of our dreams about the protection of our ruins would eventually come true.

"Robert H. Rose, our Naturalist, was with the party. If we could have kept Mr. Rose with us for a few weeks, all our museum and presentation problems would have been solved, but Bob only has twenty other such places as Chaco to consider, so we are thankful that he gave us as much time as he was able to allot to this museum and monument. If Chaco got more than the average allotment of time, it was because it probably needed it worse than the others.

"On October 25th Mr. Vint and Mr. Langley, of the Landscape Division, paid us a visit. My colleague and co-conspirator, Mrs. Julian, with a dinner and pie of local fame, helped hold them over longer than they had intended to stay. Those few filched hours helped develop the plan for the new museum, a sign system for the surrounding roads, the water development plan, the Administrative site

plan, and a plan for the garage and office building. Among other things Mr. Vint and Mr. Langley were able to discover why the roof on the residence resembled the rocky mountains, that is, all ups and downs in construction plan. Not that anything can be done about it, but it is a great satisfaction to the inquiring mind to know why things happen. October has been a banner month for Chaco in the help given us from the various heads of the Divisions.

"A careful survey of equipment is being prepared and will reach your office soon.

"The Farises of Aztec National Monument visited us on the 12th. Since the last trip to Mesa Verde taken by the Boss, Miss Story, the Farises and the Julians, we have worked out a plan of cooperation between the three units that is making itself felt on the attendance record and upon the coordinated method of presenting our ruins to the visitor with the object of preparing him for, and interesting him in, the other two places. Johnwill even went so far as to arrange for an invasion of his own territory. He arranged to have me talk to the Aztec High School students and faculty about Chaco. I had the suspicion that he had as an object showing the Aztec people just how prehistoric ruins should NOT be presented. However Johnwill, the flatterer, said that the people had been interested.

"The attendance record indicates that the Chaco season is drawing to a close. Only 278 people, from ten states and the District of Columbia were here. Among them were Mr. Vest, Custodian of El Morro; and a business associate of his, Mr. Dent. A delightful visit. Perhaps we can include El Morro in the Mesa Verde, Aztec, Chaco union when the Indian Service completes our road to U.S. Highway 66. At present we are advising all visitors to leave here to the north.

"Miss Patsy Griffin has returned to the Chaco from her summer's employment at Mesa Verde. We knew that Miss Griffin was in the Museum at Mesa Verde. Many visitors told us, "A young lady in the Museum at Mesa Verde told me - this and that - about Chaco, we felt that we must see Pueblo Bonito." As a matter of fact we have the whole Griffin family working for us although only Miss Jean and Miss Patsy are on the pay roll. More of the Boss' 'Honorary Assistants Without Pay.'

"The 'Consolation' signs for the roads are ready to be put up. The visitor could not get lost as there is only one road in either direction, but the nature of the road to the south is such that the ordinary visitor becomes discouraged, and a sign now and then is reassuring. Hence the name 'Consolation'. They were painted by Mrs. Julian with of course a great deal of useless advice and counsel from me. I did however display my ability in painting the posts entirely unaided.

"Next month will be our last, this fall, at Chaco. We will stay long enough to finish the work the Boss, Mr. Hamilton, Mr. Attwell and Mr. Vint suggested, and long enough to eat up the supply of groceries on hand, and then get the tooth brush and the wife's clothes and hie to Casa Grande for an interesting winter, at work on, among other things, the reconstruction of an original ceiling in Casa Grande planned by Park Naturalist Rose."

El Morro National Monument.

Mr. Vogt wrote me under date of Oct. 13th as follows:

"Dear Pink: I have found this is a lonesome job without my ranger, Mr. Peterson, who left on the 1st for the University of Arizona to study under Dr. Byron Cummings. He used to stop here at the ranch several times a week and talk over our monument problems, discuss his run of visitors, etc. and we miss him very much.

"We have had a light run of cars to the monument but have had two rains which have stopped all but the most game ones. The ranch men are figuring that the next rain will be a snow and are scratching around pretty lively these frosty days to get their crops up and in shape for real cold weather.

"The effect of last year's storm is still to be seen in the way all are preparing for another hard winter. Many new wire pastures have been built, greater crop acreage, more stables, show that many have learned their lesson through last winter's terrific snow and cold.

"I notice wherever I go along both the Pueblos and the Navajos that they are being especially thrifty in saving some favored grazing spots for their ponies and much more has been raised than ever before. Until this year I have never seen the Navajos build cellars but now quite a few of my herders families have built cellars for storing their potatoes, squash, beans and other products.

"The Ye-ba-chi dances seem to be few and far between too as they feel that the big dance they held while fown on our ranch picking pinons last fall was in some way the cause of the big snowfall which followed right on the heels of the dance.

"While on a trip in the Northern New Mexico region in the Santa Fe-Taos district and up through Southern Colorado towns, I came close to the Mesa Verde again, went right by Aztec but didn't have time to stop. After looking over several herds of sheep north of Pueblo Bonito, we came down through Chaco Canyon and enjoyed a most wonderful meal with the Julians followed by an absorbing afternoon at the monument.

"The little museum is a dandy with everything so well mounted and displayed. The beam hole discoveries of Mr. Julian I regard as especially fine showing great keenness on his part. My companions, Mr. L.L.Dent and his nephew, Billy Duckett went over the ruins with Mr. Julian and even climbed the mesa to see other ruins.

"You may wonder where I spent the time. Well, to tell the truth, I spent the afternoon most enjoyably with Mrs. Griffin and Mrs. Julian. I don't know how it is but these Parks and Monuments seem to be embellished with a lot of awfully good looking and interesting girls so I am sure you won't blame me for enjoying their good company. I had been over the ruins a number of times and had it not been for the attractions spoken of I would have gone again.

"The road from Pueblo Bonito to Crownpoint is not in the boulevard class and I don't blame the people there for using the north outlet almost exclusively for trade purposes.

"We have had a good deal of good road work done from Gallup this way and expect new culverts to be placed soon.

"Just what will develop in the way of a road from Grants to

El Morro is still in doubt.

"In the next eight days I will be pretty busy getting about 4,000 new sheep to add to our outfit. I am to receive in the Valle Grande on the 15th, then at the Point of the Mal Pais, south east of El Morro 40 miles, on the 17th, then back for the last two thousand head at San Ysidro on the 20th. I will take a month to graze these sheep through to our ranch but of course I will be with them only about once a week to count and check against losses.

"If things work out as planned I expect to leave on an airplane trip with two of my college friends on the 22nd. We plan to see New Mexico and Arizona from the air, landing wherever it seems most interesting. The owner of the plane is L. R. Smith, President of the A. J. Smith corporation, of Milwaukee. Our other companion besides the pilot will be G. Arthur Bruce, of Memphis, who ran for Governor of Tennessee several years ago. They will land either at the El Morro landing field or in my cats field here as I understand they can land that Bellanca almost anywhere where it is flat.

"Will write you how some of the Parks and Monuments look from overhead."

"In a post script to the above letter, Mr. Vogt says: 'I enclose a letter from Mr. Barth, a man who has read and dreamed about El Morro for years and had to walk to get here. He hitch-hiked part of the way from Gallup and walked some. After dinner with us I sent him out to the Monument where he took it all in. Although he was hard of hearing I found his conversation most interesting as he had put a great deal of thought on the inscriptions. I think his idea of the last line of the Governor Manuel de Silva Nieto inscription is the best possible translation ever submitted.'

The letter mentioned is so interesting and of so much value to the Educational Division that I think it worth quoting here in full.

"Dear Mr. Vogt: I have to thank you for a very pleasant trip to El Morro, which, without your kindly assistance, I should have missed entirely.

"I cannot suggest much in the way of improvement at the Rock. The great need seems to be a good road which, of course, means money.

"I found the green arrow trail over the Rock very helpful and would suggest a few more arrows to make the trail continuous. The steps newly cut in the rock might also be touched up with green paint to make them more readily discernible. The ladder, by which the ascent is begun, could be provided with a hand-rail and flat treads and so made easier for elderly people or others not accustomed to climbing. Possibly a shed or cabin, with fireplace, would be worth considering, so that visitors could spend the night comfortably or find shelter in bad weather.

"I was surprised to find, at the Rock itself, official recognition of the metrical nature of the Nieto inscription and even of the rhyming of the various lines, of which I was speaking on Thursday. I still insist, however, that the 'pass' and 'llave' of the concluding line must be taken as subjective, and not in the past tense. To read 'pass' and 'llave' would hopelessly disrupt the concluding couplet of the poem."

both as to rhyme and ~~verse~~ rhythm.

"The meaning of the whole thing might run thus in English doggerel:

Our Lord the Governor here made a call
Don Francisco Manuel de Silva Nieto
Since the impossible (strange to relate-O)
His stout heart and strong arm now hold in thrall,
With the chariots of our sovereign lord of all;
A thing which he alone put in this state-O,
From August, sixteen hundred and twenty-nine,
That he only to Zuni may carry the Faith divine.

"The first half of the last line is merely a suggestion, the Spanish being almost hopelessly corrupted and obscured. You may perhaps be interested in my crude reconstruction of the Spanish inscription on the following sheet.

Aqui llegó el señor y gobernador
Don Francisco Manuel de Silva Nieto
Que lo ynpucible tiéno ya sujeto
Su brazo yndubitable y su valor
Con los carros del Rei nuestro señor
Cosa que solo el puso en este efecto
De Agosto de seiscientos veinte y nueve
Que solo (?) a Zuni pase y la Fe lleve.

"The ~~solo~~ solo in the last line is of course repeated from the 6th line. Perhaps seguro would serve as well or better. A Spanish scholar could possibly suggest something better than either, and I should be very pleased to learn of such emendation. My own contribution lies in my insistence that the concluding line be read in the subjunctive, looking to future possibilities rather than past achievements. In this view I am of course entirely unsupported by any authority.

"Again heartily thanking you and Mrs. Vogt,
Yours sincerely,
A. W. Barth."

"I think we have here a real contribution to our knowledge of the inscriptions at El Morro.

On October 27th, Mr. Vogt wrote me as follows:

"Dear Pink: My normal report and thoughts about El Morro have been terribly disrupted, unorganized and made remote by the experiences and thrills of this 800 mile air flight we have made over Northern Arizona, Utah and Nevada.

"We tried to take in some of the National Park Service scenery. We did not leave my ranch on Monday as planned owing to the snow storm. Instead we motored to Gallup and stayed for the balance of the day at my home where the fire place and meals seemed to look good to my guests.

"L. R. Smith, President of the A. C. Smith Corporation, of Milwaukee, which manufactures all General Motors frames, is the owner of the six passenger closed cabin Bellanca ship.

His companion guest is C. Arthur Bruce, Vice President of the E. L. Bruce Co. of Memphis, hardwood flooring manufacturers. Smith and Bruce are old school mates of mine at college 25 years back. Over 20 years ago we made a pack trip through the Sangre de Cristo Mountains starting from Glorieta, New Mexico. Ten years later we re-united on a trip to the Grand Canyon. Again we united when Bruce was running for Governor of Tennessee but fell short of electing him on a Republican ticket in a southern state.

"Now we are out on an eight day visit together. Ed LaParle who is our pilot has 3/4 of a million miles to his credit, has taken up 65,000 people for their first flight and was for two years the bad weather pilot for the U. S. Mail Chicago-Minneapolis Routh. We feel we are in very safe hands and the ship is as fine as can be bought I think, carefully driven and checked at all times. Good weather has blessed our ride, with excellent visibility and smooth sailing.

"The Department of Commerce El Morro Landing Field, two miles west of our Monument and 8 miles from my ranch certainly proved handy and fine in every particular. Flights were made by Mr. LaParle for the benefit of Mrs. Vogt and my four children and Louise Gonzales, our Spanish maid. They saw El Morro, Dent Ranch Reserve, our little village of Ramah and our ranch home on a 50 mile cruise. We then flew to our sheep ranch at Atarque. As the landing speed of the plane is around 100 miles an hour at that high altitude we did not risk a landing on the grass land of the ranch though our sheep herders signalled to us with big camp fire smoke and we circled them a 'Como esta' with the plane.

"After sweeping the snow off the plane Tuesday morning and warming up the motor we left at 10:15. In 45 minutes we were over Petrified Forest where we droned low to see the big stone trees. The headquarters looked remarkably clean, neat and orderly. Trails to outstanding trees were so plain and the roads were in fine shape. Some visitors' cars were noted and at the Gretna Station on the highway, we thought we waved to you, our Boss. Were we mistaken?

"We refuelled the boat but not me at Winslow, which made me awfully hungry while flying over Meteor Crater and Canyon Diablo. I noted several sheep camps where the herders were cooking but they wouldn't stop the ship; telling me to draw on my fat. They surged ahead 13,000 feet above sea level following the Little Colorado past Black Falls, Cameron, within site of Holaville, clear to north of the River. To the north were Navajo Mountain and the white peaks of Utah; to our left and within 40 miles, the beautiful San Francisco Peaks. For 150 miles we flew down the Grand Canyon well up all the way but close enough for fine views of the awful grandeur below us. Park Headquarters and the El Tovar looked fine. I thought of food and spoke of it but Mr. Smith only fed me gum. Occasional ranches in the open parks below offered water for quiet herds of sheep and some cattle crawling slowly along paths to and from drinking places.

"At 2.30 we were over Hoover Dam and could see the dust of blasting, trucking and general work being performed by the 3,500 men who are working there.

"Landing at Las Vegas, Nevada, we were driven to the guest home at Boulder City where as guests of the Six Companies, Inc. who are builders of the great project, we were fed and shown about until

we went to bed in downy comfort, agreeing that without question the day had been the greatest, most intensely packed with experiences, of our whole lives. The combination of seeing such wonderful country from the Eagle's vantage point with the close up intimate view of excavating, blasting, trucking, the noise, the din, the dust, and roar of 3,500 men at work on America's greatest construction job in actual progress filled us with throbbing hearts, crowded thoughts and extreme gratitude for our safety.

Next morning Mr. Vogt added: "I met here at Cedar City Chief Clerk Strunk of Zion and had a nice visit with him. We have decided that we did not see enough of Bryce Canyon from the air yesterday so are leaving by motor to hike in Bryce and perhaps Zion Canyon, delaying our getaway for a day. The sky view was fine, especially the setting sun shining through the great red minarets but we hunger for more intimate contrasts, so we are Cadillacizing it today. Will thus get to meet more of the Park Service men."

In a last short footnote he says he met Mr. Patraw at Ruby's Inn and had a short visit with him.

Gran Quivira National Monument.

Under date of October 20 Mr. Smith writes as follows:

"I have a poor month to report this time. The visitors have fallen off considerably, we having had 187 visitors in 46 cars during the month."

"The first of the month we had a few days of steady rain which left the roads in bad condition for travel. The weather is getting colder. We had our first snow last night which is no more than to be expected in this high altitude."

"Although the month was shy on number of visitors, the ones we had were no less interesting for that. We had the pleasure of a short visit with Supt. Pinkley and Park Naturalist Rose on the afternoon of the 14th and again the following morning. Mr. Kreinkamp was also here on the 27th, spending the night and a goodly portion of the following day making a final inspection of the Employee's Quarters and locating the road of approach from the turn of the hill into the proposed parking area."

"I have just received an interesting specimen from my son, Irvin E. Smith, who lives at San Jon, New Mexico. He sent me a stone that is entirely inlaid with bones and teeth of animals. The fossil bed from which it came is located 8 miles south of San Jon."

"Mr. Otero, who has the permit to excavate for treasures here, arrived the 17th and began operations that afternoon. They now have their shaft down some eight or ten feet and are still enthusiastic to the degree that they are working today and it is still cold and spitting snow occasionally. Within the next few days they expect to open underground workings of the Spanish period that will put our Monument on the map. This is to say nothing of the church relics and gold bullion which they expect to take out."

"I have had no further word from Mr. Smith so I presume the treasure hunters have made no startling finds."

Montezuma Castle National Monument.

Mr. Jackson reports under date of October 26th as follows:

"Dear Pink: October, the first month of our travel year, has come and gone and leaves us with the feeling that we are off to a good start for another year.

"We have had 1138 visitors from 23 states and one foreign country.

"The pioneers of the Verde Valley held their annual picnic here the first Sunday in October; they have another picnic the first Sunday in May at Page's Springs some 12 miles north of here. It seems that the old timers got their dates twisted with the weather man this year as it started raining about noon and kept it up throughout the afternoon. We only had about one half the usual attendance, 317 visitors.

"Supt. Pinkley and Park Naturalist Bob Rose dropped in for a few minutes during the month while en route to points north and east.

"Tom Vint, Chief Landscape Architect, accompanied by Assistant Langley drove up to our door on the 20th and Tom furnished me the long looked for opportunity of telling an Architect where to get off. Naturally I told him Montezuma Castle, which he did, and then he proceeded to tell me so many places to get off that I am still confused.

"Mr. N.J. Mittenenthal, Electrical Engineer, spent a day with us figuring out our future lighting problems.

"Ranger Dinsmore, of the Petrified Forest, was in charge of the truck that moved Ranger Roger's household effects from here to the Tumacacori Mission and brought Ranger Curry's household things from Tumacacori to this monument. Mr. Dinsmore took enough time on his return trip to look our Castle over and now he agrees that we have a real monument. We enjoyed Mr. Dinsmore's short visit.

"I have before me a circular letter from the Washington Office under the title 'A Personal Message From the Director' in which he emphasizes the importance of retaining the Pioneer Spirit in the Park Service, and I notice that he refers to several paragraphs contained in the supplement to Supt. Pinkley's report. I sincerely hope that this message is passed on to every employee of the Park Service. I consider it a timely message and think the subject has been well covered. I would add that Supt. Pinkley has been hammering that same thing through my thick skull for the past fifteen years."

I might say here that Jack is exaggerating; you know that if it can be done at all, it never takes more than a year or so to get an idea into his skull or mine.

Natural Bridges National Monument.

Zeke writes as follows on October 28th:

"Dear Frank: Report time has come once more and I am on the job to tell you that all is well with us out here. The weather has been quite cold and stormy this month so we have fallen down on the number of visitors as against the same month last year. However some very interested parties have been pleased with the monument."

"The last party consisted of three ladies from Chicago who said their two days out at the Bridges and back were the most interesting of their lives.

"I have had Mr. Rogers out there for another 14 days. We both helped Mr. Hamilton survey the road which took us two long days. I am much pleased and do hope that the project can be put through in time for next season's travel.

"We both worked 11 days on the trail from Edwin to the Augusta. We have it over half done and I will go out the last day of this month and take Junior with me and let him work ten days then I will work the rest of the month alone. I will work up most of my allotment as I have nothing else to do now and I might have something to do in the spring.

"I am cutting many a steep climb and shortening the trail considerably and I am very pleased with the work so far done. When I get it completed then you must come and look it over with me.

"The 3 Chicago ladies I mentioned hiked to all the bridges and the big ladder, making 13 miles, and landed back in camp with a big smile.

"We found the fresh track of a big deer between the Augusta and the ladder and I can't understand it. It is the first I ever saw in there. It has been in there for several weeks according to the many tracks and must have jumped off the high ledges somewhere.

"The big black letters 'Floyd Dalton' are still on the Caroline. I have notified him twice, once by registered letter, which he received the next day; then I wrote him again and put 'return in 10 days on it' and it has been over 20 days now and I have heard nothing from him. I think he should be made to answer for it. He is a very wild, uneducated fellow and one who thinks he can put over any old stuff on anyone he wishes to.

"I appreciate all that you have done for me and all that you have tried to do. I am still in love with my little job and want to do all I can to make it an interesting place to come and see."

Navajo National Monument.

Hosteen John writes as follows for the month:

"Dear Frank: I am glad to know that the Park Service has begun to take notice of this section. It will seem good to have our trails improved.

"I would like to see Turkey Cave cleaned up by some good outfit; I think there would be quite a lot of good material taken out. We should have a museum here to save whatever is found and keep it in this country.

"Keep the good work going."

Some time next spring, and the earlier the better, I want to get one of the Engineering Division up in that country long enough to give us a study and report on trails and ruin repairs for the Navajo National Monument.

It won't be long until we are going to have a lot of visitors going through there and we ought to be prepared to do something about it.

Petrified Forest National Monument.

Superintendent Smith's report has already gone forward to you directly, but a copy is here included for the benefit of the rest of the Southwestern Monuments;

"Dear Mr. Director: I respectfully submit this narrative report on activities in Petrified Forest National Monument for the period October 1 to October 28, 1932.

"Since the past report a great event in the history of this Monument has occurred. This was the addition of approximately 33,300 acres of the most interesting portion of the Painted Desert to the Monument, making the area now approximately 90,218 acres. Included in this addition is the Black Forest, which is of great scientific interest in itself, an area of great scenic beauty, many prehistoric ruins, a cross section of the Old Trails route which I think might be called an extension of the Santa Fe trail; this showing the old wheel ruts very plainly, and many other interesting and scientific features. Mr. Gable, of the Washington Office viewed this area on October 1, before we had the news that the proclamation had been approved on September 23, 1932, and thus he becomes the first officer of the National Park Service in Washington to view it as part of the Petrified Forest National Monument. Quite a number of congratulatory messages have come in on this extension.

"While returning from Winslow about midnight on October 22, Acting Chief Ranger, Frank J. Winess was seriously injured when his car left the road about a mile east of Holbrook, and crashed into a concrete culvert headwall. He was blinded by the headlights of an approaching car and Winess swung too far to the right, striking the headwall with his front axle. The car was almost entirely demolished. He was found unconscious, somewhat later and taken to Holbrook where no medical aid could be secured. Orval Redding, Manager of the store in the Monument, who was returning to the Forest, noticed the car and, recognizing its ownership, returned to Holbrook to see if he could be of aid.

"He took Winess to Winslow where first aid was given and a number of stitches taken in Winess' nose and face, and he was then returned to the Monument and later on Mrs. Smith and Ranger-Naturalist Gunnell took him to Gallup for further attention in the hospital there. Examination found no bones broken but many deep cuts about the head and face and severe bruises about the body. Fortunately he had a shatter-proof wind shield which did not break. Present advises indicate that he will be kept in the hospital until next Saturday, November 5th.

"The weather for the month has been generally fair with just enough rain on the 21st to enable us to get our roads in shape. Temperatures were, Max. 81 on the 6th, Min. 25 on the 19th and 25th. Precipitation, .35 inch.

"The construction of the Employee's Residence and Comfort Station, which was contracted by Del E. Webb, of Phoenix, Arizona, at \$3,475, has gone along very nicely and is 99% complete being fully completed with the exception of a few plumbing fixtures which will be installed soon after the first of November. Everything has been done in a workman like manner and the construction is first class in every particular. The relations with the contractor have been free from

any friction whatever.

"A small surveying crew, consisting of from four to six, have been employed by the Bureau of Public Roads in making the necessary surveys for the road work now authorized. It is understood that they are nearly finished with this work.

"On October 22, Chief Landscape Architect, Thos. C. Vint, with Assistant Landscape Architect Harry Langley and Superintendent Smith and Engineer Birdpo of the B.P.R. made a full inspection of all the proposed construction which was approved by Mr. Vint with a few minor changes. At this time a study was made of the Painted Desert Rim. Loop section which disclosed many new possibilities for future expansion of service to the public.

"The north and south road across the monument has been maintained throughout the month and has been kept in excellent condition.

"The drilling of the water well has been prosecuted diligently. At the depth of 506 feet that amount of 6-5/8 casing was run in just in time to save the hole as it was crumbling badly. Drilling was then continued and at a depth of 600 feet a strong flow of salt water was encountered which rose to within 80 feet of the top. This was, of course, in the Moenkopic formation. Ranger-Naturalist Gunnell has made very careful studies of these formations and he judged that by going a comparatively few feet further we would reach the Coconino Sandstone and that by casing off the salt water at that point and then continuing say 50 feet into that formation we will have an excellent chance of striking an artesian flow of good water, that being the water bearing stratum. This, we propose to do if the money holds out."

I might say here that Mr. Smith added a note to his report at noon of the 30th saying they had struck the Coconino at 635 feet and were shutting down and trying to rustle casing to case off the salt water.

"While passing along the road just south of the Indian Ruins one evening I saw an extra large bob-cat which crossed just at that point. Several coyotes have been seen, a few procupines, and on the west side, part of the herd of antelope.

"Museum service is given to the public at headquarters from early in the morning until dark. The caravan trips are still being given but, due to the falling off in travel, they will soon have to be discontinued.

"A list of metal uniform signs has been ordered and they are expected soon. As soon as they are received they will be erected.

"Park Ranger Curtis Herbert was separated on October 15, as he had to leave for his home in Alabama.

"Guy L. Clifton was appointed to the position of Foreman from the Civil Service register and entered on duty October 17th, vice John H. Edwards who has been filling this position on an emergency appointment. Mr. Edwards was separated from the Foreman position on October 16th, and entered on duty as Park Ranger, temporary, October 17.

"The travel for the period is fair for this time of the year all things considered, and it is expected to increase substantially

just as soon as a decent road connection with U.S. Highway No. 66 can be made at the Painted Desert. This travel is tabulated as follows:

By private automobile cars, 1,730. . . people 4,999.

"Every state in the Union was represented except West Virginia. There were cars from the District of Columbia, the Canal Zone, Hawaii, and four foreign countries; Canada, China, Mexico and Denmark.

"Among these visitors were:

Mrs. Mabel Walker Willebrant, Washington, D. C. on her second trip to the Forest. She came to bring her parents this time and we enjoyed meeting her again. T.C. Vint, and Harry Langley, N.P.S. were here on the 22nd. M.J. Mittenthal, Electrical Engineer, N.P.S., on the 18th, 19th, and 20th. George A. Grant, Photographer, N.P.S., on the 15th. Mr. Gable on the 1st. W.G. Attwell, Associate Engineer, N.P.S., on the 20th and 26th, with Supt. Pinkley and Park Naturalist Robert Rose.

"A fine several hours was spent with Mr. Alexander Wetmore, of the Smithsonian Institution, Washington, D. C.

"J. Bert Leck, Cavern Supply Co., Carlsbad Caverns National Park, and Alice P. Spencer of the Caverns Daily News, also visited the Monument and were entertained by Superintendent and Mrs. Smith.

"Caravan service was given to more than 200 people during the month."

Pipe Springs National Monument.

Mr. Heaton reports as follows:

"I have had a very successful month this time both in general local travel and in visitors to the Monument. Again it is caused by the Zion tunnel being closed. There has been on the average ten cars every day, being 300 cars for the month and about 750 people. They have all been well pleased with the trip around this way and many have said that it is well worth the extra time it takes.

"Among the visitors were: Mr. Patraw of Zion National Park, Thomas C. Parker and H. E. Brockmeier, also of Zion; and Mr. Joel Egar.

"Mr. Egar was one of the guards here when the Mormons were building the fort; he being about 14 years of age at that time. He and his brother also carried the mail from Kanab to Rockville, Utah, by pony for several years. Then after the Indian troubles were over they used a two wheeled cart for a number of years. They began to carry the mail in about 1869 and carried it until 1885 when they moved to St. Johns, Arizona. He says that the country looks about the same as it did when he left it in 1885 except that there are more fences and less grass and cattle.

"On the 9th of this month the cowboys came in at the end of the round-up with about 300 steers to sell but until today there was no sale because they could not get what they wanted for their cattle. Today the steers sold for 3 1/4 cents per pound at the railroad 100 miles away.

"We have had all kinds of weather; some days would be like summer and then it would change to winter with cold winds that froze everything that was uncovered. There was also rain and some snow."

"The excavated material from the tunnel contains a few things of interest. Several pieces of charred wood 8 to 12 inches long and 6 to 8 inches in diameter have been found. Pieces of slag resembling that taken from coal burners were found. I am mailing a sample of this slag for Mr. Rose to examine. It contains several pieces of material not melted and may, under Mr. Rose's examination, throw light upon the age of the fire. Custodian Smith desires that this sample be returned to the Gran Quivira museum after Mr. Rose completes his examination. Some very interesting cave formations, appearing to me to be identical with the gypsum formation at Carlsbad were found piled intermittently with the loose material in the tunnel. These are about two feet long and 8 to 10 inches in diameter, and show, like the Carlsbad formations, where water fell on them and cut holes lengthwise through them. The excavators very gladly turned all of this material over to the Custodian.

"The crew originally started with ten men. Now Mr. Yesserro is working only three men. Two of these are hoisting the material up the shaft and wheelbarrowing it to the dump and the third man is loading the bucket in the bottom of the shaft with material from the tunnel. Mr. Yesserro told me that he was in no hurry to hasten the excavation but wished to have as small a payroll as possible. The crew is working by the day and is not interested financially in the treasure. The crew, with Mr. Yesserro, is housed in government quarters on the monument.

"My one hour conference with Mr. Yesserro was very interesting. He had three stones that he had found in the excavated material. These stones were badly scratched and dim but one revealed signs of chisel marks. To him they represented three maps of the hidden treasures. He interpreted these maps to show a barrier about 6 feet farther in the tunnel than he is at present. He expects to be to this barrier in about ten days, or about December 10th. It is his belief that the tunnel will be open after he has passed the barrier and that no more excavation will be necessary. On one of these maps two small depressions and on another two raised bumps are interpreted by him to indicate the bells. They scale 40 and 45 feet respectively from the supposed barrier to the bells. He believes that he can easily walk to the bells after he has passed the barrier and from there the final results will require but a few hours.

"He also told me that arrangements had been made with Hearst News to pay him for articles in the papers. He plans that after the bells are reached that excavation operations would cease until the newspapers had time to prepare the public for a series of articles.

"A point that is not a part of this report but which may be of interest is the probability of caverns under the Mission. It is known that changes in barometric pressure cause currents of air to pass in and out of all caverns. In Carlsbad this air current will blow out a match. At times it is difficult to open the entrance door at Wind Cave. There are four natural openings at the Mission where the air whistles out of the ground. Custodian W.H. Smith informed me that

at times this air current has been strong enough to raise a hat from the ground. I am enclosing a small sketch showing the location of these air holes. They might lead to a natural cavity. The presence of this air holes phenomenon would seem to bear out either Custodian Smith's cave theory or Mr. Yaserro's tunnel theory."

Again the monthly report has run from footage into yardage. However, many of the items and reports on special subjects convey valuable information to our personnel, should be made a matter of a well distributed permanent record, and give a more complete account of our activities in the Southwest than would be possible by omitting them.

As we close the columns of our report the last of the uprights have been removed in the dismantling of the temporary protective shelter over the Casa Grande. The tops of the walls outlined against the clear sky remind me of the days some thirty years ago when the old ruin stood unprotected on the open face of the desert.

Cordially yours,

Frank H. ...
The Boss -
Superintendent.

P.S. - Before closing this issue, I enclose it a good report. If you skip anything in reading it you will miss something good.

NATIONAL PARK SERVICE
LIBRARY
CARPENTER DAVERNE
NATIONAL PARK

[Handwritten signature]



SOUTHWESTERN MONUMENTS

MONTHLY REPORT

NOVEMBER - 1932

NICKEL

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a supplement giving personal items, news,
acknowledgements and comments.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
SOUTHWESTERN MONUMENTS
COOLIDGE, ARIZONA

December 1, 1932.

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

Dear Mr. Director:

Consulting our calendars we find thirty good days of November, 1932 have passed all too quickly and once again it is time to review the activities of another month.

Bob Rose says his report looks the most "formidable" so I'll lead off with it.

Activities of the Park Naturalist: By R. H. Rose.

On October 31st I returned from Montezuma's Castle concluding the field trip which was described in detail in the month's report for October. Assistance in editing and publishing of the October reports occupied the spare time of all available hands for the first four or five days of November. This was followed by several days attention to the inevitable accumulation of desk work that had stacked up during an absence of three weeks in the field.

With the assistance of Francis Seagoe who was engaged during my absence from headquarters and during the recent illness of most of the members of our personnel further improvements in the Casa Grande museum were made. Complete cataloguing of the collections is being finished. Exhibit materials have been placed in the new cases which were manufactured some weeks ago. Cases without shelves for the display of Modern Indian baskets and Papago Indian ceremonial materials have been backed with monk's cloth which improves their appearance greatly. Before the installation is considered complete there is a great deal of labeling and graphic illustration to be done.

It seems that the whole Southwest has been visited by an epidemic of "lagrippe" and "flu". Many schools have been closed for more than a week and in some sections all public meetings have been suspended. I was absent from duty with the Lagrippe from November 18th to the 22nd inclusive and the Superintendent was confined for a somewhat longer period. I'll leave his story for him to relate in his own way.

Mr. and Mrs. A. E. Borell were visitors on the 21st and 22nd. Mr. Borell was formerly ranger naturalist in the Yosemite. Their visit of nearly two days with us was a part of their several weeks tour of national parks and monuments.

On the 16th and 17th Senior Naturalist Hall was in this region. It was a pleasure to have this contact with the Field Educational Headquarters and to discuss with Mr. Hall our achievements for the past year in educational work in the Southwest. We're sorry Mr. Hall's second day here found the Boss and I counted definitely among victims of the "flu".

Getting back to duty on the 23rd, the Boss and Custodian Palmer still being confined, there was a great deal of office work to which I gave attention.

Our situation at Southwestern Monuments is unique in that there is probably greater isolation and separation of members of our organization than is true of any other unit in the National Park Service. For that reason we feel that our month's report forms a very important instrument of business and social contact among the various individual members of our organization and between the field men and our headquarters office. For that reason I am taking the opportunity here to describe some of the methods used in improving the museum at Casa Grande. This account will demonstrate the manner in which we are tackling our problems in a practical way. It may also prove of value to those custodians contemplating museum improvements during the coming winter.

Almost at a glance, in beginning the cataloguing of our museum, we noted that the materials could be classified into certain obvious groups. On this basis we selected certain cataloguing key letters for each group. For example, we gave the letter "G" to our materials that came from the so-called CREW SITE near here. This material was further subdivided into groups as to articles, vessel shapes, etc. We then gave the letters "G-1; G-2; G-8; ---" to the individual members of one subdivision until all had received letters and numbers. The individual members of the next Crew Site subdivision were numbered "....G-14; G-15; ---G-23; etc.". After this was done for all of the subdivisions, index-tapped cards 3"x5" were used on which "CREW SITE" was entered for the whole collection. Then came consecutively the entering of the members of the first group; beginning with a new card the second group was entered, and etc. Accompanying each group descriptive notes as to important dimensions, percent restored, location found, record of excavation dates, etc. were entered.

Examples of other key letters chosen are:

"FOREIGN POTTERY"-----"F-1-M; F-2-M;" for Foreign No.1, Mimbres; Foreign No.2, Mimbres, etc.
"PLAINWARE"-----"P-1; P-2; etc.
"POLYCHROME"-----"PC-1; PC-2; etc.
"NATURAL HISTORY"-----"NH-1; NH-2; etc.

We found it a good plan to select the first letter, or the first letter of each important syllable, of the word one is most likely to think of in looking at the particular group in the collection. To test the success of the index letters chosen we picked up exhibit pieces at random and noted whether or not to us the letters such as "F-14-KF" suggested that that particular piece was "Foreign to Casa Grande; No. 14 -Kaitab". The better the interpretation of the piece from the letters and figures selected the more successful becomes the cataloguing scheme. Some collections can be catalogued as to donor such as "KIRKWOOD" and sublettered K-FW-1 meaning "Kirkwood collection, black-on-white piece No.1". Follow this with dimensions of each piece, its type name, use, where found, percent restored, etc.

Some remarks on the methods used in designing our museum cases at Casa Grande may prove of interest. Arbitrarily deciding that the shelves shall be 12 inches, or 15 inches, apart will not prove satisfactory. Shelves in the shelf-containing cases should be spaced wide at the bottom decreasing the distance apart for the higher ones. We took care that a person of average height standing in front of the cases at a distance of about three feet would find it easy, without tiptoeing, stooping or otherwise getting into an uncomfortable position, to get an unobstructed view of the total shelf width of every shelf in the case. A common error usually results in placing too many shelves in a given case of, say, six feet overall height. When such error has been made, invariably some of the shelves hide from view from one half to two thirds of the width of the next shelf below destroying all attractiveness of exhibits placed upon them.

Attempt to draw a plan arbitrarily of shelves properly planned. It will not be easy to do without an idea on how to proceed. I found that by taking a plank of the width and height desired (say 12" by 6'), setting it on end, edge toward me and some two to three feet away, and by sighting along nails placed by trial and error until they were such that my line of sight from the front edge position of one shelf reached clear to the back of the case (back edge of board) without being interfered with by the upper surface of the next shelf below- I found in this way the minimum distance apart I could space the shelves for good exhibit effect. In the event tall objects are to be displayed or labels tacked to the back wall of the cases the distances apart should exceed this minimum. "Staggered" distances apart for the shelves look much more artistic and give proper exhibit effect.

We found 72 to 75 inches overall height to be best for upright cases with shelves. A solid base 18 inches high, the top surface of the base being the lowest shelf, looks neat. An overall height for cases without shelves and 10 to 18 inch solid bases, can be increased to some 80 to 86 inches if desired. Cases without shelves

are best suited for exhibit of baskets, examples of weaving cloth, paddles and etc.

After the shelf spacings are determined as described above, the shelf positions can be penciled on the surface of the plank referred to and specifications for the cases taken by measuring the important dimensions from the plank. Determining thus by actual test the shelf spacings will give absolute assurance that the cases will be properly proportioned and that exhibit materials will be clearly seen by visitors standing in front of them, something that is oftentimes not possible in so many "home made" museums.

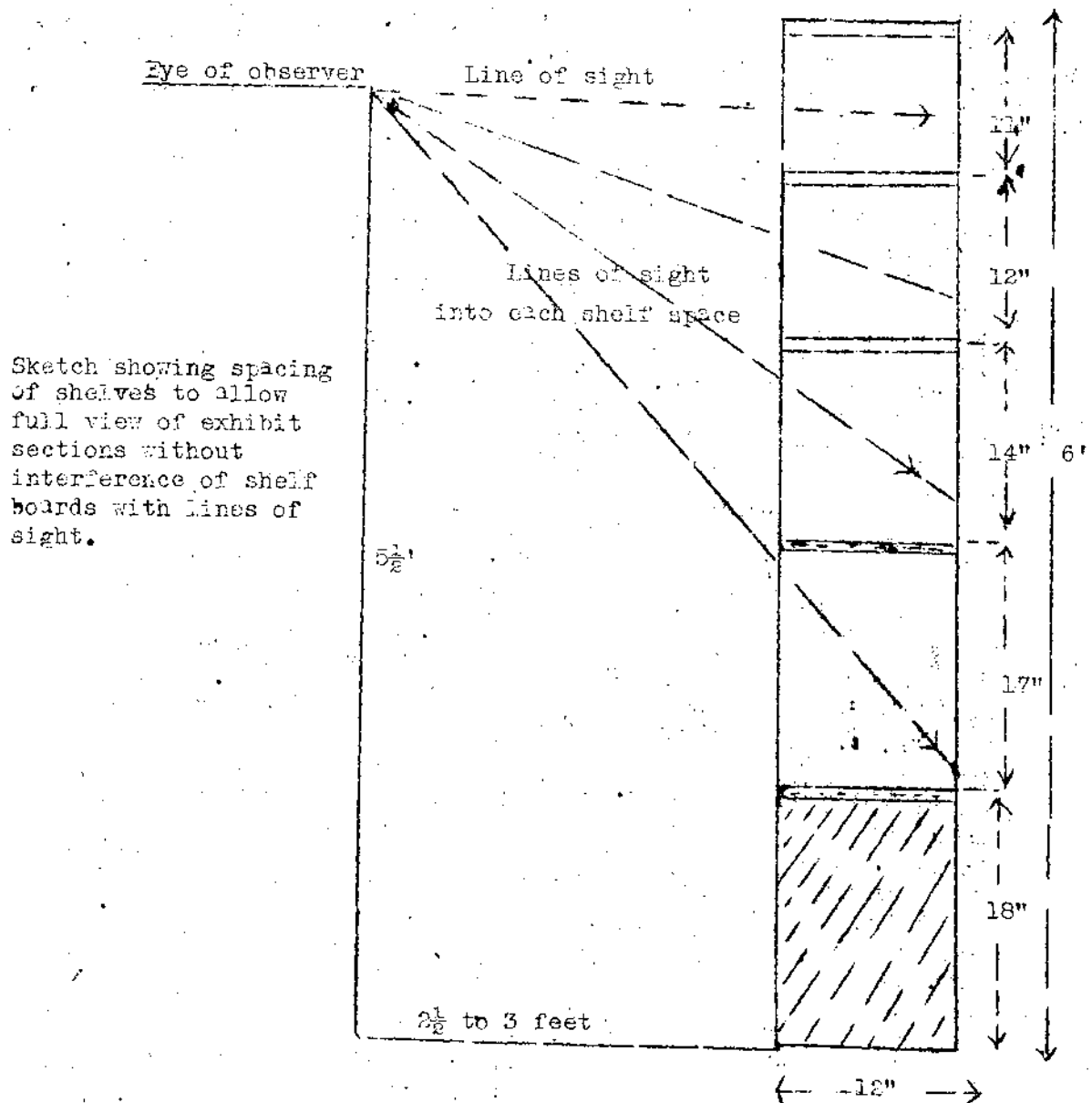
We built neat appearing finished cases by observing the following points:

- (1) We used Douglas Fir, the so-called Oregon Pine of this region. Beautiful graining effects were brought out in the staining process.
- (2) A beautiful golden brown grained effect was obtained by using a staining formula borrowed from Mr. Gladwin at Gila Pueblo. 1-quart linseed oil, 1-pint turpentine, and $\frac{1}{2}$ -pound burnt umber, or equivalent proportions, thoroughly mixed, were used. This was applied with a soft bristled paint brush and rubbed dry with rags. More linseed oil than the formula calls for will make a lighter finish. To avoid almost certain fire by spontaneous combustion these stain-saturated rags should be promptly destroyed.

Finally, it is a very common thing to find "home made", pioneer museums with shelves loaded down with from three to ten times the amount of material they should contain. The best effect can be obtained by selecting the choicest individual pieces from each important group of artifacts and by spacing them generously on the shelves. In this way each piece stands out as something precious, something distinctive, that catches the eye of the visitor as an object with personality and individuality of its own, whereas by overcrowding all of this fine, beautiful effect is lost. We find that three to five select pieces on each shelf are far superior to fifteen or twenty pieces crowded and stacked.

Most of our monuments are confronted-or soon will be-with the problem of affecting a complete installation of three or four rooms with only a few scores of dollars to do it with. I feel that this business of pioneering in museum installation with only a limited sum of money at our disposal is a science. Of course our ultimate aim is to obtain fine, factory-built, bug and dust proof cases. However, to guarantee that we will know how to solve our installation problems should we wake up suddenly and find a few thousand dollars at our disposal, I believe it all-important that we understand and be able to solve our economical "home made" museum installation problems.

I have outlined some of the methods we have used in our recent installation work (1) thinking they might be of interest to your office in showing how we are trying to tackle our problems in a practical way; and (2) to present them for what they might be worth to individual monuments in solving installation problems that may arise during the coming winter. I shall be glad to hear from custodians on problems that arise which are not covered in the outline above.



REPORTS FROM INDIVIDUAL MONUMENTS

Aztec Ruins National Monument:

We have the following report from Mr. Faris:

"Dear Boss:

"Visitors for the month total 327. This is not so bad for November in general, but yet not as good perhaps as we should really have under present weather conditions. All of the passes are still open with but little mud, and the valley roads are reported to be in fine shape."

"There seems to be quite a siege of colds or flu in this region. Dorothy, of course, since it seemed popular to have it, was down for several days. So far I have been able to miss it and hope I shall be able to run along without it this time."

"Upon the suggestion of Earl Morris some old timbers which had been left more or less as they were found were gathered up and stored under cover for future use in ring growth data and studies. Several pieces were sent to Mr. Hustler at Santa Fe for his use there in the Laboratory of Anthropology."

"You will of course, Boss, remember the little deer or pig image that we had in the glass case? Mr. Stone, the owner, asked for its return the other day. He promised it to us for only a short time but when the time came we sure did hate to lose it. He assured us that his desire for its return was not the result of any action or lack of action on our part but that it was a case of his being able to get something out of it."

"It is my pleasure to now own one of the new rain coats of National Park Service regulation and I want to say for the producers that I for one sure like them. Perhaps if I had not made the big show for the rain coat I might even have gotten two pairs of pants and thus be on a par with Hamilton."

"J. B. Hamilton of Field Headquarters was here for a few days the early part of the month and spent several days going over the problems with us. I want to say that he was very thorough and as a result I feel that our repair problem is well in hand. I also want to express our appreciation of Field Headquarters and the cooperation they are giving us particularly in their sending us men like Richey and Hamilton who are so considerate and thorough in their operations and cooperation. Mrs. Hamilton was with J.B. We enjoyed their visit very much and we want them to feel welcome to drop in on us any time they are in this section of the country."

"Paul Fassel says that he is not getting his monthly report and that he misses it very much. If you have an extra copy I'm sure he would appreciate getting it. If you can allow me extras they should run 1. Aztec Publishing Co., Aztec, New Mexico; 2. Tommy Thompson, Aztec, New Mexico; 3. The Farmington Times-Hustler, Farmington, New Mexico. Perhaps Julian would like to put the last name on his list. I think it would be better that he have it. Also add 4. Paul Fassel, Aztec, New Mexico."

"I received Martin's check on my accounts and it is just what I

"Both Dorothy and myself wish the entire personnel of the National Park Service, and particularly that of the Southwestern Monuments, A Very Merry Christmas and a Most Prosperous and Happy 1933".

Capulin Mountain National Monument:

"Dear Mr. Pinkley:

"I have the following report to make for the month of November: We have had approximately 250 visitors to the Old Volcano this month.

"Weather conditions have been excellent for this time of year. The roads to and over the Volcano have been in fine condition all through the month.

"I have been doing some much needed work on the cabin this month replacing doors and windows and calking the ventilation under the eaves to protect from outside snow filling the cabin during the winter. It appears that more recently the visitors have made use of the cabin and fireplace and have gotten more benefit from them than ever before.

"With kindest personal regards to Mr. Pinkley and the rest of the force, I am Very Respectfully, Homer J. Farr".

Chaco Canyon National Monument:

Mr. Julian in closing the season reports for the month up to Nov. 12th as follows:

"Dear Boss: This is the last monthly report that will be submitted from the Chaco Canyon National Monument until next year. The 225 people who visited this monument for the month were from eleven states and Washington, D. C. On Nov. 16th Dr. Fairclough of Stanford; Prof. and Mrs. Kluckhohn of the Department of Anthropology of the University of New Mexico; and Paul Reiter of the School of American Research, were at this monument. On Nov. 18th Mr. Bruce Bryan of Southwest Museum, Los Angeles, was here. Had Mrs. Paris not taken the "flu" she and John will would have been down here on the 17th. It has been a very busy month and I have been trying to get the visitors to let me alone long enough to allow me to get everything ready to leave here!

"The weather has been ideal with the roads in their usual condition. The work is caught up to the point where it can be left until next year. Much as I hate to leave it, it will be turned over to the neighbors on the twenty third of this month. I could hardly leave if it weren't for the fact that I am going to Casa Grande for the winter.

"Both of us have been in bed with the "flu" for most of the week. The Griffin girls and Mr. Pierre Allbritten took the visitors while we were laid up, Mr. Griffin cut the wood and looked after the water; and all of the other neighbors took turn at cooking and nursing. While I would not recommend the disease to anyone, if they must have it Chaco is by far the best place to be stricken with it; the neighbors give one so much care.

"All the residents of the Chaco met at the lodge for a Halloween party. It was one of the social events of the season.

"Mr. Griffin is hauling rock for an addition to the Lodge. It was full on Nov. 4th and some of the guests were compelled to share their beds with late comers. How can one close a season up here if that is going to happen?"

In another communication under date of November 19th Mr. Julian reports the results of some work he performed on counting the number of stones per square yard for the various types of masonry exhibited in Chaco's ruins. He states that "the method used was to square up a yard of wall by using strings tied to nails. Every other stone which crossed the line of the string was included in the count. That was to leave half of them out of the count."

This report includes the averages of several counts on each type. Two types of TYPE ONE masonry were counted. Type I-A is the rubble type photographed by Mr. Judd and used in his masonry classification of the National Geographic.

Type I-A-----201 stones per Sq. Yd.

Type I-B-----337 stones per Sq. Yd. Type I-B

Type 2-----612 stones per Sq. Yd.

Type 3-----441 stones per Sq. Yd.

Type 4-----252 stones per Sq. Yd.

Report from Chaco Canyon for Travel Season: (Julian).

Mr. Julian, before leaving the Chaco, was asked to prepare a seasonal report and working plan for the future for that monument. His account follows: "Accomplishment for the Travel Season!

"It is with hesitation that I try to enumerate the things that have been accomplished this year because so few of the things that I would prefer to have done have been actually finished. This is, according to my Alibi, due to the fact that there is very little time for plus effort when one man must handle all of the visitors. The visitors of the type that usually frequent the Chaco keep one more or less ignorant young fellow pretty busy finding acceptable answers to the questions which occur to the Collegiate Anthropologist. While I have not performed so much in the nature of improvements, I have "dog-eared" copies of the texts of Kroeber, Wallis, Finney, Kilpatrick, Lewis, and various Bulletins of the Bureau of American Ethnology and the School of American Research answering questions put to me from the editors of dozens of colleges and Universities which have had their faculties in the field during the summer. Now that I know many of the answers I do not expect to have to do the amount of studying next summer that I have been compelled to resort to during the past summer.

"Among other accomplishments for the summer I would mention that there has been a buttress built on the north wall which protects one of the most valuable bits of masonry in Bonito. The best,

and practically the only, bit of fourth floor masonry has been indefinitely preserved by the building of this bit of reconstructed wall from the ground up to the weak point in the fourth floor wall.

"Various other bits of patchwork have also been completed. Walls were restored in such a manner that two original ceilings in Bonito could be protected with a board and tar paper roof. The best and largest original ceilings in Pueblo del Arroyo were also covered in the same manner.

"A cess pool was built and is in use at the residence. The plumbing was done between parties of visitors, and the house modernized.

"The fences around both Bonito and del Arroyo have been worked over and have been protected by a strand of barbed wire at the top. The Bonito enclosure has been arranged so that visitors must enter the compound at an entrance which is in full view of the residence.

"Unless there has been a great miscalculation the roof of the residence will not leak this winter. Tar paper has been laid in hot tar over the top of the old roofing.

"A plan has been worked out and the necessary agreement obtained from the owners of alienated land to run a pipe line from del Arroyo to the Administrative site. At last we are near the realization of our hopes of having an adequate water supply. A wall of stone and brush one hundred eighty feet long and six feet high has been completed for the protection of the one site which we own upon which permanent water can be developed.

"The approaches to the Chaco bridge have been replaced and drained in a manner which I hope will obviate the necessity of further attention. It is hoped that the road will not be blocked by a washout as has been the annual occurrence for the past several years.

"The repair and restoration work which has been done by the School of American Research at Chetro Kettl has been unqualifiedly approved by Associate Engineer Attwell and by Assistant Engineer Hamilton. This achievement I take no credit for. Aside from several minor suggestions Engineer Reginald Fisher (School of American Research) did practically all the work.

"Under studies and investigations the most important thing has been the discovery of the holes in the cliff where the dwellers of the talus slope houses placed their corn, beans, wood carvings, weapons and baskets in safe keeping for those of us who came along a thousand years later. This discovery has been written up in more detail in Southwestern Monuments monthly report for September. The discovery, of minor importance perhaps, was made that the "willows" used in the roof of one of the rooms at Bonito were found to be one of the Ericaceae, probably Arctostaphylos sp., Manzanita.

"The water system discovered by Engineer Hamilton is of more importance and it, too, was recorded in detail in the regular report dealing with the activities of the month of October, 1932.

Handling of Visitors:-Chaco, 1932:

"It has been my opinion for some time that we have been boring a great many of our visitors with a more or less technical explanation of features of our ruins. I came to the Chaco with the intention of avoiding this if possible. The opinion was formed at other monuments by mingling with the visitors while someone else was doing the talking. With some of our visitors our talks of an hour or more in length are merely politely and patiently tolerated. The success with which John Will Farris has worked with his snappy twenty minute talks was an inspiration. The praises of the service at Aztec National Monument influenced my manner of handling visitors to a great extent.

"I decided to try to give my visitor exactly what he wanted. If a party of visitors drove up and said; "Can we see Pueblo Bonito in ten minutes? We simply must get to Bla-Bla Town before dark!" My reply was; "Certainly, I will do my best to show you the most important features of Pueblo Bonito in ten minutes." If at the end of ten minutes these people had satisfied their interest in Chaco they were dismissed with my well wishes. If they showed an inclination to stay longer they were entertained to the best of my ability until such time as they did show an inclination to travel on to their sunset destination. Many of these parties ran into hours; some of them lasted ten minutes, and apparently everybody was satisfied.

"When a party of visitors drives up to the gate, I first inquire about their immediate and pressing needs. If it is lunch time I direct them to the camp ground if they have lunch with them, and to the lodge if not. We visit while during which time I try to classify them as to intellectual interests which "sizing up" is developed by most people who handle the public. What they do, their interests, and why they came to Chaco are often determined without asking a single question. It offers something to work on. If they are interested chiefly in government I tell all that is known about the manner in which the Pueblos of a thousand years ago were governed. If they are engineers I tell them about the supporting wall and the retaining wall which have held the "Threatening Rock" of one hundred thousand tons (Dr. Judd's estimate) for nearly a thousand years, and so on through all of the professions represented. It would take several days to tell a party of visitors all that is known about the Chaco ruins. For that reason I find it convenient to take the visitors by classification as to professional interest. When, as it often happens, we get a few members of the faculties of some university who are interested in spending several days with us, we start into everything in detail. A two or three day party is started into which all others enter into and drop out of at will. Visitors spend from ten minutes to ten hours with our long time parties and then go on their way.

"The handling of eccentrics presents the greatest difficulty. Unless there is another party present at the same time with an actual

interest in archeology and anthropology, I let them more or less have their own way. I have stood for hours and listened to someone tell me about what he saw in Egypt or Spain. It can be readily seen that such a "loose" system as this would be attended with difficulties. The success depends entirely upon how correctly the visitor has been classified as to professional and intellectual interest. I must admit that I have made some regrettable mistakes, not mistakes of intent but of classification, but I do not think any of my visitors were distressingly bored.

"Fortunately, our visitors are few enough and of sufficient gentility and appreciativeness that most of those who found the lodge overcrowded could be treated as house guests. Particularly in bad weather the camp grounds were moved into our big living room. Some of the most delightful people which it has been my pleasure to meet were campers who were invited to camp with us in our house. We've had as many as forty in our house at one time!

"I know, and in a sense regret, that this informal way of doing things is possible only because we are more or less unknown as a monument. In another two or three years our visitors will number so many that we too will be compelled to herd them more impersonally. At present we go and do whatever the inclination and the interest of our parties dictate. Schedules and regulations will come only too soon.

"As to what the visitors are told about a particular controversial subject, I have been employing a very definite method. It runs something like this: "Dr. Judd tells us that this and that are true because of the following points of evidence..... However, Morris advances the following explanation because he interprets the points of evidence somewhat differently... On the other hand, we find that Pepper has a still different explanation on account of the following observations.... Dr. Hewett has expressed himself on the problem in the following manner.....Our boss, Mr. Pinkloy has given the problem considerable thought and advances ideas in the following fashion....Out of the various opinions expressed on the problem I think we can find the following points on which there is a semblance of agreement. Doubtless some years will elapse before a general agreement will be reached on all phases of the problem.

"This manner of presentation is not only scientifically accurate, particularly when dealing with controversial subjects, but it is playing safe as well.

"All of this brings me to the third and last part of this report.; What would I do if I were given an assistant? My reply is presented in the form of a work plan for an estimated period of about three years. Possibly the first thing I would do, in reality, if I did have a ranger to help me would be to take a day off, go to town-see a moving picture show. Much as the work approaches stimulating recreation, this day-off business would work to

the advantage of our Service. This, I consider, is one of the pressing needs of a one-man monument.

"I had hoped to accomplish some of the work here presented by attending to them during the autumn months. Apparently, as far as visitors are concerned, this could not be. While November has witnessed a decided decrease in the number of visitors, there are days when they arrived in a steady stream. Ten intelligent visitors can work a man easily ten hours at Chaco.

"I have never seen much of the monument. It should be explored and investigated; it should be at least policed. There are ruins on this monument which rank in size and importance with any in the United States, and some of them I could not find if it became necessary very suddenly to do so. If I had an assistant, a monthly trip of exploration, investigation and inspection in the interests of protection could be very profitably made.

"There have been a great many requests for speakers on archaeological and anthropological subjects from clubs, conventions, Chambers of Commerce, high schools and other groups which I have been compelled to reject, first, because I did not have the time; and secondly, because to advertise the Chaco even in neighboring towns would bring in many more visitors than one man could attend. As it is, my wife must help me a lot, along with the Griffin girls who have assisted time and again without pay. With one assistant, attendance could be built up very soon to where two assistants would be required.

"It is my opinion that the greatest damage which is now being done to the ruins on the monument is being done by the sheep and the sheep herders. If it were possible for me to leave my headquarters area I would roughly survey all the monument boundaries and place a white post about every one thousand feet along the boundary line. On this post would be placed a courteous but firm request that no sheep be driven into the monument area. In inclement weather our ruins make excellent camping places for the herders. They also make admirable bed grounds for the sheep. WALLS WILL NOT LAST LONG if sheep and goats are permitted to clamber over them at will. In the winter time Mr. Griffin has been able to keep the sheep out of the major ruins in the bottom of the canyon and near his home. He does this out of his interest and cooperation with our Service and gets no pay for it.

"Regardless of whether or not I get an assistant I hope to make it possible to prevent even one more flood from taking more of the Colorado Kiva at del Arroyo. With a few hundred dollars and a lot of labor I think this will be possible. A rock-brush wall is contemplated in order to turn the force of the current away from the ruin.

"One summer could be profitably spent in further investigation of the holes of the talus slope houses. All I need is a lull in visitors to get this done. With an assistant available, this

investigative work would proceed in an orderly manner.

"Unless assistance is arranged it will be impossible to enforce the recent order prohibiting the sawing of original timbers for growth rings. In this respect an occasional inspection would be valuable.

"A matter which has to do with the work plan exclusively is the problem of what to do about the "Threatening Rock" (so aptly named by Engineer Hamilton). My plan is to keep the matter alive by frequently referring to it, for without the laws of Nature are unduly suspended in our favor that rock is GOING TO FALL. It is the inevitable habit of all cliff faces to eventually yield to the attacking forces of erosion. In this particular case it may be an extreme of a thousand years before the rock falls. On the other hand it might well happen in the next ten minutes demolishing a large section of the greatest ruin in the United States.

"A sort of measured drawing-one consistent with my poor ability as an artist- of the Great Sanctuary has been sent to Field Headquarters for Mr. Vint who is interested in seeing this sanctuary roofed. The roof would serve the double purpose of protecting the Kiva and of providing us a museum. I want to either stir up enough interest to realize the consummation of the plan, or else to develop a better one to replace it.

"At the present rate of progress it will be another year before the "literature"- what Naturalist Bob Rose so flatteringly characterized what I should prepare- will be completed. If two men were here this work would be pushed to completion.

"I do not believe there is a place in the Southwest where more beautiful flowers can be found than right here in our back yard. Regardless of the assistant, I hope to get at least a start toward a herbarium for this monument for next year. It will necessitate a review of the old college botany but if you remember Chaco wild flowers you'll readily appreciate the fact that it will be worth the effort.

"A Mr. Palmer of Farmington has one of the best Archeological collections in this region. It represents a lifetime of effort on his part. He has not promised to loan us this collection but I believe that it will be possible to get him to do so. Next year I plan to convert our present tool room into museum space for collections. If we could acquire this collection we would possibly stand second to Aztec and Casa Grande in regard to museum collections.

"Further museum development on my part is pretty well dependent upon the proposed assistance. You will notice that our present collection which you liked so well was assembled largely by my wife, the neighbor's wife, daughters, sons and cousins. I hope to expand the archeological phases into the interesting anthropological sidelines that present themselves.

"Following is a tentative plan for charts which will supplement and illustrate the museum materials.

"I. Relationship of the Human Races:

This chart will be prepared using large circles to represent the greater racial divisions, like Caucasian, Mongoloids, Negroid, and smaller circles to represent the subdivisions Nordic and Alpine of the Caucasian; Polynesian and the less closely related Ainu of Japan, etc. of the Mongoloids. American Indian and the true Asiatic Mongolian will be inside the Mongoloid circle. The Negroid circle will contain the independent African and Oceanic Negroes, each represented by circle, and the Negritos and Bushmen in overlapping circles within the Negroid circle. Between the great Race Circles must be drawn properly positioned circles to show the types related to two or more great racial types.

"II. Tentative Family Tree of the Human Race:

This will begin with a single line branching to Pithecanthropus Erectus; the next Neandertalensis, both minor stems taking from the main stem. The Regroids, Caucasians and their Prototypes will be shown in proper stem relationship.

"III. Circumpolar Map of Primary Race Distribution:

This would enter the geographical positions of the above types on a circumpolar map.

"IV. Systems of Division of Time:

This would correlate the anthropological, the geological and the zoological systems. It would give greater meaning to the terms "Pleolithic, Neolithic, etc. for Lynen.

"V. Descent of Man in Relation to Geological Time Table:

This chart would consist of a family Tree of primitive Man superimposed upon the Tertiary Division of the Geological Time Table. An estimate of the thousands or the millions of years duration of each Epoch of the Tertiary and the principal geologic events such as Rise of the Sierra Nevada range, great era of vulcanism in the Cascades, and the Great Ice Age could be woven into this chart in an interesting way..

"VI. Anatomical Evidence on Evolutionary Rank:

This chart would dwell upon the anatomical peculiarities and similarities of the various races. Nasal index, hair classification, lip classification, and other points of comparison would be illustrated.

"VII. A Metric Expression of Human Evolution:

This chart would contain graphic illustration of the method of taking the various indices used in anatomical comparisons and would provide interesting comparisons between modern and primitive man.

"Comparative Mandibles: VIII.

This is simply a chart on Jaw bone comparisons of Heidelberg Man, Modern Man, Negro, Orang-Utan and Gorilla.

"IX. Cephalic Index:

No one can travel in the Southwest long before being confronted with "Cephalic Index", Brachycephalic, Dolichocephalic, and other jaw-breaking terms. Reduced to simple terms with short explanations these names will have some meaning to the

tourist who will inquire as to their meaning for he is almost certain to come into contact with these terms.

"Before the charts are finished I expect several others can be outlined. There is no limit to the interesting things that can be shown by graphic illustration. This room with the elaborate chart development would not necessarily have to be accessible to the complete run of visitors. It could be limited to those showing unusual interest and appreciation.

"Last summer an old Navajo gave me some seeds of a plant which he said was used as a food plant by the Navajos in the early days. It would be interesting to plant these small grains, selecting the largest each time for replanting. Some interesting things might be revealed in these experiments.

Casa Grande National Monument:

Mr. Palmer having been ill for about two weeks the Casa Grande report represents the efforts of several of the force, but principally of Frank Fish who keeps all of the travel, weather and other statistics. Mr. Fish Reports: "Dear Boss: I have the following to report on the Casa Grande National Monument for November:

"Weather has been unusually mild for the month with no precipitation. On only two nights did the thermometer register below freezing. Neighboring cotton fields are still green so evidently the cold was variable over the region. Cotton is considered very sensitive and would readily register the effects of sub-freezing weather.

"Our record shows the following tabulation:

Maximum-----85 degrees on Nov. 6th and 7th.
Mean Maximum-----80.6

Minimum-----31 degrees on 17th and 23rd.
Mean minimum-----38.3 degrees.

"The record of visitors shows 2058 people visited this monument in November 1932 as against 1556 for the same period of the year 1931, or a gain over last year of 502 or 24%. Although this doesn't equal the high of 2895 for November 1930, it is at least a significant gain in the right direction.

"The 2058 visitors for November came in 632 cars. Of this number, 750 visitors in 256 cars, or 36% of the total number of visitors were from out of state.

"Due to an epidemic of grippe the schools of Coolidge, Phoenix, Casa Grande and Florence were closed for approximately a week. This tended to keep local folk away but this slump in local travel was offset by an increase of out of state people caused largely by the fine publicity we received in the Los

Angeles Times. On several occasions our friend Harry Carr referred to his visit to the Casa Grande as being one of the red letter days of his life. This reference was made in his "Lancer" column. In the Out-of-Doors Section appeared a lengthy article by Harry accompanied by interesting illustrations by Staff Artist Charles H. Owens. Taking November 26th as an example, of our 75 visitors on that day 38 came from California and the majority of the 38 remarked that they had read about what Harry Carr had written and that they wanted to come by and see Casa Grande for themselves. When people came asking: "Where is the room the babies were born in?"; "I would like to see the crystal that the High Priest held in the path of the Sun's rays". - (The first and third questions deal with Montezuma Castle and not the Casa Grande) - we knew they had read Mr. Carr's account of his Southwestern trip. People visiting us get the idea Southwestern Monuments are a matter of a few hours drive apart and don't realize they are scattered widely over four states.

The Florence Rotary Club visited the ruins on the 16th. At the noon hour Associate Engineer Edward A. Nickol gave the group a talk on the History and Construction of the Casa Grande Ruins Shelter.

An account of the experiments by the Air-Spray Company on ruins wall protection will be found in Engineer Nickol's report found herein.

On the 10th of November we had the pleasure of a visit by Sup't. and Mrs. White Mountain Smith of the Petrified Forest National Monument.

Dr. Alex A. Whetmore, another Park Service Booster, Secretary of the Smithsonian Institution visited us on the 6th.

Mr. and Mrs. A. E. Borell of Yuccaite were here on the 21st and 22nd.

Hon. Wm. J. Stratten, Secretary of State of Illinois dropped in on the 25th.

We also note on the register the name of Mr. and Mrs. C.R. Buell, Sierra National Forest, Big Creek, California.

We're sorry to report the illness of Custodian Palmer who became a victim of the Grippe the latter part of the month. At this writing considerable improvement is in evidence.

Mr. Julian, Winifred, and Police Dog pup "Pancho" arrived on the 29th to be at the Casa Grande during the winter. They have been at Chaco Canyon National Monument during the travel season.

The following progress report on the Casa Grande Ruins Shelter erection has been submitted by Associate Structural Engineer Edward A. Nickol. We're glad to have his account of the history of the whole project which is valuable as a

as a record.

Casa Grande Ruin Shelter:--(Nickel).

"One of the most interesting as well as unique construction projects in the Southwestern Monuments is fast nearing completion and is expected to be finished by December 10, 1932. This project is the new shelter for the Casa Grande Ruin located at the Casa Grande National Monument.

"In 1902, due to the efforts of Superintendent Pinkley, Congress appropriated \$2000.00 for the protection of the Casa Grande Ruin. With this money a covering consisting of sixteen 10" X 10" redwood posts and a wood frame, supporting a corrugated iron roof, was built. This roof for the past 30 years has served its purpose well. This can be noted from a comparison of photographs taken some 40 years ago with those taken a few weeks ago. The wall profiles in both instances are the same with very few minor exceptions.

"The old covering had reached a stage where replacement became necessary. The wood frame was pretty far gone, especially the portions of the posts below the ground surface as well as the corrugated iron roof in which there was but little useful life remaining.

"In 1931 Congress made an appropriation for the new permanent protective covering. It was feared for awhile that the money would be definitely lost due to the demand for funds for forest fire suppression in some of the other parks. On April 28, 1932 this fear was removed when a telegram from the Washington Office was received by the San Francisco Field Headquarters with the information that funds were expected to be available and to proceed with the preparation of plans and specifications. In the short time that was left between April 28th and the end of the fiscal year the plans and specifications were completed and the contract for the work awarded.

"The general type of design was suggested by Mr. F. L. Olmsted, one of the foremost Landscape Architects in the United States, who has been associated with the National Park Service in an advisory capacity.

"This type was developed by the Landscape Division in sketch plans to the general proportions that appear in the final structure. The final working drawings and specifications, as well as the supervision of the construction, have been done by the Office of the Chief Engineer of the National Park Service.

"Many different types and shapes of shelters were considered in the design. The one finally selected and now being constructed consists of a steel frame composed of trusses, rafters and purlin supported by four steel columns. These four columns are each anchored to as many massive concrete footings.

"The roof covering consists of corrugated transite, a very durable material made from asbestos and cement. These sections of transite are securely bolted to the channel purlins.

"The entire structure has been designed to resist a wind pressure of 45 pounds to the square foot of vertical projection. This is equivalent to the vertical pressure attending a 100 mile per hour hurricane.

"At the ridge of the roof there is a louvered ventilator approximately two feet high, ten feet wide and thirty-two feet long. The purpose of this opening in the roof is relieve this part of the structure of upward thrust caused by upward wind pressure.

"There are four corrugated wire skylights in the roof, one on each side. Their chief purpose is to provide some direct sunlight on the ruin walls during seasons of the year when the Sun's apparent path across the sky is far enough to the north to allow sunlight to shine down through them and onto the walls.

"Around the eaves of the roof is an 8" X 10" copper gutter. These form a cornice and are connected to two copper downspouts on the west side.

"One of the interesting features of the design is the lightning protection. At the center of the ridge is placed an eight foot steel hollow pole to which is screwed a two foot section of bakelite tubing. This is surmounted by an 8" monel metal ball. The bakelite insulates the steel pole and structure from the monel metal ball. The lightning conductor consists of a 3/8" insulated copper cable connected to the monel metal ball and carried through the steel frame to a copper plate ground one yard square placed fifteen feet below the ground surface. In addition to the one main lightning conductor for the building, each steel column is provided with a 3/8" copper ground connected in a similar manner to a copper plate ground.

"A total of 114 tons of steel were used in the structure. Each column weighs six tons and the largest trusses each weigh approximately six tons. Each of the four concrete footings weigh 68 tons, being 6' x 6' at the top, 12' x 12' at the base and ten feet deep.

"The overall dimensions of the roof are 98 feet by 82 feet. Since the ruin is only 58 feet by 42 feet this should give ample protection. The copper gutter eave or cornice is 46 feet from the ground.

"The entire steel portion of the shelter is painted a sage green which harmonizes with the surrounding mountains and vegetation and which also gives sufficient contrast with the ruin walls showing them off to the best advantage. The roof covering is not painted being left in the natural gray which blends nicely with the surrounding country.

"The construction of the structure may be divided into three phases: (1) the building of a strong temporary covering over the ruin; (2) the construction of the permanent shelter; and (3) the removal of the temporary protective covering.

"Due to the poor condition of the old roof it was necessary to build a stronger protection of new materials to guarantee against damage to the ruin during the steel erection. This temporary structure was made entirely of heavy wood members. Going to the expense of this precaution has been justified many times during the construction.

"The erection of the steel has been very interesting and has been executed in a very efficient and rapid manner. The raising of the steel required only seven days and the riveting seven days. The entire construction under contract will have been completed in approximately two and one half months.

"The removal of the protective covering is to begin Monday December 5th and should require about one week. This will terminate the work and leave the Casa Grande Ruin with a new permanent shelter high enough to allow the public for the first time in thirty years an unobstructed view of the outlines of the entire ruin.

Construction Report Section (Mr. Nickel) : Casa Grande Shelter.

"During the month of November excellent progress has been made by Allen Bros. Inc., of Los Angeles, on the new shelter for the Casa Grande.

"As reported in the October issue the raising of the steel started October 26th and was completed in seven days on Thursday November 3rd. The following day a crew began the riveting completing the driving of approximately 5,000 rivets on Monday November 14th.

"At this writing, December 1, 1932, the structure is nearly completed. Several days work remain for the completion of placing the transite and two corrugated wire skylights. Three to four days more will be required to finish the painting.. The steel frame is complete; the copper louver, copper gutter and downspouts are in place; the lightning arrester and grounds are installed; all of the concrete and excavation work is completed with the exception of one ditch for the 6" drain pipe; one 92' length of 8" drain pipe has been laid; all of the round casings have been placed on the columns; and these casings have been welded and the welded connections ground down smooth.

"Considerable grading work has been done this month around the ruin walls and new concrete footings. This was done in order to provide good drainage and to make the approaches to the ruin more pleasing from the landscaping point of view.

"The contractor has begun the dismantling of his derrick and hoisting equipment preparatory to shipping them by truck to Los Angeles. He intends to return the compressor in a day or two since it has now served its purpose on the job.

"The contractor expects to complete the entire work by December 10th including the removal of the temporary protective covering.

Air-Spray Service Co. Experiments: (Nickel)

"Mr. Walker, the representative of the Air Spray Service Co. of Washington, D. C., spent a week with us at the Casa Grande Ruins applying two test applications of his material to the ruin walls in Compound A. He provided for us 18 small samples of treated wall material. He did his work very conscientiously. His material, at this time, appears to have considerable merit exhibiting good binding ability on the surface. The material appears to have penetrated the wall giving it greater strength and waterproofing. Of course it will be necessary to allow a period of time to thoroughly test the materials under variable conditions of extremes of heat and cold, and of dryness and wetness."

El Morro National Monument:

Mr. Vogt of El Morro writes as follows: (11/21/32 date of letter).

"Dear Frank: This is the first anniversary of the terrible snow-storm which caused this region so much loss of property. As I sit here in my coupe in my lamb camp to write my monthly report I marvel at the great-very great- difference in the weather compared with the same time last year. Now it is sunny and warm and our herd of 1600 lambs awaiting shipment fill up very well on the valley of grama and chamiso hedionde just off the hill west of Camerco Mine.

"Good roads have resulted from the open weather. The travel has been light but steady to El Morro. The weather has been so ideal that I regret that I did not go ahead and get Engineer Hamilton down from the Mesa Verde and do that surveying of our lines. Perhaps I could have gotten the fence work out of the way during what looks like the beginning of an open winter.

"During my recent visit to Los Angeles I spent several hours with Dr. F.W. Hodge, Head of the Southwest Museum. He told me about the diary of John Udell which he had recently gotten hold of. John Udell carved his name with others on the south face of El Morro and carved "First Immigrant Train, 1857" under his name. I promised Dr. Hodge I would send him a list of other names of the same date which must have belonged to the same party.

"In flying over the Painted Desert, El Morro, Petrified Forest, Grand Canyon, Bryce, Zion, and other national parks and monuments it occurred to me what a fine thing it would be to have these interesting places so marked that air travellers would be

able to read in large letters "Bryce Canyon Nat. Park, Utah" thus giving the National Park Service some advertising as well as a service to those in the air who wonder just where they are. I'm going to cover this suggestion in a letter to the Director.

"I have re-read your October report and enjoyed every bit of it. The account of your trip was fine. Bob Rose's account convinces me that I am missing a lot in not knowing him better. I hope that sometime we shall be able to make a longer contact than we did recently at the Gallup Harvey House.

"The Shalako Dance of the Zunis will be held early in December. The exact date will be made known shortly. I shall be glad to inform anyone interested in it. Regards, E.Z.V."

Gran Quivira National Monument:

I have the following report from Custodian W.H. Smith written under date of November 20th:

"My record for the past month shows 211 visitors in 69 cars entered the monument. Compared with last month travel has dropped considerably. The weather has been fine and the roads in fair condition.

"The treasure seekers are still laboring diligently. According to Mr. Ellis, their Engineer, they have found the mouth of a tunnel at the forty foot level. Mr. Ellis informs me that they have installed their first set of timbers in the entrance to the tunnel. He also reports the finding of some old timbers that were originally in the tunnel. They say they have been into the tunnel a distance of 43 feet already and that soon they hope to have it opened further. They find that at forty feet the main shaft offsets into another shaft in the north east corner which goes on downward. They have removed about five feet of the debris out of this second shaft. They intend to take this up again as soon as they have cleaned out the tunnel and explored the lower levels of that shaft.

"We have been working on the approach road for the last few days. We have made the changes that were suggested and have the new portion in shape for travel. Of course, it is not so good, but I guess it is as good as can be expected considering the funds spent and the material used. We have also installed the temporary cattle guard and done some work on the old roadbed toward the top of the grade."

In a separate communication of November 22nd Mr. Smith states: "Yesterday afternoon, November 21st, Senator Wheeler and a committee from Washington were here investigating the workings of the treasure seekers and from what was said the operations are considered a very interesting proposition."

Under date of November 14th Mr. Smith wrote briefly enclosing a statement by Mr. Ellis, Engineer for the treasure diggers. I quote here Mr. Ellis' statement in full:

"No. 1 shaft down 40 feet. It offsets into No. 2 in northeast corner. Have not had time to explore No. 2 as yet. Large

tunnel leading to west at 40-foot level. Can see 70 or 80 feet west in tunnel but at present have not explored same as it will have to be cleaned out and timbered. Everything progressing (but) can't tell much about formation until we explore tunnel." Signed, Mr. Hanna by J.H. Ellis."

Mr. Smith states in this same letter: "In reply to your letter of the tenth I wish to say that I truly thank you for the chairs, desk, stove and all other equipment that has been sent in to this monument. At the first opportunity I will get the andirons and other fireplace equipment mentioned.".....

Montezuma Castle National Monument:

Mr. Jackson writes on November 25th as follows:

"Dear Pink: Although weather and road conditions have remained good during the month of November, the number of visitors dropped down to 651 with 16 states and one foreign country represented. Travel from Arizona was highest with California as the only other state running a close second.

"Among visitors this month were: Harry Carr, feature writer for the Los Angeles Times, and Staff artist Charles H. Owens, who paid us quite an extended visit and were evidently quite sold on the monument. I heard today that a very fine article appeared in last Sunday's Times on the Castle but I have not yet seen it. We did enjoy the visit of Messrs. Carr and Owens and we hope they will bring Ranger Irwin and wife and daughter of Yosemite National Park spent a few pleasant moments with us the first of the week.

"Engineer Attwell has been with us several days during the past month and has staked out all proposed improvements. He is standing by awaiting word to begin work.

"Our electric plant was installed during the month and the ranger's quarters and museum were wired for lights. The plant seems to be O.K. Ranger Curry and wife have received the linoleum for the kitchen floor in their quarters and the paint for the inside woodwork. That makes it easy to figure where Hutch will be found on his "day off" in the future.

"My boy is back from the University of Arizona where he is taking a course in Physical Anthropology. He has been taking some measurements on the skulls here in the museum. Six adult skulls were measured and he found that they were all quite brachycephalic, or broad-headed with an average cephalic index of 92. I had hoped that one low-faced specimen might turn out to be hypsistenedolichocephalic (high, narrow, long) (with apologies to Mr. Julian) but such was not the case. These skulls have all been flattened somewhat from use of the cradle board and that fact is partially accountable for the extreme broad headedness.

"To all appearances we are preparing for the first real storm of the month which will probably result in snow on the mountain roads."

Natural Bridges National Monument:

I have the following report, dated Nov. 25th from Zeke:

"Dear Frank: I have finally pulled down my old tent, piled up the benches, and said "goodbye" for the winter. The weather has been ideal here all this month. However, only three cars of people have come out. I suppose the weather has been a little too chilly for them.

"We have been on the trail job every day except election day. I have worked up all of my allotment but one dollar-that is if I have to pay for the two signs and the two days work by Mr. Rogers on the road survey. Should I not have to pay that, I will have \$12.00 (twelve dollars) to my credit. Please let me know where I stand on this matter.

"I am very proud of the work done and feel that now I have a foundation for some very good trails, at least the one that is the most travelled most from Edwin to Augusta Bridges. The country across there is very ditchy with many small hollows. There is still ample room for cutting down ridges and filling up the hollows. This would make travel far easier. However, Spring will find us with time enough to do that when the ground is more wet.

"Well, Frank, I am determined to have some cabins put up out at the monument this next Spring. I have traded one of my rules for lumber enough for two cabins. Talking to Paul Black, manager of the Blanding Service Station, about it he said: "Zeke, if you will put up your accommodations out there, I will deliver, free of charge at the Bridges, 1,000 feet of lumber and make you a present of the whole thing for I am tired of having people ask me if there are accommodations out there and have to tell them, "No", then see them turn around and leave the country. So, I told him I would hold him to the promise-and he'll meet it you can be sure. I have a lot of furniture and bedding, enough for several rooms. I also have two range stoves and could build and equip several cabins-enough for the present at least. I feel that the time has come when something ought to be done. I think there will be travel enough to justify the arrangement. I am very tired of being there alone and Mrs. Johnson is tired of being alone all summer. I think that we could sell enough meals and beds to finally pay for our trouble at least.

"Now in the event I put up some cabins would you be able to find find some money to fix me up a little house to live

in- just some two or three rooms. Lumber and freight are very cheap now. Or, rock is plentiful and logs on the mountains which could even be used. I must have something in the way of a residence and feel that I am entitled to it.

"The first thing in the Spring I want to shoot out a cistern from the solid rocks for there is a patch of slick rock close to my camp which would afford ample catchment space for plenty of water. This could be ditched or piped into the cistern. I have measured the distance from the top of the point above the big hole of water and wonder if you could give me some idea as to the cost of an engine big enough to hoist water up- it is 76 feet straight up and 256 feet at about 50% grade, so it would take 332 feet of pipe. Do you think it could be done? I have never had any experience of that kind.

"Will you please think the proposition over and let me hear from you as I am very anxious to do something out there next Spring? But-please- don't think I'm tired of pioneering for there is still a lot of that to do yet! If I had a little home out there I could soon have a real collection or a little museum. A lot of good stuff could soon be collected.

"I hope you have had a real Thanksgiving and that all is well with you. Yours very truly, Zeké".

Navajo National Monument:

Hosteen John Wetherill from Kayenta way writes on 11/29 as follows: "Dear Frank: I have done nothing on the trail because the work will last longer if it is done in the Spring. I hope we shall be able to get more money so that we can do the work right. Mr. Albright suggested making the Monument Valley and Navajo Mountain into national monuments. I wish when you see him you would talk further of it. The doctor here received \$8500 to work the roads. He has about finished the road through Marsh Pass. We expect quite an increase in the travel for the coming year. I hope you can get an increase in the \$200. With best wishes from doo----John Wetherill".

Petrified Forest National Monument:

Superintendent Smith's report is submitted to the Washington Office directly. However, it is always of interest to all of our Southwestern personnel and is therefore included here:

"Dear Mr. Director: Narrative report on activities in Petrified Forest National Monument for the period October 28-November 27, 1932 follows:

GENERAL: With the addition of 53,300 acres of the Painted Desert to the Petrified Forest National Monument September 23, 1932, it was naturally assumed that this act carried with it the mandate to protect, administer, and give us adequate service to the people who visit this section as our facilities will consistently permit,

at the same time not neglecting any other equally important part of the monument. Much thought was given to this. Consequently, on October 2 a Greeting Station was established at the rim of the Painted Desert on U.S. Highway No. 66.

"Neat signs were erected requesting all cars to stop and register. To date not one party has made the slightest objection to this, but all recognize the measure as an additional service to the people. In a day or so all local or through traffic plying between Arizona and New Mexico towns learned to keep right on with the wave of the hand or sound of the horn. Those contacts have been so numerous that it has taken the services of two rangers most of the time throughout the month. However, from now, on through the winter, it is planned to station one ranger at this point.

"The rangers are instructed to cordially invite all parties to visit the Petrified Forest or the Painted Desert section, or both. No undue persuasion has been used to induce people to pass through the Forest at the expense of parties on U. S. 66. However, this service has resulted in increasing travel through the Forest proper, has caused a great many people to view the Painted Desert from various points who would not otherwise have done so, and has given us a new and valuable contact with the travelling public. This service will be hard to maintain through the winter with our limited force, but so sure are we that it is right, it will be maintained at all costs.

CONSTRUCTION: The employees quarters (2-room) and comfort station (two built on rear of Administration Building), total cost \$3,475.00; were completed about the middle of the month, and the few extras having been installed, the residence is ready for occupancy. It is not contemplated to use the comfort stations until an adequate supply of water is obtained.

"A report on well drilling operations was made last month. It was found to be impossible to shut off the salt water with the equipment at hand and as the money was running low operations have ceased. A separate report covering this has been made.

WEATHER: The weather for the month has been ideal. There has been no precipitation. Temperatures, maximum 70 on October 28th, and minimum 16 on the 12th. However, the maximum temperatures have been over 60 on 22 days, and the nights have been a little below freezing on all except five.

N. P. S. VISITORS: On the 22nd Assistant Landscape Architect Langley, Senior R. P. R. Rodman Birdno, and the Superintendent made a thorough study of the Painted Desert rim

in connection with future road development. Mr. Langley remained in the monument until the 24th, and on the 23rd and 24th many problems of the monument were discussed in detail with the Superintendent.

"EQUIPMENT: We failed to mention last month that a fine and adequate supply of desks and other office furniture were purchased for this monument by Superintendent Pinkley and were received and installed last month. It is truly a pleasure to have this sort of equipment.

"SURVEYS: A small survey party under the Bureau of Public Roads has been completing surveys in the Monument. At this writing they have gone for a few days to help out elsewhere.

"A publicity circular was mimeographed on a machine, secured from Superintendent Pinkley, and was distributed locally. This has a sketch map showing connecting roads and nearby towns with informative matter on the reverse side. Copies are inclosed herewith. The matter was subsequently published in several papers in nearby cities and towns.

"The road has been well maintained as well as the connecting road with U. S. Highway No. 66.

"As there was not sufficient radiation in the Administration Building at headquarters, following out a plan of the Landscape Division and estimated by the Chief Engineer's Office, two of the radiators in the Exhibition Room were replaced by two larger ones and these in turn were installed in the two rooms in the west wing of the building. This has been a very satisfactory change.

"As a Federal Aid project, approximately 15 miles of U. S. Highway No. 66 are being rebuilt east of Holbrook, Arizona.

"Due to falling off in travel and other reasons the Caravan service has been discontinued.

"Several small bands of antelope have been seen both to the east and the west of the Monument boundary on U. S. 260.

"Our protection consists mostly of education and contact. Each car is contacted both upon entering and leaving the Monument and we find that much more satisfactory than the old spy system. No arrests have been made.

"A shipment of uniform signs has been received and they will be erected just as soon as the posts arrive. Metal posts have been ordered.

"The Superintendent was away from the Monument on official business from November 8th to the 11th, to Phoenix and the Casa Grande National Monument, and November 27th to the 29th to Santa Fe, New Mexico. The former trip has been reported separately, and the latter one will be detailed in the near future.

"TRAVEL: Every state in the Union was represented in the travel through the Petrified Forest except Delaware. Mention has been made of the registration at Painted Desert. Only the cars actually contacted are counted, and those included in the total have not been registered elsewhere.

	cars	people
"By private automobile.....	1,197	3,375
Previously reported.....	1,730	4,999
Total to date.....	2,927	8,374

Painted Desert Section.....	1,493	4,591
Grand total for month.....	2,690	7,966

Grand total to date.....	4,480	12,665
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"Represented in this travel were: Canada, China, England, India, Switzerland, Canal Zone, and Hawaii.

"Among the visitors were: Mr. and Mrs. W. W. Eaton, Wolf, Wyoming; Mr. and Mrs. Jack Thornburg, Grand Canyon, Arizona; Ranger Carl Cox of the Grand Canyon; Mr. and Mrs. A. E. Forell, Yosemite National Park; and Mr. and Mrs. Fousette of the Arizona Republic, Phoenix, Arizona."

Pipe Springs National Monument:

Mr. Heaton, under date of November 24, submits the following:

"If this report reaches you late it will be because of my having had to attend court for the past few days and a local community gathering and dinner today. My day today was spent at Moccasin enjoying myself with about 80 others in one big "feed". To make the day complete we topped it off with a game of basket ball.

"In a court case being held in Fredonia dealing with Homestead problems I was called in as one of the witnesses and was away on the 21st, 22nd, 23rd while on Nov. 16th I attended the funeral services of one of my cousins at Alton, Utah.

"The weather so far this Fall has been ideal with just enough frost of nights to make the mornings crisp and the days fine and warm. What a contrast with last year when we were almost completely snowed in during Thanksgiving time ! The country is getting very dry and is in need of a storm to settle the dust along the roads and to help the grass and

the range.

"Travel for the most part this month has consisted of local people. The total has been about 165. I still have the homesteaders who come in about once a week to get water.

"I have been doing considerable work including placing the cattle guard, and cleaning up of the buildings and grounds. Things are up in pretty good shape though leaves keep falling and littering up the grounds. However, the wind comes along on some days, sweeps them away taking care of them. Then the wind brings them all back so in the end I have to move about as many leaves as if there were no wind to assist."

Tumacacori National Monument:

The following report has been received from Mr. Boundey:

"Visitors for the month total 652. We cannot look for any increase until the highway now under construction is completed.

"A museum collection has been arranged in the old school-house but owing to the poor condition of the building things of much value should not be displayed there.

"I have spent some time this month, with the help of old settlers in this vicinity, locating some of the old landmarks. Mr. Casanovi who was deputy sheriff of Calabazas when it had a population of eight hundred not only gave me considerable interesting data on the town but also helped locate the foundation of an old brick hotel which, excepting San Francisco, was the finest hotel west of the Mississippi River. Dr. Lockwood of the University of Arizona has led many interesting parties to the old Fort Mason. From some of the local people and we have proved that the real site is more than a half mile from the site which is signed and pointed out to visitors.

"This is one of the most beautiful seasons at Tumacacori. We have had one light frost and the mountains on all sides of us are in full autumn color. The immense cotton woods along the river are especially beautiful."

THE SUPERINTENDENT'S MONTH:

"The first five days of the month were employed in getting out the monthly report and in getting it into the mail.

"The week of the 6th to the 12th was pretty well taken up in cleaning off a well filled desk and getting things up to the current day.

"From the 13th to the 18th I was busy with the '35 preliminary estimates which are beginning to take shape.

"On the 17th I went to bed with the lagrippe and remained there until the 29th.

"On the 30th I came back to the office to find another well filled desk awaiting the start of the new month.

"No field trips were necessary on the part of myself or the Park Naturalist during the month.

"Mr. Julian closed the Chaco Canyon National Monument for the season the last week of November and he and Mrs. Julian arrived at Casa Grande a few days later where he is now on duty for the winter.

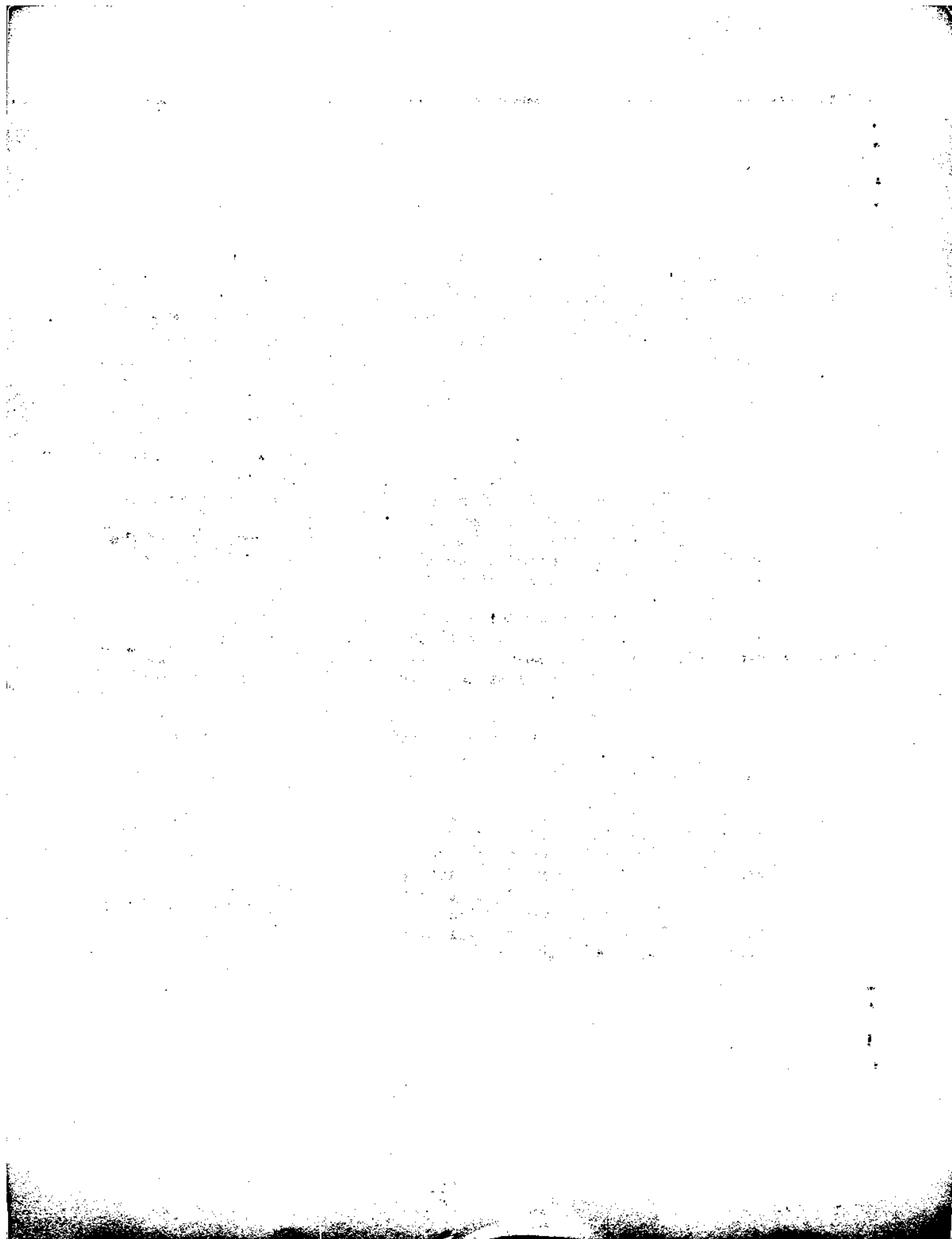
Superintendent C.J. Smith visited Phoenix and Casa Grande on official business and later in the month had to go to Santa Fe, New Mexico.

"These were the only trips chargeable to our appropriation during the month.

"We have been very anxious to get going on the Montezuma Castle parking ground and road job but have no approved plans as yet. Mr. Attwell, who has been detailed from Field Headquarters on that job has utilized the time to make a survey of the Bandelier road extension and will have the complete data on that job worked up this winter ready for any action you may decide to take next Spring after the snow goes off up there.

"Parking ground and road work at Casa Grande and a parking ground job at Tumacacori are awaiting approved plans and the detailing of an engineer from Field Headquarters.

"The protecting roof at Casa Grande has progressed nicely during the month and we are all well pleased with the general appearance of the job."



The Supplement
for the
November Monthly Report.

So many nice letters have come into this office about "my" monthly reports that I just laid off a couple of weeks of November with the flu and then took things so easy when I did come back that the boys got out this November report themselves and all I am doing is just rooting from the side lines.

As you will see from the signature, Ed Nickel, of the Engineering Division, donated the front cover to us for which he has the thanks of the entire force. If that cover doesn't make every one who looks at it want to read the rest of the report, I miss my guess. The mountain to the right is the front of the Superstition Range as seen from our headquarters and the horizontal ledge showing pretty well up on the face of it is, according to the Pima Indian story, where the receding flood left its foam line when this part of the world was submerged with water. You will find the story in that excellent monograph on the Pima Indians written by Frank Russell in the Bureau of Ethnology Reports.

Bob Rose has a mighty sensible chapter on the construction of a good looking, low cost museum case. The new cases at Casa Grande, where he worked out his data, are proving mighty satisfactory in use.

There is also a lot of meat in what he says on page 4 about over-crowding a museum. We have overcrowded them and we know; but on the other hand let us see that we don't get off on the other side of the line and simply try to decorate our museum rooms with specimens; that causes us to run some talkative material back into the storage room. It has always seemed to me that these monument museums are laboratories where we use certain reagents in the way of specimens to get certain reactions on our visitors. An artistic effect in a laboratory is to be desired but it is much more to the point that the laboratory be equipped with all the necessary tools to do the work regardless of their looks.

Simmered down, this all means that I would pick over my museum shelves and retire to the store room a lot of stuff which duplicates a story told by some other piece. Then I would go out into the store room and see if there was a single specimen which told something not told by any specimen in the museum. That piece belongs out on the shelves regardless of its size, color, artistic effect, or anything else.

Don't overlook Mr. Julian's 'stone count' on Chaco Canyon walls which is given on page 8. Try to realize that in the Type 2 count the stones average about one and a half inches of wall face each way; then think of building a two or three story house with such small stones.

Let the Educational Division look well over page 11 and see if

they agree with us, because the method explained there is the one we are trying to use at all of our pre-historic monuments where we deliver service.

Chief Clerk Martin Evenstad stopped a gap on Sunday, the 20th, by acting as ranger and helping to handle the crowd.

Here is a letter that is too good to bury in the files; it is from George Grant, Park Service Photographer:

"I left Grand Canyon on October 15th. The 16th was spent at Walnut Canyon and along the Little Colorado, winding up at Petrified Forest National Monument, where I went hoping to get in touch with you. The 17th was spent there, a very windy day, but I got some pictographs near the Admana entrance. On the 18th Mrs. Smith took me up to Polacca and Walpi, she driving her own car. I left there at 4 P.M. and took that upper road over to Chinle, where I arrived at 11:30 P.M. after much difficulty and with the help of a Navajo guide. I had completely lost my way. We had to get Cozy out of bed. I went up Canyon de Chelly on the 19th, going up a little above the window. A dip, too short, and deep, stopped me there. After getting that far I felt none too confident about getting back, for the car was too heavy and its tires were too small. I think a Ford runabout with real fat tires could do it easy, but it was an off day for me. I made 28 exposures however and the negatives look good, but I was working blindly, having had no previous information about the Canyon and no one with me. I must have been hopelessly stuck over a dozen times and was always helped out by the Navajos. How are we going to keep those wonderful people from being spoiled like their brethren along the Santa Fe trail by the influx of dudes? They are the interesting feature of this monument to me, the Canyon merely a setting. It's the most colorful and romantic place I think I've ever been in. If dudes are permitted to travel up this Canyon they will cause the Service a lot of grief. I don't see how a permanent road could be built, nor why it should be. And if large numbers of dudes go up there the Navajos will probably move out and that would be a mistake. It is too rich a sight to see them travelling up and down the Canyon on their ponies.

"The following day, the 20th, it rained and I was afraid to tackle it. The next day, when I slid all the way to Gallup, making the 97 miles in 14 hours, it was still raining. So I failed to get up Canyon del Muerto, a great disappointment; but I say enough to convince me that we have something fine here, and something different. God! what a region this is; and nothing has been said of the country to the North!

I think you will agree that it takes a real country to get a rise like that out of a case-hardened photographer like George; and no one knows better than you do how true it is!

On November second Chuck Richey, of the Landscape Division, and Miss Ruth Alexander, of Seattle, Washington, were united in marriage. They have the good wishes of all our Southwestern Monument folks and we hope landscape business picks up enough to demand the presence of Chuck and the Mrs. down here among us.

Mr. W. Lee Chambers, Business Manager of the Cooper Ornithological Club, writes: "Today was the first chance I had to examine the monthly report dated October 1st which you sent me some little time ago. As is well stated in the last paragraph, I was very much interested and read the thing through completely before stopping.

"I was especially interested in the part telling about the Gran Quivira National Monument. This section, on account of the early Spanish history is very interesting and I am wondering if they will find anything in the excavations now going on. If it is not too much trouble I would like to have you drop me a note telling me about the findings when the excavations are completed."

Miss Jean Griffin writes: "Dear Nah-tan-ne: (Navajo for 'Boss')": "Just a friendly note to acknowledge the receipt of the monthly report. I enjoyed perusing every page and appreciate your putting me on the mailing list. I shall look forward to receiving the next one; it is a report anyone would like to read."

Mrs. A. W. Burney, the San Francisco agent of the Indian Christmas Company, reports \$75 worth of orders up to November 24, and business just opening up good. A note from Mrs. White Mountain Smith says she was ready to go to Gallup to make up the last pre-Christmas shipment to Miss Story of the Washington Office and that business was booming. I also notice that the Southwest Tourist News, of Gallup, New Mexico, has taken up the idea of an Indian Christmas and the Indians are reaping good benefits through the sale of their handiwork.

A short report from Mr. J. B. Hamilton, of the Engineering Division: "Left Mesa Verde November 2nd at 12:00 p.m. in the Park Ford pickup. Arrived Aztec at 5:00 p.m. and stopped over night at the American Hotel. The rest of the time Mrs. Hamilton and myself were the guests of the Parises. I now know why chicken gravey is mentioned in the official reports.

"All of Thursday and Friday forenoon I spent with Mr. Paris going over the Monument and in studying the maps and taking pictures. The deterioration of the ruins of course occupied most of the time. I had expected to spend considerable time measuring up the areas of the rooms to be covered and the lengths of the walls to be capped. However I found this information could be obtained from the excellent map made by Mr. Petter.

"We left the Monument at 1:45 and were back at Mesa Verde at 5:35 p.m."

The following has been received from the Washington Office: "I have just finished reading your October monthly report of

the Southwestern Monuments and have found it of absorbing interest. I took it to New York with me and read it on the train, finding it one of the finest and most worth while reports I have read.

"I congratulate you on its preparation."

Thanks, Chief for the compliments, though I didn't do anything but sort of put the report together, - the other fellows did the work.

I want to here quote an extract from that letter received by you from Mrs. Mabel Walker Willebrandt, former Assistant Attorney General. This is, of course, for the benefit of our other readers, and it is written about Bandelier National Monument.

"We are in the most heavenly spot. Left our car at the top of the cliff, telephoned for a horse to get Mama down and Papa and I hiked down. We're both, Papa and I, intensely interested in Archeology and geology and really this place tops them all - only if there were just one of your splendid rangers to give us a lecture about what the old prehistoric lions mean, the ruins of the pueblo and all the significance of the hieroglyphics on the cliff dwellings."

"We're perfectly delighted with the place and I'm told that you and Mr. Toll and Mr. Edwards got it put into the Park Service. But I'm not surprised. Seems like all the lovely spots are under you."

It is too bad that we had to move Ed Rogers and the Honorary Custodian Without Pay out of Bandelier about a week before she came or her wish would have been granted. Maybe next year we can have a year round position established there - let us hope so.

Ed. Nickel, of the Engineers, visited Mr. Boundey in October and got no mention of it in Mr. Boundey's report. Now Ed compliments us by saying he is afraid the Comptroller may hold up the expense voucher and point to the fact that he didn't see any mention of that trip in our monthly report. We insert this item so the Comptroller will know it is all right.

Another one from the Washington Office: "The other night I got hold of a copy of your October Monthly Report and in a misguided moment took it home with me. That evening I had a choice of the newspapers and the Liberty magazine and I found myself getting deeper and deeper into your monthly report with the result that I spent the evening reading about Southwestern Monuments. It seems to me this is the best testimonial I can give as to the value and interest of your monthly reports. I have to read all of the monthly reports and I always look forward to reading yours."

About four hundred superintendent's reports per year break across your desk, Mr. Demaray, and you can still get a kick out of one! That certainly is a compliment that I want to pass on to the fellows who wrote the October Report.

The President of a Boston Bank takes the time to remark as follows on his southwestern trip:

"At Mesa Verde I had an opportunity to see how efficient the

ranger service was. At the Carlsbad Caverns it is equally good. At the Aztec Ruins I spent part of the day with Mr. Faris, Custodian. He is very intelligent and thoroughly interested in his work. There are a number of ruins which eventually should be excavated. There is a very large kiwi which has been unearthed but nothing has been done to take care of it. Mr. Faris told me that it was disintegrating at a rate of about 10% a year. I should judge it would not take over \$300 or \$400 to complete the excavation, replace the stones which have fallen out of place and cement it in such a way that it would be kept in a permanent and safe condition. This is one of the largest kivas that I have seen and ought to be protected.

"At Pueblo Bonito the Custodian is intensely interested in his work and even though a large part of the excavations have been completed there are other pre-historic ruins in that section which ought to be attended to. Miss Griffin, the assistant custodian, has lived many years in her home which adjoins the Pueblo Bonito ruins. She has done a great deal of excellent work in investigating the types of masonry and also in reproducing the pictographs. This is one of the most interesting and significant of all of the ruins.".....

In Southwestern Monuments we recognize the value of a viewpoint presented by some outsider. Such viewpoint, or first impression, may present a fresh outlook on our problems, an outlook which may be very valuable and new to our personnel because our duties have become so customary as everyday matters and our minds lose some of their original keenness for quickly seeing points on which improvements can be made. The above letter contains some of that valuable quality of interest to us.

Mr. Palmer at this writing is still confined to his home and is gaining day by day. His illness reached a very critical point for one or two days but with some very careful attention during this stage by the doctor, nurse and others he finally pulled past the danger point.

Mr. Kittredge writes us about the October Report and in a fine way states some of those intangible things that help make the wheels go 'round in our Service:

"Your October report was again a delight to read, and I want to thank you and all of your assistants for those many very kind remarks in connection with the engineers. Attached is copy of my letter of appreciation to Hilding Palmer.

"I am circulating this report to those in the office, and I can't tell you how much we all appreciate your comments, and how they spur us on to renewed cooperation".

Dr. Bryant in a recent communication through me to Park Naturalist Bob Rose writes of our October monthly report. His letter contains some especially fine statements on aims and ideals of educational service which I am going to pass on for the benefit and pleasure of the others of you who will read these columns:

"The October monthly report of Southwestern Monuments contains many suggestions relative to educational developments.

"The emphasis upon the different kind of mission which park museums have to fulfill is exactly right. In fact, we hope our whole educational program, in that it has to fulfill such different requirements, will be a distinctive one. Whereas so many natural history museums finally become mere depositories of dust-covered exhibits, we are anxious that our museums should be growing educational centers actively engaged in helping the public.

"We like also the stress placed upon making museums for the benefit of visitors rather than having them fulfilling some pet scheme.

"A fine vision of the whole educational project, a full appreciation of important needs, and careful planning for the future form the fundamental background needed by each park naturalist. You have indicated an appreciation of these fundamentals in your reports. Keep up the good work."

Associate Structural Engineer Nickel who has been Engineer in Charge in the new Casa Grande Shelter construction has made a report on the experiments on ruins wall protection which were carried on by the Air Spray Service Co. of Washington, D.C. These details should be made a matter of record and the history of the experiments made known especially to our Southwestern personnel where the results are awaited with interest: "Memorandum to Mr. Pinkley:

"I wish to submit the following report on the observations and recent applications of a spray protective treatment on a section of ruin wall. Mr. Walker, representative of the Air-Spray Service Co. of Washington, D. C. arrived Friday November 18, 1932 and after looking over the various possible sections of wall suitable for treatment, put on a light spray coat of preservative material.

"Two sections of wall were selected each consisting of approximately 25 square feet of wall. We will designate one section as the East and West wall and the other as the North and South wall. They have been staked out and marked for identification.

"The N.S. wall was given six spray applications of preservative material and two coats of waterproofing material sprayed on. Each coat was put on 24 hours apart with the exception of two. On two hot days Mr. Walker put on two preservative coats.

"The E.W. Wall was given five applications of preservative material and two coats of waterproofing material.

"The purpose of the number of treatments and the time between coats was to allow sufficient time for complete penetration. Mr. Walker believed that the best results will be obtained by having the preservative material soak into the wall material until saturated or until it ceases to readily absorb additional material. Then the two coats of waterproofing is intended to seal the surface keeping out moisture.

"The initial color of the wall after the first application was dark brown and remained about the same color for the remaining spray coats. The two waterproofing coats turned the wall a darker brown. The wall is drying out slowly and is beginning to show a lighter color here and there.

"There is a noticeable gloss on the top of the wall and especially on the individual pebbles. It will be interesting to observe the length of time this gloss will remain on the wall and whether it will disappear in time.

"I would like to state here that this material and treatment seems to me to have some very good qualities and is worthy of consideration. There is a definite surface tension developed which even binds the pebbles to the surface. The material also seems to penetrate into the wall binding the caliche particles not only at the surface but for a variable depth. This should give a resistive surface against the elements thereby prolonging the life of any ruins walls receiving such treatment.

"In addition to the wall treatments eighteen small samples were treated for testing and observations. There are three sets of samples as follows:

Six samples including:-One coat of preservative and two of waterproofing:

Two "	"	"	"	"	"
Three	"	"	"	"	"
Four	"	"	"	"	"
Five	"	"	"	"	"
Six	"	"	"	"	"

"These samples are all tagged and labeled for identification. One set has been placed in a carton and is for your use and observation. The other two sets will be taken by me to Field Headquarters for test and if advisable one set forwarded to Washington.

"These small samples show that treatments add greatly to the strength and binds the surface materials together making a much stronger surface than the untreated surface.

"The color on the wall treatments is somewhat darker than the untreated wall. Also the gloss is noticeable on the treated surfaces.

"I have been watching the treated walls and samples since they were made and find that the dark color is turning lighter slowly. There is no definite indication yet that the gloss is disappearing. Time will show this."

Here's an idea on the museum of the future at Chaco, and should be given consideration along with the other ideas offered. These excerpts are from Mr. Julian's letter of 11/5/32:

"As per your request, I am sending under separate cover, the drawing of the Great Sanctuary at Pueblo Bonito. It is nothing to be proud of, but it is the best that I could do with my limited knowledge and lack of aptitude.

"According to Dr. Hewett, the central portion of the kiva- that part within the rectangle formed by the roof supports- (indicated on the drawing by circles with crosses in them) was probably open to the sky. Dr. Hewett bases his opinion on the fact that no roof debris was found in the center of the Great Sanctuary at Chetro Ketl. I have no other opinions from any of the archeologists who have worked here. Perhaps Dr. Judd would tell us differently. If we are reasonably correct in this assumption, and it is decided to use the kiva as a museum, this could be glassed in.

b "The floor could be laid in in flags of local stone. The fire vaults and pit in the center could be used as display cases. The ceremonial cysts would be used to display articles of special importance, and the banquettes would make admirable places to display the articles which the visitor may handle and examine.

"The idea was suggested by the number of visitors that came here from Aztec in high enthusiasm about the method of display in use at that Monument. In comparison with the cost of a regular museum, the cost of fitting out the kiva would be negligible, and to my opinion, more effective than a fifty thousand dollar building...."

In considering the above proposition we should endeavor to answer the questions: "Would there be adequate space?" "Would there be a problem of humidity and dampness with which to contend?" "Would the lighting effects be desirable?" "Would the construction features of the kiva in addition to additional display space available be well suited to the purpose?" "What are some of the problems in handling large groups in such a place?"

Custodian Palmer and Park Naturalist Bob Rose attended a lecture on "Tree Rings" by Dr. A. E. Douglas of the University of Arizona. Dr. Douglass gave this lecture in the Junior High School Auditorium in Phoenix. On the evening of December 14th Dr. Shantz, President of the University of Arizona, will talk on "A Naturalist in Arizona". Next month a brief resume of each of these talks will be included in the Supplement by the Park Naturalist.

H

Superintendent Smith of the Petrified Forest National Monument has prepared a report on the well drilling operations at that place. Specific information on difficulties and geologic conditions that might be encountered in well drilling in this region is meagre. For that reason it is very worth while to have Mr. Smith's report before us all:

"On August 10, 1932, Tony Leone, Proprietor of Leone Well Drilling Company arrived at this monument, set up his rig, and commenced drilling.

"A 10" hole was completed to a depth of 160' and cased with second hand 8" casing secured locally. An 8" hole was completed to a depth of 501' and cased with 6-5/8" casing purchased by the Field Division and shipped from Oakland, California. The hole was then completed to a depth of 634-3/4' with a diameter of 6-5/8".

"The 8" casing was cemented off according to contract but failed to effect a shut off of a small flow of salt water which was encountered at a depth of 104'. The 6-5/8" casing was pointed with a steel shoe and was driven into a soft sandstone at the depth of 501' and a perfect shut off was secured at this point. The 6-5/8" hole was then continued and a very strong flow of salt water was encountered at 609'. This flow was so strong that the water came within 75 feet of the top. It was thought by ranger-naturalist Gunnell that in a comparatively few feet the Coconino Sandstone would be reached and the logical thing to do was to drill to the top of this formation, effect a shut off there, and then drill into the Coconino until the flow of good water was reached. This was done and in the meantime a contract was let for the purchase of 650' of extra heavy 4 1/2" casing. (second run).

"The Coconino Sandstone was reached at a depth of 634' and the casing was run in and cemented off. After the necessary time had elapsed the drillers resumed operations but the cement had not effected a shut off. It is not known whether the minerals in the water prevented this or whether there was agitation in the water which kept the cement from setting. Then the contractor went to Gallup and secured a pump designed especially for the purpose of shutting off wells.

"We secured about three cubic yards of shale which was especially good. The casing was then raised about 40', the shale was mixed in hot water, and poured into the top of the casing. Then fresh water was forced through the pump into the casing under a pressure of 3,000 pounds which forced the mixed shale to the bottom. Then the casing was driven down solidly on the Coconino.

"After the casing was cleaned out it was thought at first that the shut off had been effected, but soon reddish brown water began to come in and it was presently nearly as high as before.

"It is the opinion of Mr. Gunnell in which I agree that earth materials were washed out of the joints existing between the lower salt water stratum and the Coconino sandstone, permitting a migration of the salt water into the Coconino. This probably began during the time that the unconsolidated cement was in the bottom of the hole. It is likely that the continual flow of salt water down the joint planes into the Coconino along the margins of the hole widened the joints to such dimensions that the mud injected into the hole was not of sufficient strength to prevent the downward migration of the salt water. It appears impossible to prevent this migration with the equipment at hand. It seems that the salt water gets into the casing through the Coconino Sandstone.

"As the Coconino Sandstone is rather uniform in texture from top to bottom it would appear impossible to effect a shut off within this formation. However, local well drillers have encountered three distinct flows of water within the Coconino. This indicates that there are impervious layers within the Coconino. The uppermost impervious layer is known to occur at the base of the uppermost water stratum. This probably consists of firmly cemented sandstone.

"We are pulling the 4 1/2" casing preparatory to stacking it at the site of the well, then present operations will be abandoned. This leaves a cased 6-5/8 hole 501 feet deep and 133'-8" of 6-5/8" hole partly full of mud with salt water in inexhaustible quantities to within 75 feet of the top. Present funds are practically exhausted. "

During the well drilling operations Ranger Naturalist Gunnell has kept a very careful log. This should add some valuable information on the character and origin of the formations in the vicinity of the Petrified Forest.

The Park Naturalist, Bob Rose, gave a talk Tues. Dec. 6th before the Junior High School at Gilbert, attendance more than 200. School pupils enjoy national parks subjects evidently. for the Superintendent stated that the children were the quietest and most attentive he'd ever seen. A talk on national parks and monuments was given at Casa Grande before a community gathering of about 300 attendance. This was in connection with a community song service which is an annual occurrence there.

Mr. Attwell was asked to visit Gran Quivira National Monument and report on the treasure digging at that place. He reports the following:

"Leaving Bandelier National Monument at 6 on the morning of December 1 I reached Gran Quivira at 3 P.M. Custodian W. H. Smith accompanied me on my inspection of the treasure diggers. I completed this field inspection shortly after 6 P.M. and left for Montezuma Castle National Monument. The following is a report of my findings:

"Spectators and curious persons were not in evidence. From the surface there was nothing to indicate that treasure seekers were operating. A "Warning-Danger" sign is near the scene of operation to prevent spectators who do visit the shaft, from standing too near.

"Mr. Yesserro, the treasure hunter, claims that 15 years ago he excavated 40 feet deep inside of a 5 foot by 5 foot shaft with vertical side walls and that he used no powder but only had to remove the debris and backfill from a previously filled shaft. Custodian W.H. Smith informed me that many old-timers had told him that they had heard blasting while Mr. Yesserro was excavating the previous shaft and that he himself had found several pieces of powder near the shaft. If this discrepancy was cleared up as to whether or not the shaft opened up by Mr. Yesserro 15 years ago was in solid rock or in backfilled shaft, a different light might be thrown on the possibility or probability of a subterranean chamber under the mission. The shaft had been completely refilled by the Custodian about 5 years ago. At present this backfill has been entirely removed and the old excavation carried down to the 42 foot level. At this point the shaft, according to the crew, terminated in solid rock floor showing that man had not been lower.

"The material from the shaft had been deposited about 30 feet southeast of the excavation. It contained 39 cubic yards of material. This material was of the same nature as was gathered upon the surface at the time the shaft was filled. During the excavation several old timbers were removed. These were badly decayed on account of moisture. Rumors have it that these timbers were originally placed at the time the mission was constructed. Close examination showed that these timbers were 8" by 8" pine lagging and that the ends had been sawed. One pine board was also found 1" thick, 12" wide and 5' long. This board had been sawed on all sides as lumber is manufactured today. The life of green pine in this damp shaft could not be many years. Mr. Yesserro claims that he himself placed these timbers and boards in the shaft 15 years ago. They were all found between the 30 and the 40 foot level which is in the area previously excavated by him. This material is in such decomposed condition that growth ring borings would be of little value. Custodian W.H. Smith is, however, carefully saving these pieces awaiting your instructions.

"The whole shaft is lined with light sheathing 1" by 4" and 2" by 4" studs. This is all new material. It was not placed to support the rock walls but to prevent raveling and crumbling. This lining completely conceals the structure of the shaft walls. A safe, substantial ladder spans the south wall. The decking over the shaft is none too safe. It is composed mostly of old 2" plank, 6" to 12" wide. The sills under the decking are not properly placed and some of the plank overhang four feet causing them to tip when stepped upon. No banisters are provided to prevent people from falling into the shaft while work is under progress.

"The home-made hoist to raise the material from the shaft and tunnel to the surface is crude but safe. It is composed of a 10" wood axle mounted on two vertical posts. This axle is 7 feet long with a wagon wheel bolted to each end. A Mexican on each wheel hand-powers the spokes of the wheels, thus making a two man-power hoist similar to the old water well type. A 45 foot rope $1\frac{1}{2}$ " in diameter, attached to a 2 cubic foot bucket with a fool-proof hook, makes a safe hoist.

"A tunnel leads westerly directly toward the New Church from the foot of the shaft. This tunnel is six feet high and five feet wide at its connection with the shaft. This tunnel is 23 feet long. Twenty cubic yards of excavated material have been removed from it to date. The back end of the tunnel is four feet square. The first three feet of the tunnel are not lined as the walls are of solid material. The next ten feet are lined with 8" by 8" ties. The last ten feet are lined with cedar poles ranging in diameter from 2" to 6". This last lagging is placed more haphazardly than nearer the entrance. Both the shaft and the tunnel are safe.

"The walls of the tunnel at the adit are in solid rock. A few feet into the tunnel the material changes to resemble that of a side wall in a cavern, like Colossal Cave or sections in Carlsbad. Farther in the tunnel the loose material between the lagging and the side walls conceals the walls from view.

"The material being removed is loose rock about a quarter of one cubic foot in size. There is no dirt nor small pieces of stone intermixed with the rock. No picking is required to load this material into the bucket to be elevated. One man loads all of the material with his hands and neither pick nor shovel is in evidence. Mr. Yesserro refers to this passage as a tunnel and the expected cavities as rooms, chambers or tunnels. Custodian W.H. Smith always refers to the same ones as caves and fissures or crevices. This tunnel appears to be a crevice about five feet wide. The height cannot be determined by just entering the tunnel as the lagging on the ceiling is against the loose rock.

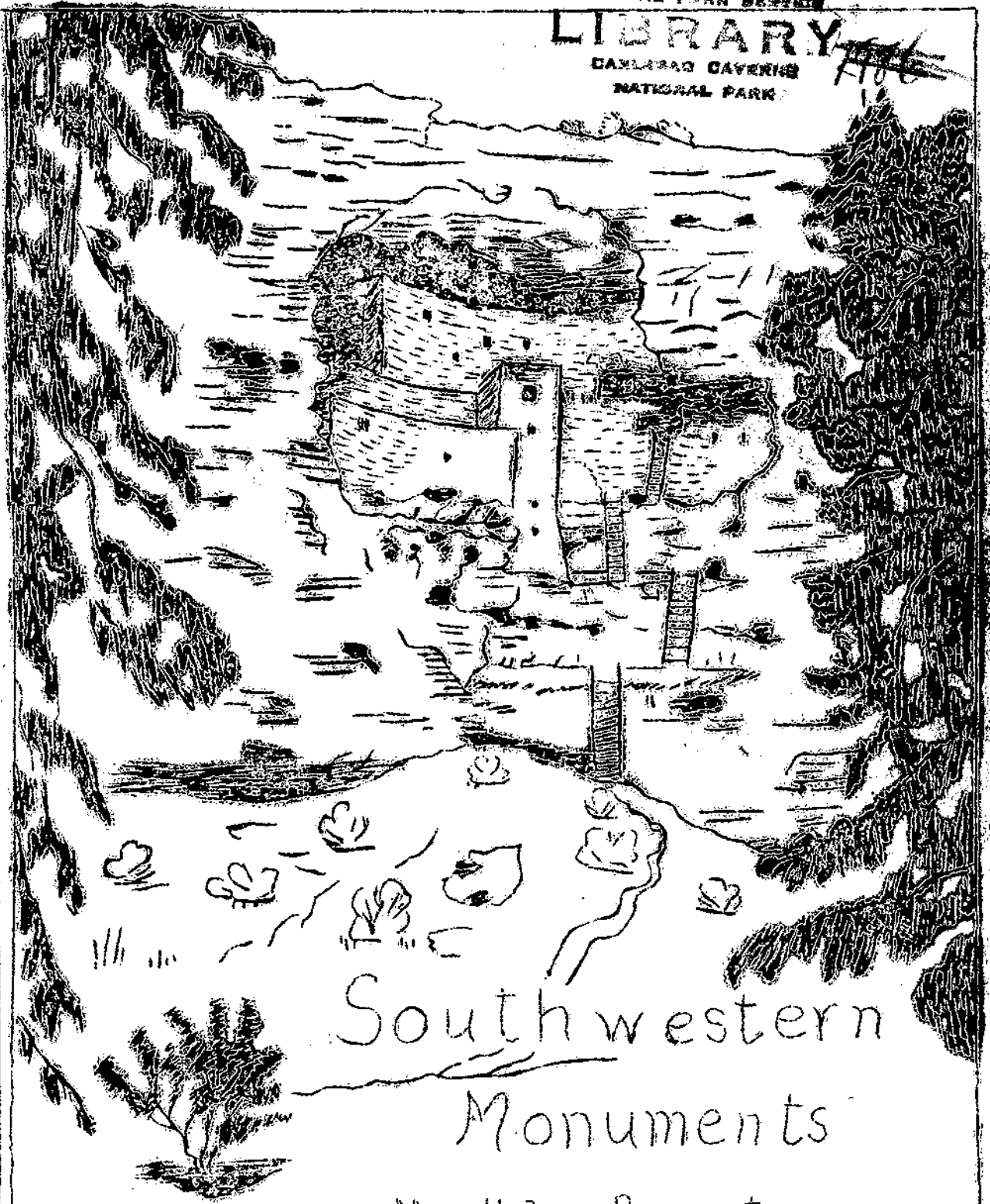
"The ceiling, but not the side walls, is smoke covered. Mr. Yesserro told me that his timbers burned up in the shaft while he was excavating at the 30 foot level 15 years ago. This was 10 feet above the tunnel which was filled with material.

NATIONAL PARK SERVICE

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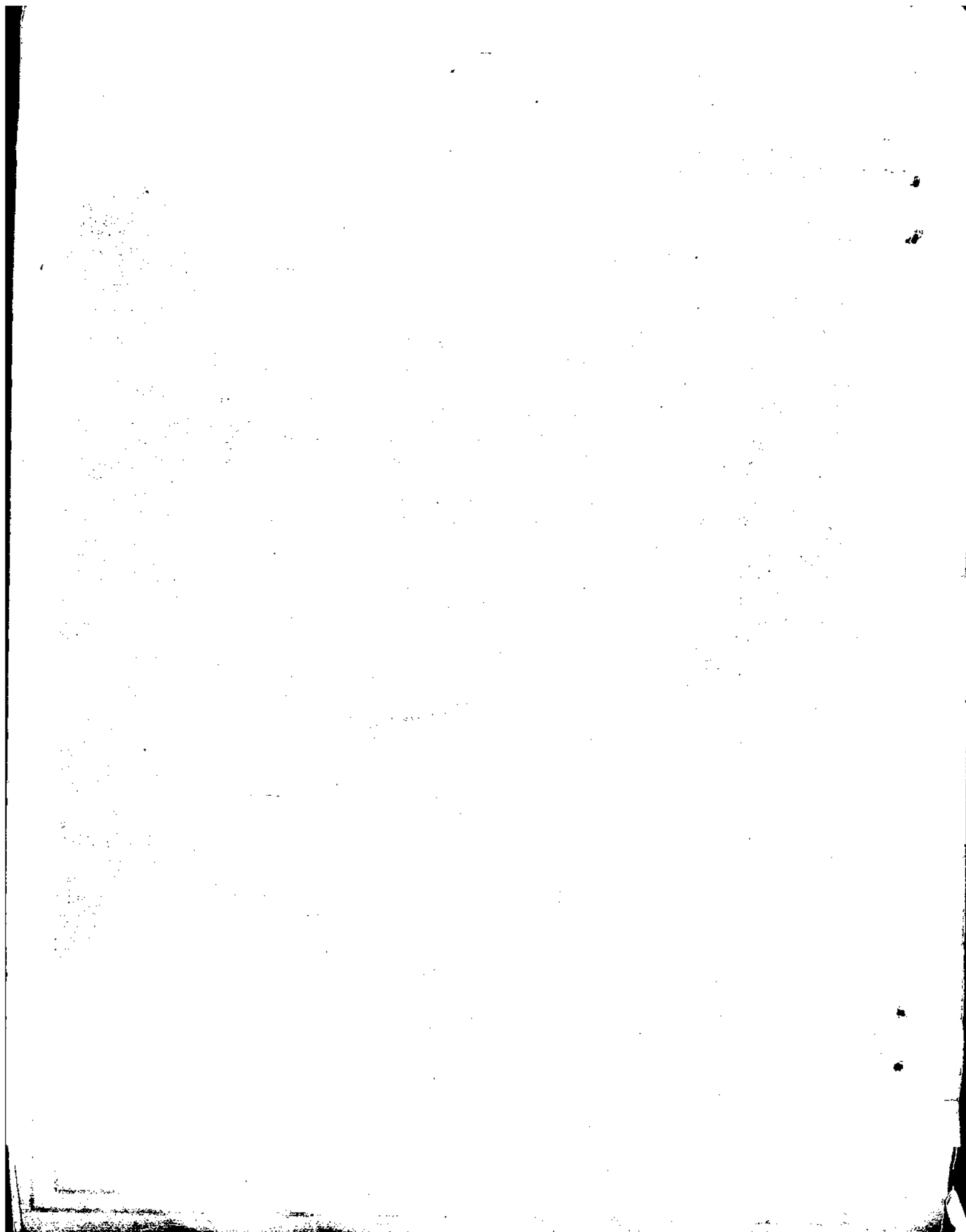


Southwestern Monuments

Monthly Report

Montezuma Castle

December 1932
W. Julian



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DECEMBER--1932

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THE SUPPLEMENT containing personal items; news, acknowledgments, comments, and "SHOP TALK" follows the regular report. Supplement pages numbered A,B,C, etc.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
SOUTHWESTERN MONUMENTS
COOLIDGE, ARIZONA

January 1, 1933.

Dear Mr. Director:

Reports of December 1932 activities in Southwestern Monuments follow:

Activities of the Park Naturalist: By Rob't. H. Rose.

One of the most important events in educational activities for the month was the conference on December 15th with Dr. Cook, Chief Bionomist, U.S. Department of Agriculture and Mr. Mooseberg of the local Department of Agriculture Experiment Station at Sacaton in regard to the disposition of an archeological collection now housed at Sacaton.

About a year ago, it seems, Mr. Mooseberg visited the Casa Grande at which time he told us of excavations he had done near there. Early last Autumn Mr. Mooseberg again visited us and explained more fully the nature of the pottery and artifacts obtained in the excavations and expressed an interest in seeing the collection placed on exhibit, possibly at Casa Grande National Monument, where it would be enjoyed by large numbers of appreciative visitors. In September Custodian Palmer and the writer visited Mr. Mooseberg at the Experiment Station. We were delighted and somewhat surprised to find a comprehensive collection of pottery and artifacts carefully catalogued and accompanied by systematically entered field notes. The fine field notes firmly established the scientific value of the collection. The whole assemblage, it was noted, had been taken from a pure Red-on-Puff site there being none of the later introduced Casa Grande Polychrome intermixed. A number of fine cremation burials were among the exhibit.

Dr. Cook expressed a desire to keep the collection at the local Experiment Station for the time being. This would give him time to confer with Smithsonian Institution authorities and others on the possibilities of publishing on the collection. He was interested in seeing Mr. Mooseberg receive proper recognition for his work. It seemed best in Dr. Cook's mind to investigate the possibilities of scientific publication on the collection before moving it from its present quarters.

Dr. Cook was greatly impressed with our outline of good reasons why archeological collections should be left in proximity to where excavated especially where it is possible to display such collections where 25,000 to 40,000 interested visitors can see them every year. He is interested, I believe, in seeing us

eventually have this collection. In the collection we would have a complete assemblage of material from one site mainly. This would be of interest in showing visitors the quantity, quality and types of material present in a given site.

The conference might be summarized under the following points:

1. Whether or not the material is published upon, Dr. Cook and Mr. Mooseberg seem to be favorable to our having the collection.
2. Publication on the material in a reputable scientific journal would greatly increase the value of the assemblage to us. Such publication would also give Mr. Mooseberg credit for his praiseworthy work in collecting and taking field notes.
3. Dr. Cook would like for the collection to remain at Sloaton until the matter of possible publication is thoroughly investigated.
4. Dr. Cook and Mr. Mooseberg would like to see the collection displayed as an assemblage rather than have it distributed over the entire museum mixed with our present material. I think accepting the material if, and when, formally offered, with this condition imposed would not be inconvenient to us. In fact I think we would do very well indeed to have such collection displayed as a unit.

Our present museum space would be crowded somewhat with the addition of this material. Future development calls for an addition to our present museum space. Such increase in space could be strongly justified even now. Such overcrowding as would result in displaying the Mooseberg collection would be temporary.

The writer neglected to emphasize the fact that whatever scientific institution accepts the material for publication, Mr. Mooseberg alone should be the one to organize the material and arrange it for publication. In other words, it seems to me that it would be a mistake to try to have some outside archaeologist come in and try to work over Mr. Mooseberg's notes and do the publication on the material. Nobody can write up a subject like the actual person who has done the systematic shoveling, classifying and arranging of the material.

At least three days of each week it is necessary to do guide work rather constantly. Thus I am on this duty approximately half of the time.

The first seven days of December I worked constantly on getting out the November report. The office force was badly crippled during this time by illness.

December 12th and 13th were spent giving the library a groups thorough going over. Books and pamphlets were all classified into

Following is a summary of miscellaneous contacts made during the past month:

<u>Group</u>	<u>Attendance</u>	<u>Subject</u>
Coolidge Boy Scouts	75	"Prehistoric Indians" Illustrated.
Gilbert Ariz. High S.	200	"Around the National Parks and Monuments".
Casa Grande Community Gathering	150	"Around the Parks and Monuments"

On Jan 3rd an illustrated talk on the national parks and monuments, emphasizing those in Arizona, was given before the Casa Grande Rotary Club, attendance about 20. The group evinced great interest and felt such program would be of great interest to an assemblage of all of the schools there. Such meeting is being arranged.

INDIVIDUAL MONUMENTS

Aztec Ruins National Monument:

The following report, dated December 27th, comes from Mr. Faris: "Dear Boss:- I regret very much to report the loss of one of our loyal friends, J.W. Dial. Several of our men knew Jim and we always found him willing to be of assistance to us wherever he could. He passed away December 23rd in a Durango hospital after a very short illness. We will miss him very much but are glad we had him for the time we did. . .

The weather man has recently been making up for lost time. We were sure hit hard about the 12th. For awhile it seemed it couldn't clear up and be nice. However, it did finally clear for a day or two only to have the thermometer register 15 below zero right before last and 8 below last night. It is now cloudy which probably means more snow. We were lucky to have all work finished up on the day before the snow and were all ready for it.

For some time the sewer line has been causing us some trouble. You and the engineers will recall the condition that existed. The soil would not absorb as it should. So bad was the trouble that ~~something had to be done~~ something had to be done. In view of limited funds we dug a hole approximately 4 by 10 by 4 feet approximately and upon striking sand and rock in the little arroyo bed we boxed the pit with 2"x12" 's, connecting the line with the pit. The excavation we filled with boulders and covered with 2" by 12" and some dirt. Upon draining the pipe some 4 or 5 barrels of sewage came from it. We are hopeful that the problem is solved. It should be for the bottom of the pit and for some distance on the sides the material is sand and some boulders almost entirely. The heavy snow and cold spell followed immediately and no bad effects have yet occurred. Weather did stop visitors.

During December we had 140 visitors. Dorothy and I combined combined pleasure with a Park Service trip we have been wanting to take for years and on Dec. 5th we headed for Zuni Pueblo to witness the Shalako Dance. E.Z. Vogt invited us over but since Dorothy has an uncle at Zuni we spent the night there. We both enjoyed the dance greatly and could almost visualize similar dances in progress in our pueblo at Aztec.

The next morning we went out to Rumbach and located Mr. Vogt who accompanied us to El Morro. We spent several hours for the trip and enjoyed every minute of it. Mr. Vogt not only made the monument itself most interesting but also the trip to and from the Rock. Somehow I had a wrong mental picture of El Morro and was certainly glad to get it straightened out. A late dinner at the Vogt's was most enjoyable and we regretted very much having to push on to Gallup where we spent the night.

Leaving early the next morning we headed for de Chelly via Ganado and Chinle. We had looked forward to the drive and arrived ~~at~~ Chinle about 11:00 A.M. At Garcia's Trading Post we were informed that it was impossible to drive up Canyon de Chelly. We did, however, locate the point on the rim where one sees the White House and since Garcia mentioned a trail, I found one and started down. Dorothy failed me on the descent but after wearing down both teeth and toenail I managed to get over to the ruin and spend about an hour going over it as best I could without a guide. It is said that "you can always get into things easily but it isn't always so easy to get out. Little did I appreciate the truth in that statement until attempting to get out of de Chelly. While you could hardly call it easy to get into, it was most difficult to get out. Had I not gotten into a position several times where I couldn't backtrack down, I sincerely believe I would have walked back to Chinle via Canyon de Chelly. Finally, however, I managed to reach the top taking the first deep breath since leaving the bottom. I now feel qualified to ask for a transfer to Alaska's Mt. McKinley. Cozy doubted very much my finding and asking the trail and stated even local people very seldom find the trail without a guide.

It was impossible to reach Mt. Murores so we left Cozy's about three o'clock taking a most beautiful drive via Lukachukai and Shiprock. This would be a most beautiful approach road to a fine monument. We arrived home about 7:00 P.M. After three hard, enjoyable days.

By the way, the cold spell caused us trouble in the hollow logs in the garage. Evidently the logs filled with water, then the water froze splitting the log since both logs now leak on the inside. We have a 15-year guarantee on the roof and I wonder if you will approve my taking this matter up with the Johns-Manville people?

Recently the Aztec Ruins received the 2 beautiful mirrors which are for the Comfort Station.

We enjoyed a Merry Christmas and are looking forward to 1933. The year may not be a banner one from the standpoint of visitors but should it be, we will be able to handle the situation.

With all good wishes to all of you in which the Mrs. joins me, I am Cordially, John Will Faris".

Capulin Mountain National Monument:- The following communication under date of December 26th comes from Mr. Farr: He writes:

"I have the following report to make for December 1932. There have been about a half dozen light snows with extremely cold weather for the month. On the 24th a light snow fell that Dear Old Santa Claus might get here via sleigh.

"Travel to the top of the Old Volcano has been limited to approximately fifty souls this month on account of severe weather. However, the road is in very good condition and has been open (not snowed under) all winter thus far. New windows and new doors have been placed in the little cabin in the monument and I note that it has been occupied considerably since the cold weather began.

"This has been a wonderfully fine winter thus far for cattle the snow covering being light making the rather short grass available most of the time."

Casa Grande National Monument:- You'd expect a 'fat report from a fat man'. Anyway, Palmer has fattened 32 pounds and gets away with a pretty long report this month. "Dear Mr. Pinkley: "Visitorially speaking", the month of December has been mighty disappointing. After showing an increase for the preceding two months we wipe it out at one fell swoop with a decrease of 567 visitors, or 29% less than for December of last year. This can be accounted for in two ways: exceptionally bad weather during the last 2/3 of the month; and the 'flu' epidemic which swept the entire state during the month. We had a total of 475 cars entering the monument carrying 1671 visitors as against 2238 last year. These 1671 visitors came from 36 states, Washington, D.C., Canada and Mexico. Arizona furnished 56%, California 18%, and the other states 26% of the total. Of the cars, 52% were Arizona and 48% foreign states. These 1671 visitors were served on 200 personally conducted tours through the prehistoric ruins and 180 lectures delivered in the Museum. This work was efficiently handled by Frank L. Fish, Ranger, Custodian Hurst R. Julian of Chaco Canyon temporarily assigned to this monument, and Park Naturalist Bob Rose. Attached hereto is a quarterly summary of the states represented on our register and the number of cars and visitors from each.

The weather has been disagreeable all month which was probably the main factor causing the decrease in the number of visitors. Six days were rainy the monthly total for rainfall reaching 1.91 inches. On many days strong winds prevailed. Seven days were cloudy, three partly cloudy and 21 clear. The maximum temperature was 79 on the 4th and minimum 20 on the 30th. Greatest daily range was 48 degrees. Mean maximum temperature for the month was 61.5; mean minimum 33.1. Fog, a very 'unusual' thing for Arizona occurred on the 16th.

The most important thing happening during the month was the completion of the contract by Allen Bros. Inc. of Los Angeles for the erection of the new shelter over the Casa Grande. All work, including the removal of the temporary cover and cleanup, was completed on December 12th. The Casa Grande now stands clearly outlined against the skyline with all walls showing. The improvement over the old shelter is several hundred percent. The Casa Grande can now really be seen. The contractor did an exceptionally careful job and not the slightest damage resulted to the ruins or any of the trees or shrubbery adjacent to them. Unfortunately, the contracting company went into the hands of the receiver on December 21st and several local firms who furnished materials are still unpaid.

E.A. Nickel, Associate Structural Engineer from Field Headquarters, who was the engineer in charge of the construction, left on the 11th for Carlsbad Caverns, returned on the 15th, and on the 16th left for San Francisco. He is to be congratulated upon the care with which he insisted that the work be done so that no damage might result to the ruin and so that every requirement of the contract was completed exactly according to specifications. It was particularly fitting that Ed should have charge of the erection of the shelter for he handled the matter in the Office from its inception and was the one who drew up all the working drawings and specifications. One firm that bid on the work, upon making the preliminary survey of conditions on the ground, stated to me that the working drawings were the best and clearest that ## this representative had seen.

Some correspondence with Field Headquarters has been carried on during the month concerning the road work to be accomplished under the regular appropriation and the Emergency Appropriation. Final plans are now ready and Mr. T.R. Goodwin will be assigned to the job and will arrive about Jan. 10th to start the work. The entrance road will receive an armor coat of asphalt and the service road will be surfaced with road oil. Walks will also be constructed from the Administration Building to the ruins and to the residential section. It is planned to handle the labor as last year and to rotate the crews in about ten day shifts giving as many unemployed people as possible advantage of the work.

The Ranger has been busy during the latter part of the month while visitors were light in checking over all the tools and equipment and in making a complete inventory. The Board of Survey appointed by the Superintendent will go over all of the inventory during the coming week and make careful recommendations and condemn all worn out and worthless equipment.

One item, wholly irrelevant to Government Business at this Monument, yet one which I feel should be incorporated in this report, not for your information for of necessity you are wholly cognizant of it, but because I'm afraid that the rest of our personnel and that of the Parks and the Washington Office will never know it unless it is told in some such way as this. The item is to the effect that Mr. Frank Pinkley, "The Boss", was elected and installed as Worshipful Master of Pima Lodge #39; F. & A. M. on December 22nd, 1932.

Our register carries the following visitors of special note for the month; Ranger Irwin, wife and small daughter Lavita of Yesquite; Custodian and Mrs. Martin L. Jackson of Montezuma Castle; Dr. O.E. Cook, Chief Biologist, U.S. Department of Agriculture, Washington; the son of Sup't. Tilletson of Grand Canyon National Park; E.E. Beatty, brother of ~~XXXXXX~~ Assistant Park Naturalist Beatty of Yesquite; Alfred Peterson, Temporary Ranger of El Morro; and Mr. and Mrs. Foundry of Tumacacori.

Below is a quarterly report of visitors and cars from the various states. This account shows many interesting things. In common with all Parks and Monuments the local state shows the highest percentage of visitors, Arizona 63%. California is second with 16%; Texas third with 2 1/2%; and Colorado fourth. The remaining 18% came from all of the other states in the Union, Washington D.C., Canada and Mexico. The 5576 visitors came in 1632 cars, an average of 3.4 visitors per car. The total number of visitors for the quarter is just 28 more than for the same quarterly period last year. During the three months these 5576 visitors were personally conducted through the prehistoric ruins and museum on 676 trips by the Rangers. This makes an average of 8 people to each trip and a trip every 72 minutes of the 9 hour day. Each trip averages about an hour so that a party was on the ground practically all of the time.

This is the first ~~quarterly~~ quarterly period we have had accurate statistics. These are due entirely to the efforts of Ranger Fish who upon my suggestion originated the plan and method and has kept all of the figures. He has become so efficient at this that we affectionately call him the "Statistical Fool".

Three Month Period Statistics
(Quarterly)

<u>Cars</u>	<u>Visitors</u>	<u>Cars</u>	<u>Visitors</u>
Ala.-----2-----	9		
Ariz.-----968-----	3507		
Ark.-----1-----	10		
Calif.-----349-----	930	N. Carolina--2-----	3
Colo.-----27-----	89	N. Dak.-----1-----	2
Conn.-----1-----	2	Ohio-----16-----	64
Del.-----1-----	3	Okla.-----17-----	72
Fla.-----1-----	3	Ore.-----5-----	24
Ga.-----3-----	7	Penna.-----14-----	62
Ia.-----2-----	13	R.I.-----2-----	7
Ill.-----25-----	86	S.C.-----1-----	3
Ind.-----5-----	27	S.Dak.-----2-----	5
Iowa-----10-----	37	Tenn.-----2-----	8
Kans.-----5-----	13	Texas-----42-----	147
Ky.-----0-----	3	Utah-----5-----	24
La.-----2-----	6	Vt.-----0-----	1
Mo.-----1-----	3	Va.-----1-----	14
Me.-----2-----	5	Wash.-----12-----	30
Mass.-----3-----	18	W.Va.-----0-----	2
Mich.-----17-----	61	Wis.-----6-----	30
Minn.-----4-----	13	Wyo.-----1-----	4
Miss.-----1-----	1		
Mo.-----10-----	41		
Mont.-----0-----	1	Dist. Col.-----2-----	10
Nebr.-----11-----	25		
Nev.-----3-----	7	Canada-----0-----	6
N.H.-----1-----	4		
N.J.-----5-----	11	Mexico-----0-----	1
N.Mex.-----31-----	50		
N.Y.-----31-----	67		

TOTAL-----1632 Cars-----5576 People

Chaco Canyon National Monument:

Under date of December 19th Dr. Edgar L. Hewett made a detailed report on excavations in Chaco Canyon National Monument. All of our personnel in the Southwest as well as those in the Washington Office will be interested in the account which helps give a picture of that monument as well as information on progress of excavations there.

"Santa Fe, New Mexico,
December 19, 1932

"The Secretary of the Interior,
Washington, D.C.
Dear Sir:

"During the past five years the excavation of Chetro Ketl has been a joint project of the School of American Research, the Department of Archeology and Anthropology of the University of New Mexico, and the New Mexico State Museum. This arrangement has been most satisfactory to all parties and has enabled them to carry out a methodical and thoroughly scientific program.

"The work in 1932 was a continuation of that done in the preceding years. Museum material taken from the ruins has been accessioned by the Museum of New Mexico, appearing on their records as Acquisition No. 21-928 to Acquisition No. 22-091, inclusive. Most of this material is kept on public exhibition in the branch museum in Chaco Canyon during the travel season, and during the winter is on display in the State Museum in Santa Fe. The material consists of the following:

"6 restorable bowls	3 caches fragmentary turquoise
7 specimens of woven fabric	14 pendants
13 specimens of fibre cord	2 fragmentary rings
2 prayer sticks	1 sandal last
11 specimens of roof matting	4 painted sticks
11 necklaces with turquoise pendants	1 unidentified wooden implement
16 animal bone implements	3 specimens of mineral paint
19 pottery smoothing stones	2 nuts, species unidentified
4 metates	9 chipped flints
12 knives	miscellaneous shards, botanical,
17 stone implements	bone, and tree ring
3 specimens of marine shells	specimens.

"Under the direction of the undersigned, Paul Reiter, Curator of Archeology of the Museum of New Mexico, began excavation at Chetro Ketl on April 27, 1932. This work consisted of further examination of the structure known as the Great Sanctuary. One result was the discovery of five sealed niches in the stone masonry walls. In each

niche a ceremonial deposit consisting of beads and turquoise was found. Mr. Reiter examined the northeast circular pit in the Sanctuary, from which he removed four sandstone discs weighing approximately 1400 pounds each. These discs remain on display at the site. Under the bottom disc a ceremonial deposit of pulverized turquoise was found.

"During the month of July the excavation was assisted by students of the University Field School at Chaco Canyon. The work continued under the direction of the undersigned in person. The excavation was carried on at several points in the ruin, including the Great Sanctuary, the community house, the west tower kiva, and the main refuse heap. Additional reinforcements were placed at the base of the walls of the Chetro Keti community house to permit excavation of the sub-structure without damaging the walls already exposed. Further reinforcements and repair work was also found necessary in order to preserve the "fire vaults" and altar in the Great Sanctuary. The northwest quadrant was excavated to the fifth floor level. Five more sealed niches were discovered, in each of which was a ceremonial deposit of beads and turquoise. Toward the close of the work, half of the northeast quadrant was excavated to the third floor level and the remainder put in order for the preservation of a section of floor, bench, and walls of the latest occupation. Three sandstone discs, similar to those above referred to, were removed from the bottom of the northwest pit. Beneath the lowest one was found a deposit of pulverized turquoise.

"During the first two weeks in August, the debris from the summer's excavation was cleared away from the Chetro Keti site and everything put in order for the resumption of the work in the Spring of 1933. It is a satisfaction to report that the engineering methods, system of repairing broken walls and general preservation work, have met with the unqualified approval of visiting engineers, including those of the National Park Service. During the month of September, Reginald Fisher, in charge of engineering work, concluded the activities of the season in measuring and mapping portions of the ruin excavated during the summer.

"Aside from the work of excavation, Miss Florence Hawley, of the Chaco Canyon Summer School faculty, conducted a tree ring study of various ruins in the Chaco Canyon region, detailed results of which will follow her laboratory study of specimens of timbers and charcoal taken from the ruins. Miss Hawley also completed her study of the stratification of the main refuse heap insofar as it can be done on the ground, and will now be engaged probably for several years in technical laboratory study of the shard material secured, together with surface material collected from other sites.

"Mr. Fisher, of the faculty of the University of New Mexico and staff of the School of American Research, installed in Chaco Canyon Arroyo a gauge for the measurement of surface water flow. He also installed a station for recording temperature and precipitation at Pueblo Bonito Lodge, one fourth of a mile from Chetro Kettl. These installations were made through a cooperative arrangement with the United States Geological Survey and the United States Weather Bureau.

"Specimen photographs of the excavations are herewith enclosed. A large number of technical papers on various phases of the study of Chaco Canyon, prepared in part fulfillment of requirements for University degrees, have been handed in by students of the Summer School and will find appropriate place in the final reports on the study of Chaco Canyon.

"The Director wishes to make special mention in this report of the cordial and helpful cooperation of Mr. Hurst Julian, Custodian of Chaco Canyon National Monument. In the administration of the Monument, unusual problems are involved. Mr. Julian, while attentive to all the customary duties of Monument administration, has shown a keen appreciation of the interests of all parties in this rather complex situation, including the University of New Mexico, State Museum, and School of Research. He (h)as won the respect and personal liking of students of the Field School as well as of those in charge of the scientific work, and cemented the cordial relations between the expedition and the National Park Service. The Director takes particular pleasure in making this statement with reference to a most efficient and valuable field officer.

"In order that the Department of the Interior, and especially the National Park Service, may be made better acquainted with the conditions that have to be met in arrangements between the Federal Government and the local institutions of New Mexico, I am filing herewith half a dozen copies of the Annual Report of the Director of the School of American Research for the year 1931. These may be found useful for the files of the Department, and I might suggest that it might be well if a copy could be placed in the hands of each one of the field officers who have to do with the Chaco Canyon work.

"Respectfully submitted,
(signed) Edgar L. Hewett
Director, School of American Research
Head, Department of Archeology and
Anthropology, University of New
Mexico."

El Morro National Monument:

Though the travel season at El Morro is formally closed the spirit moves E.Z. To write on the 15th as follows "Dear Pink:

"The Shalako Dance Ceremony at Zuni brought a great many people our way to visit El Morro as well as Zuni. Some came from as far ~~###~~ away as Los Angeles though most of them were eastern people wintering at Santa Fe.

"Everything is alright at our monument. I went over it all the day after the Shalako which was held on the 5th this year with Custodian Paris and his amiable wife. We took in all the inscriptions, the pictographs, and the trail up on top and down including the two ruins. The day was cold and windy though so we didn't stay on top very long. It was fine to have the Paris' with us for a meal at least and to be able to spend the few short hours together at El Morro. I sent postal card notices out to Superintendent Pinnan of Mesa Verde who promised to come to see us and the Shalako if notified. I also sent word to the Smiths at Petrified Forest who failed to put in an appearance.

"However, it was a grand Shalako despite the hard times with much enthusiasm in the dancing and about as many fat muttons were killed for the feasting as ever. At least 500 sheep were butchered to feed the guests who were for the most part Navajos to the number of a thousand or more. I saw more Indians from other tribes too than ever before. Hopis, San Felipe, San Domingo, Isleta, Acoma, Santa Clara and even far away Taos, were represented.

"My own family always takes its own chuck box with Dutch ovens and fry pans, and our own bed rolls. Then we rent a Zuni House in which to camp as the dancing doesn't start until almost midnight and lasts all night and goes on in some 5 or 6 houses in the village. By having our own quarters we can rest and eat when we please and as the rooms are very large, 20 by 60 feet, we can sort of keep open house for other people who look for a place to sit and rest even though it be on a sheep pelt in front of the fire place.

"The Navajos between El Morro and Atarque are in bad shape. They are badly off for food and clothing this winter having lost so many sheep last year and what were left brought in so little money from lamb sale and wool that they are looking pretty thin and hungry. There has been a provision made for road work employment through the Indian Service but most of this labor and expenditure is going way up north toward Star Lake. We are trying to get some of the money spent in this region so that our local Indians might get some benefit from it. My own sheep outfit has formerly hired many of these Indians also but owing to our storm losses last year we haven't the work to give them. This adds to the hardship.

"The erosion problem at El Morro near the DeVargas inscription- I mean the ground erosion- is getting very serious. I surely hope we can get some of the Park Service engineers to come out and stop that washing away which is destroying the footing there so rapidly. It will in time become very expensive unless something is done very soon.

"The winter closed down on us the 13th and is still at it. Livestock is doing well though the drifting snow is hard on stock everywhere. We are wintering about 12,000 head of sheep this winter and it keeps me pretty busy.

"I have spent some time during the month at El Morro working on some data from Pr. F.W. Hodge of the Southwest Museum, Los Angeles, who has the very rare John Udell diary. Udell visited El Morro in 1857 and says that many of his companions carved their names and date on the rock. So far as I have found but two names besides Udell's appear but I hope to spend more time searching for more unless the snow makes a visit impossible like last winter. With best regards all around...."

Gran Quivira National Monument: Most of the following report from Gran Quivira, dated 22nd, is a description of another storm lashed part of the contry. Mr. Smith writes as follows: "Dear Boss:

"I am a little late with my report for this month because of bad weather conditions. The first portion of the month was beautiful, clear and crisp which netted us a fair run of visitors. Our books show 225 visitors entering the monument in 47 cars. This isn't so bad considering the inclement weather of the latter part of the month.

"On the 12th of December dark clouds began to scuttle across the sky while the wind whistled in the juniper and pinon. Old timers who understood the symptoms of the approach of a real storm began to lay in a supply of wood that they might be comfortable during a long storm period. By mid afternoon the snow was beginning to swirl down on old Mother Earth changing the brown landscape to an expanse of fluffy white. The snow kept falling continually during the 12th and 14th and on the night of the 14th the howling east wind rolled the snow drifts higher and higher. Still on the morning of the 15th the snow was falling in slanting swirls as it was driven by the cold eastern blasts. The snow was drifted to two feet depth in places. The mail wasn't delivered the 15th. Roads were impassible. The morning of the 16th was fair but it was Saturday the 17th before mail delivery was again made.

"December 9th Mr. Versiro, Treasure Digger, left for a meeting of the organization at Albuquerque. On the 12th I received a letter from R.M. Hanna stating that as the Holidays were drawing nigh they would not return to the diggings until New Years, probably January 2-1933.

"Weather looks promising for another big snow. Heavy clouds are hanging low." Cordially, W.H. Smith".

Montezuma Castle National Monument:

Acting Custodian Hugh Curry writes from the Castle in the absence of Jack who has gone to Texas to put his feet under Pa's table once more and to visit other relatives. "Dear Boss:

"Our travel month ending December 25th started out very good and we were busier up to the 11th than we were the first

part of November but snows commencing on the 11th certainly ruined our chances for an increase over last month. However, we have a total of 507 visitors to report, these visitors coming from 16 states.

"From what our neighbors tell us, snow has stayed longer than usual so we had the pleasure of admiring some beautiful snow scenes which rivalled many snow scenes we have seen in Colorado and Wyoming. The Creosote bush, hackberry and sycamore trees coated with snow are beautiful. I have heard that the upper country has had considerable snow and that the road from here to Flagstaff via Mormon Lake is closed while the other roads are in poor condition. No doubt we will not be very busy for several weeks altho it will give me an opportunity to do a lot of studying.

"The bridge at Camp Verde over the Verde River is now open to traffic while construction has commenced on the Clear Creek bridge and the Oak Creek bridge is nearly completed. Next year will no doubt be a better one for us for the Castle will be much more accessible.

"Custodian M.L. Jackson left here December 14th for a month's vacation. He and Mrs. Jackson had a hard trip over the mountains via Prescott to Wickenburg as the snow was over two feet deep for many miles. This is Custodian Jackson's first lengthy vacation for several years and we all feel that he will certainly enjoy visiting his relatives in Texas and will get a much needed rest. Mrs. Jackson who returned here after taking Mr. Jackson to Tucson, brought her sons for the holidays and she will leave here in a few days returning the boys to the University at Tucson and will then leave there to join Mr. Jackson.

"We have laid the linoleum in the kitchen and bathroom, calcimined the walls and ceiling in one bedroom, filled the floor and stained the woodwork. We also built in the closets shelves for linens. Two weeks ago we installed the circulating heater which is economical and warms the entire house thoroughly.

"The past several weeks have been of unusual interest for among our visitors we have had the pleasure of having several Hopi Indians, one being a grandson of one of the oldest Chiefs at Oraibi. This Hopi verified what a Hopi Chief told us last September about many of our museum materials about which we were not altogether sure. This information has ~~been~~ been included in our lectures. We have also been giving brief lectures on rock formations, birds, flora, trees, and etc before taking our visitors through the Castle. The results have been gratifying and further the plans work in with a general scheme advocated by Park Naturalist Rob't. Rose, I believe.

"We have been quite worried about Custodian Palmer, Naturalist Rose and you, having heard sometime ago about your sickness but our last report said all of you were improving rapidly and I assure you that makes us quite happy.

"We take this ~~means~~ means of hoping that those of the National Park Service have had a Merry Xmas and a Happy New Year.

Petrified Forest National Monument: Mr. Smith reports, under date of December 30 to the Director as follows:

Dear Mr. Director:

Following is the narrative report on the Petrified Forest National Monument for the period November 28 - December 27, 1932.

GENERAL: With the close of November all the seasonal rangers and the ranger-naturalist who had been kept on until this date, were laid off. This leaves us three permanent rangers and one temporary ranger (9 month's position by authority of the Civil Service), to carry on with through the winter.

WEATHER: The weather remained fine until the 12th when, in common with the rest of the Nation, this vicinity was covered with snow. I think this is the first time on record that during one snow storm snow has been on the ground from the Atlantic to the Pacific, and from Canada to the Gulf of Mexico. From the date mentioned to the end of the month, the weather has been unsettled with numerous snow storms and sub-zero temperatures. The amount of snow fall was 18 inches with 6 inches on the ground at the present time. The maximum temperature was 66 on the 3th, while the minimum was -3 on the 19th and -11, -10, -9 and -6 from the 23th to the 28th.

SURVEYS: The small Bureau survey party which was taking topography and profiles on the Painted Desert rim was forced to quit about the 21th. However their work was practically done at that time.

MAINTENANCE: The roads have been kept open and clear of snow throughout the month but the travel has been light.

PERSONNEL: Guy L. Clifton, who was appointed to the position of Foreman from the California list of eligibles on October 14, resigned on December 22. John H. Edwards was appointed to this position in the emergency on the 23rd, and Charles E. Fisk was put on as Senior Laborer, he having been employed at times as laborer until this date.

WILD LIFE: A few scattered bunches of antelope have been seen during the month. Rabbits are tame and numerous around headquarters. On December 23 a common Magpie (*Pica pica Hudsonia*) flew against my office window and was momentarily stunned. Before I could open the window, however, he made off and I then saw what had caused him to "crash." He still had a full grown Desert Horned Lark in his talons, which was about all he could carry. I knew that this bird preys on the young and eggs of other birds, but was not aware that he could dispose of birds of ordinary size.

TRAVEL: No official trips have been made by any officer of this monument.

All but eight of the states were represented in our travel record for the month. This travel is tabulated as follows:

	<u>cars</u>	<u>passengers.</u>
Private cars, - - - - -	632	1,660
Previously reported - -	2,927	8,374
Total to date - - - - -	3,559	10,034
Painted Desert Section	1,028	3,489
Previously reported - -	1,493	4,591
Total to date - - - - -	2,521	8,080

	cars	people
Total for the month - - -	1,736	5,149
Grand Total to Date - - -	6,146	18,114

Among the visitors were: Mr. W. G. Brown and daughter Mabel from Charleston, West Virginia; Mrs. Smith's father and sister who are to spend several weeks with us.

Assistant Landscape Architect, Harry Langley, was in the monument the 7th and 8th on official business connected with the Painted Desert study. He also helped the Superintendent in getting up the MASTER PLAN for this monument.

Mr. D. E. Jacobs, ranger from Yosemite National Park, stopped in on his way home.

Foreign countries represented during the month were: Canada.

Territory represented was: Phillipine Islands.

Respectfully submitted,

Charles J. Smith, Superintendent.

Pipe Spring National Monument: Mr. Heaton reports as follows:

"The travel has been somewhat scattered this month, as some days therewould be as high as 20 visitors and then there would be a few days that only the mail car would be a visitor. I would say that we have had 180 visitors this month of which 14 were campers.

"We have had some rain and snow. December 5th we had a good rain that was much needed in this country as the water holes for stock were getting dry. On the 11th there came eight inches of snow and the night of the 12th a north wind started and for two days the worst blizzard that I have ever seen in this country raged, causing death and misery to many birds and animals and much discomfort to us humans. A Mr. Ferrin had his feet frozen while trying to get home with some supplies on the 12th. He and his two brothers stayed with us on the night of the 12th and 13th before the road was open to travel. Several other men reported that they had their hands and faces frosted while attending to their cattle those two days.

"I found the following birds dead after a storm in and about the buildings; four mourning doves, two song sparrows, seven English sparrows, four snow birds, one house wren, three black birds and one bird I did not recognise. It was reported that several head of cattle died during the storm.

"Since then we have had three light snow storms with some wind, but the days have been almost like spring, melting the snow on the south slopes, but the nights have been rather cold, the temperature going as low as -10 on several nights.

"Up to date we have escaped the flu here but am not sure that we will pass the winter without getting it as it is in all the towns north and west of us. Some are very sick and a few have lost their lives with it.

"Our Christmas has been a jolly one and we hope that the rest of the Monument Gang had a good one. The Heaton's wish them a Happy New Year and all the success that they can have in the coming year, in their work of waking the public interest in our National Monuments as well as in their private life.

Here is a letter we received from Mr. Heaton during the month which is good enough to put in the monthly report at this point.

"This letter may sound like a distress signal and it may be so in one sense of the word, as I find that I have got more time than I know what to do with on my hands this winter and I am going to ask you to give your opinion on some of the things that I have thought of to do here, not only to keep me at work but to help in making the place more attractive and educational.

"A few of my ideas are as follows:

1. Fixing up the lower east room of the lower house for use as a registering office and literature of the Monument: Also having some of the relics on exhibition in this room.
2. Label all of the furniture as to when it was made and who now owns it.
3. Make hitching racks or tie posts for the horses instead of letting horsemen tie to the trees.
4. Collect plants and insects found on the monument, giving them the common and scientific names.
5. Make a nature garden of all plant life with signs telling of the kinds of plants.
6. Make a look-out point on the top of the hill back of the Fort showing the interesting places in the development of this country.
7. Have a museum of the live reptiles to be found on the monument.
8. Make a sign of growing shrubbery, Pipe Spring Nat. Mon. for the airplanes so they can locate this place while flying past.

"This may seem to be a large bill and you may wonder how I figure on financing some of this work. I don't know much about what it costs others to do some of this same kind of work but it seems to me if it was handled right there would be very little cost as most of these ideas call for material that is already on the monument. It would mean some work but I think I would enjoy doing it as there are not enough visitors in the winter to take up all my time showing them around.

"Another reason that I want to do it is that when a man gets a Government job it is said he can lay around and do nothing. I don't want it said that I did not try to earn the salary that the Government is paying me for staying here.

"I will appreciate any suggestions or comments that you will make and I will try to carry them out, as I realize that I do need suggestions and help to do the things that are required of me in taking care of this monument. Not being able to get in touch with some of the other monuments to see how they are handled, I use the monthly reports of the Southwestern Monuments as a guide and you can bet all you want to, but I sure read it from cover to cover."

I submit, Mr. Director, that Leonard Heaton has written by far the best page in this month's report and I call the attention of the Educational Division to the fact that nothing that Leonard can do

can get into their tabulated report of educational activities for next year if they stick to their principle that only a ranger-naturalist or a ranger-historian can perform an educational service which is entitled to be entered on the statistical records.

Tuacacori National Monument. Mr. Boudney writes as follows:
"Visitors for the month of December, 501. This 501 represents principally tourists, local people have little excuse to travel to Nogales for drinks.

"We have been having some real winter weather the last few days. One morning the thermometer registered nineteen above which is exceedingly cold for this country. Early in the month we had several snow storms in the nearby mountains and one morning there was considerable snow between Tubac and Tucson.

"This is the first winter the Vermillion Flycatchers have left for the south.

"The removal of the soldiers from Nogales will hurt the town severely as it means besides the soldiers about 300 families will also have to leave.

"The immense vegetable and fruit crops of Mexico will also no longer be handled by the brokers in Nogales but will be shipped direct from Mexico to the Consumers; this will leave many vacant buildings and take a number of the more important business men from Nogales. By thus eliminating the middle man fruits and vegetables from Mexico can now compete with Arizona and California producers."

IN GENERAL, we miss Hosteen John and Zeke Johnson and one or two others out of this report, but, otherwise, seeing that I didn't have anything to do with this part of it, I consider it a mighty good cross section of what is happening in the southwestern monuments, and pass it on to you as a good job well done.

Cordially,

Frank P. Boudney
Superintendent.

JANUARY SUPPLEMENT

To The
Monthly Report.

Dealing With Persons,
General News,
& Shop Talk.

We at headquarters wish that every one of you in the field had a Merry Christmas and hope that you have a Happy New Year in 1933. All of us wish the same things to you, Mr. Director, and those with you in the Washington office. May this year, which will be lean in money, be fat in ideas, and may we all lay plans this year which will build us into a bigger and better Park Service, able and willing to get more Service out of less money; better even than our records of former years.

To start off this supplement to the first report of the new year right, I want to quote from the hearings on the Interior Department Appropriation Bill. I do this to show some of our home folks here in the southwest where we stand.

"Mr. Taylor. You have 36 of these monuments under the Interior Department?

Mr. Albright. Yes.

Mr. Taylor. There are that many more that are under the other departments?

Mr. Albright. Not quite that many. There are a few under the Agriculture Department. There are 15 under the Agriculture Department and 24 under the War Department.

Mr. Murphy. In addition to the ones we have here?

Mr. Albright. Yes. The ones under the War Department are ancient forts, and a few other places like Abraham Lincoln's birthplace. I would say that we are hoping, gentlemen, that a reorganization will take place along the line of consolidating these various park services.

Mr. Taylor. It does seem to me that they ought to be under one head. There are 15 under the Agriculture Department. They do not have any business having these, and there are 24 under the War Department; 36 under the Interior Department.

Mr. Albright. It is hard to justify George Washington's birthplace being under the National Park Service and Abraham Lincoln's birthplace being under the War Department, and so forth."

All of which goes to show that we want to watch out or we will have the work on an undermanned force suddenly doubled one of these days and will be back at the foot of the ladder again in the way of construction and personnel. Please get us as much money and as many men, Mr. Director, when you transfer these monuments, as they now have and we will be ready to start any day; but please try to impress on the powers that be that our improved type of service will take a few more men and a little more money to handle these monuments

than they have had in the past.

And here is an extract over which our southwestern monument women can gloat.

Mr. Albright speaking. "I wanted to call your attention to the fact that there is a wonderful spirit among our people, (he had just been talking about some of our southwestern monuments) a pioneer spirit, if you choose, which gives them fun in making something out of nothing in the way of living conditions. A man and his wife running a monument and taking care of several hundred visitors a month, the wife working along with the husband as 'honorary custodian without pay' - H.C.W.P.

"After I went through New Mexico and Arizona and saw a dozen of these places with men and women both working, and the fine things that were being said about their work, I was extremely proud of our people."

Thanks, Chief, for giving these honorary custodians without pay the recognition they so well deserve. You and I have known it for years, but it won't hurt to let the news leak out to the appropriation committee.

As a matter of fact, donations of work and time are so common that I sometimes forget whether a member of our outfit is under pay or not. I had to apologize the other day to Winsome Winnie Julian, who, with the Destroying Angel, her husband, is stationed at headquarters for the winter, when I realized that I had told her to draw the stencil for the cover of this report thus and so, and had calmly taken it from her and run the 70 copies of this issue before it occurred to me to say 'I thank you'.

Just between us, if these women whose names never appear on the pay roll ever waltz out on us, this southwestern monuments machine is likely to fall apart in about 60 days.

And speaking of covers, don't you think she caught the Castle mighty well? Of course Jack, (M. L. Jackson, Custodian,) and Hugh and I can appreciate which would escape the average eye because Jack and I especially have hung all over those front walls and we know them foot by foot. Whenever I think of those days I think of Jack's constant refrain that he hadn't lived right and he had no business hanging 80 or 100 feet above that rocky talus and he didn't want to 'go meet the Lord' without more preparation. We got a lot of fun out of getting that mud in those front walls, but our wives didn't enjoy it.

We were very pleased to pass up to you with our approval a couple of requests for permits for archaeological research work during the past month. It shows that research work is not entirely stopped by the depression, for which we are thankful, but, best of all, such work on our monuments can hardly fail, especially in these two cases I have in mind, to add some interesting points to our knowledge of the ruins which we can use to great advantage with our visitors.

It is not generally understood that a good research party is a great asset to the monument where it works. It creates general interest and causes a rise in visitors; it is a blessing to our educational men as it gives them new light on old theories and new theories to advance

to the public: lastly, it sometimes gives us important artifacts to build up the weak spots in our museum collections.

We in the southwestern monuments must be alive to these points and give the research men all the help we can: it will be repaid many times over in our work.

Here is an interesting observation on National Monuments by Custodian Newell F. Joyner of Devil's Tower:

"A National Monument is a relatively small area possessing many of the attributes and presenting on a small scale many of the problems of a National Park, where the permanent employee is offered an unparalleled opportunity for greeting a visitor with a handshake or personal greeting and taking time to sit down, or hike, or stand with the visitor and answer whatever questions he may have or tell of the natural or historical phenomena which has drawn the visitor to the region; thus enabling the visitor to gain in the fullest measure from the wonder at hand and enabling the employee to give to the fullest extent that which he represents --- Service."

"A larger park cannot offer this opportunity to the permanent employee, for his time is so thoroughly allotted to administration, the number of visitors is so vast, and the attractions so many. So, while the salary and conveniences are less, and the hours of actual work per day and per week are longer, I cannot help but add too my voice to those who feel that a National Monument is not to be looked down upon by its bigger brothers and sisters, the National Parks."

All of which is mighty interesting as a statement of Mr. Joyner's idea of the difference between Yellowstone and Devil's Tower, and we down here in the Southwest were glad to get it, but it must not be taken as a definition of a national monument. A National Monument is sometimes a relatively small area but the biggest single area in the National Park Service is a National Monument -- not very many people in our Service know that! "Possessing many of the attributes and presenting on a small scale many of the problems of a National Park" would not sound well to White Mountain Smith with his 90,000 to 110,000 visitors at the Petrified Forest National Monument and his area knocking the spots off about half the Parks in our system.

In defining a National Monument we better stick to the definition laid down in the basic act; "Historic landmarks, historic and prehistoric structures and other places of historic and scientific interest." This tells us very definitely what a National Monument is and says nothing about size.

The trouble is that we have no definition of a National Park except that we can say that it is any reservation so declared by Congress.

Just to start an argument, I am willing to put up the following definition of an ideal National Park. "An ideal National Park is an outstanding work of nature which is first of all Inspirational, secondly, educational, and lastly, recreational in character."

Bob Rose, upon being called into consultation, reports as

follows: "Other than being half wrong, this is a very fine definition. Reminds me of a Jap who would define a human being as 'One of the species Homo Sapiens, yellow in color, 5 feet 6 $\frac{1}{2}$ inches in height, weight 125 pounds.' The exceptions are so numerous as to make the explanation valueless. It would be like Mr. Vogt saying; 'I am on El Morro National Monument which contains 1/3 of a square mile, therefore all areas not exceeding 1/3 of a square mile are national monuments.'

"This Joyner definition emphasizes the fundamental objection to the word MONUMENT as a name for these areas we are dealing with. The name MONUMENT seems to be a 'narrowing down' term in the minds of nearly all people not familiar with the legal Park Service definition. Therefore, it is not too severe to say that the name MONUMENT, without an awful amount of educating the people, (too much to expect to accomplish, in fact,) will forever and aye be a millstone around our necks that will forever hold down the conception of a monument as being among the 'relatively unimportant', or small areas. To us in the monuments service, the name is good enough, - we understand what it is and should be. It is true we do a lot of speechifying when we see the almost universal and flagrant misunderstanding of the term.

"Perhaps a change in name would remove the millstone that seems to hang onto people's conception of a monument. And if members of OUR SERVICE almost without exception have this millstone tied to their definition, I wonder how in the name of Heaven we are going to educate 125,000,000 Americans.

"Casa Grande Archaeological Reserve: Tumacacori Historical Reserve; etc. seem to take care of monuments of their character. The trouble might come in defining Arches, Petrified Forest, etc.

"But the question, I suppose remains: Is it, or will it, be impossible to educate people on the true conception?"

Chief Clerk, Evenstad, says: "Mr. Joyner merely defines Devil's Tower. An attempt to find a definition that will define Parks to the exclusion of Monuments and vice versa will run into complications, because the definition for one group will apply to some units of the other

"A general name covering both groups could be adopted. Instead of saying 'National Parks and National Monuments' we could say 'Public Area' or 'Public Reserve' for both. The main thing is to convey to the general public the idea that these places are for their use under necessary government regulations.

"In the smaller areas (whether park or monument) the opportunity for personal contact is greater; as a general thing, but there is no reason for placing any special emphasis on this fact in defining a national monument, especially when many of our monuments are not small areas and some of our parks are."

Ranger Frank L. Fish says: "Size is a matter of unimportance in either a monument or park. Our Service does not exist because of the 13,000 square miles of territory which are under its charge, but it

exists for the attractions which the separate units contain.

"Visitors are not drawn to Yosemite because of its 13,000 square miles but because of something in Yosemite which attracts them whether it be scenery, animal and plant life, education or recreation matters not.

"Recreation is absent from many of the national monuments and some of the national parks, but this is not because of area, it might be said that it is due to conditions which make it undesirable for long extended stays for many of the visitors."

All of which has been put in here to justify that sub-heading 'Shop Talk' which we are using this month for the first time.

During the past month our library at headquarters has had several additions. One large volume in particular should be mentioned because it is not only useful but it is a fine piece of printing and bookbinding. It has some two thousand pages and is an excellent example of the printers' art. Thus far we have not found a single error in it. While we can praise the typography and binding of this fine volume, we cannot say so much for its continuity of thought. The matter is more or less broken and disconnected and one no sooner gets interested in one of its sub-headings than he gets a quick, sharp change to a different line of thought. This, to a certain extent at least, is exhilarating, but is at the same time more or less disconcerting if one wishes to settle down for an afternoon's reading. Otherwise we have found it satisfactory and Mr. Julian is especially well pleased with it.

The volume is published in Springfield, Mass. by the G and C. Merriam Company and the original matter was written by Mr. N. Webster. It is sometimes known as the New International Dictionary.

And while we are on the subject of dictionaries, we might explain that it took Colonel Jack White to uncover our iniquity. These Carping Critics and users of four and six dollar words let us get away with the idea that we were coining a word which was coyly tucked away in Mr. Webster's masterpiece all the time. I refer again to that mouth-filling word 'Yammer'. I suspect the Carping Critic scouted around for it but in our old dictionary it didn't make the grade in the main section and was relegated to the outer darkness of the supplement and so avoided the eagle eyes of our word hunters.

Colonel Jack wrote us a very nice letter, promising to drop in and find out what a National Monument was, though he didn't put it that way, and saying that we would find 'Yammer' in the dictionary, though how he found it out I don't know because he says they never do any of it in Sequoia: far be it from me to doubt his word, but in its first sense of 'speaking out in piercing tones with great appeal,' I will leave it to you, Mr. Director, whether Sequoia ever yammers!

I would like to insert here a very pleasant letter which came in before Christmas and which, I know, will please every one of our

folks in the southwest.

"Dear Mr. Pinkley:

The November report of the Southwestern Monuments reached me yesterday and I took it home last night and read it with great care. It is up to the new standard of Southwestern Monument news and is full of interesting topics.

I am sorry there has been so much sickness among our employees. As a matter of fact, I was away from the office for ten days with an attack of influenza which seems to be rather more virulent this year than usual.

With heartiest Christmas greetings to every member of your fine outfit and with warmest regards to you, I am

Faithfully yours,

Horace M. Albright,
Director."

A letter like that is certainly appreciated out here in the sticks on some of these lone posts where a fellow and the H.C.W.F. feel like nobody cares much whether they make a report or not. Thanks, Chief, and we all hope you got completely rid of your flu. You have just as fine an outfit to take over and do things for you as we have out here, but, even so, you can't loaf your way back into health as easily as we can in this southwestern climate.

Here is a suggestion which comes under the head of 'Shop Talk' and which I am including here to get the reaction on the various readers of this report. It comes from Dr. H. V. Halladay who has at various times drifted around among our parks and monuments.

"I want to see a large map placed in each park or monument, showing plainly, so the dumbest tourist can see, the region, say, within 300 miles. Have this painted on wood or sheet steel, suitably framed and illuminated at night and convenient to the camp ground or information bureau. Mark on this the roads, using a key design for the type of road and not only mileage but designate the average time of travel. Tourists who have never travelled in the mountains figure so many miles a day and it cannot always be done. Also on this map show plainly the best roads to travel to visit the several national monuments or parks in the area and, if possible, a design that will attract them to the next park or monument and not discourage them. Denver at one time had such a sign in the old tourist park south of the city and every night the tin-canners gathered around it and made their plans for the next day or week and exchanged ideas as to roads and points of interest along certain routes. Without any more detail I am sure you can see that this would be the answer to many questions that are asked the boys in the Service."

This idea seems to me to be mighty well worth while and I would like to hear from anyone in the Service who has experimented along this line as to the results.

It's a pleasure to have a man like Doc. come around because he has been among us enough to get our viewpoint and yet he can see everything from the point of the visitor too.

We have some news from the appropriation bill which carries our '34 money about a week ago when it was out on the floor of the House and have seen in the papers that it has passed the House and gone to the Senate. We never had a change in our money after the bill went on the floor of the House, so we know pretty well what we are going to get without having to wait for the President's signature.

Construction has gone by the board as I supposed it would. We will get a Greeting Station (note the word, this one really isn't in the dictionary yet but it will be some day), and two small water supply items at the Petrified Forest and a sewage and steps to the cliff item at Montezuma Castle. Every thing else in the way of new construction is gone. We are especially glad to get the steps up the talus at the Castle and hope the bill passes so Walt Attwell can put them in while he is working on the road and parking ground in February or March. Our other items are so badly tangled up with the general monument items that we can't tell just how hard we are hit, but we are happy to see that they appear to have left us pretty well fixed in personnel. You might tell Mr. Bailey of the Budget that, like the patient coming out of the hospital, we hated the operation like everything but are glad the doctor didn't take any more things out of us.

We have the orders to get up the '35 preliminary estimates and have been puttering away on them for the last month or so, though there is a lot to be done yet before they can be turned in.

Ed. Nickel, of the Engineering Division, finished his work at Casa Grande, where he was the inspector in charge of the erection of the new protecting cover over the Casa Grande Ruin, and, with Mrs. Nickel and the baby, went in to Field Headquarters. You wouldn't think you would miss an Engineer when he was gone, would you? And two of them you'd think you would miss just half as much! But Ed and Walt Attwell really left us feeling lonesome. Of course Walt will be back later and boss the installation of the parking grounds at Montezuma Castle and Tumacacori as well as the entrance road at the Castle, so we will have plenty of arguments with him yet, but it looks now like we may have to wait a long time before we build another \$24,000 roof over Casa Grande so no telling when we will see Ed in our district again. Regardless of what you might think, these Engineers are a fine bunch of fellows.

Herb. Kreinkamp, of the Landscapers, stopped off one day on his way west from that little park of Tom Beles' and we went over some plans and ideas about the various monuments. He expressed satisfaction at the way the protecting roof had worked out and I want to say here that Tom Vint and his crew did a good job. I told them I was tired of building a roof over that ruin every twenty seven years and they took me at my word and put up one which, if Ed Nickel's figures on stresses and strains don't go hay wire, will last.

Regardless of the spoofing we give these two divisions, I hope the folks in these two Divisions like us as well as we like them.

Johnnie Faris has this to say in addition to the space he has already used in the report:

"Our monument has been particularly fortunate this month from the standpoint of publicity. The Chamber of Commerce has a very active and cooperative Secretary and he has material now for a lady to write for a chain of some 200 newspapers, for a broadcast over K.O.B. in Albuquerque. In cleaning up the wood we mentioned in our last month's report some scrap ends were taken by the Chamber of Commerce and are being made up into gavels for the speakers of both the Senate and the House in the next legislature. They will of course be very small because we used only scraps, but they will also be different. I understand Senator Sam Bratton will also present a similar gavel to the President of the U. S. Senate and Hon. Dennis Chavez will present another to the Speaker of the House."

The experience of Mr. Faris over in Canyon de Chelly National Monument is one I have foreseen. We are going to have a lot of disappointed visitors who will go out there and find water in the canyon and no way to get to a single ruin.

In my '35 preliminary estimates I have an item covering this very trail and the justification runs as follows: "There is a sort of a trail on the south side of Canyon de Chelly opposite the White House Ruin. This old trail has been in use by the Indians for many years but is not very safe. The present intent is to make it safe but not rasy for foot travel so that visitors who come to the canyon at times when they cannot get up the canyon floor in their cars or by transportation which may be furnished by a public utility operator, can come to this point on the rim to view the White House Ruin, and, if sufficiently interested, can make the trip down on foot. Otherwise, many visitors, being actually unable to get down into the Canyon at such times, may consider their long drive out from the railroad a total loss, and our Service might get a reflection of their feeling in some pretty sharp criticism."

The weatherproofing experiments of the Air-Spray Corporation, details of which will be found in last month's report, are beginning to fail. The binding film of the material sprayed on has cracked along the top edge of the wall and is allowing water to get through into the wall. Our old method of cementing the walls is the best thing we have used yet as it stands up for about two years before it begins to fail. The other tests have broken down in from ten days to three months. The more we monkey with these liquid materials the more I come to the conclusion that we will finally be driven to some form of gunnite over a reinforced mesh. We can't afford to be going over a hundred thousand square feet of walls every couple of years at a cost of \$2.50 per square yard. It is a problem like the one above on the roof for Casa Grande, let us put something on that will last. I don't like to think of gunnite of course because it will cover up the wall, but I had rather have a wall covered up with cement than to have no wall at all.

On page 2 of the report Bob says: "Our present museum space would be crowded somewhat with the addition of this material. Future development calls for an addition to our present museum. Such increase in space could be strongly justified even now. Such overcrowding as would result in displaying the Mooseberg collection would be temporary."

I want you to note this particularly, Mr. Director, because I am including this addition to the Casa Grande administration building in my '35 preliminary estimates and goodness knows we are going to be crowded if we have it cut back and have to put it in the '36 or '37 estimates. Our present building at Casa Grande is the first unit of a final plan and it is no surprise to us that we are filling it to over-flowing; we foresaw that at the time of its construction.

We are mighty sorry to hear of the passing of Jim Dial over at Aztec. He was a good man, a friend of the Park Service, and will be missed by the town of Aztec. It is strange how many men in this world do their work with so little horn-tooting that we only miss them when they are gone. Jim was of that sort.

I have the following letter from Jean Griffin, who is Asst. H.C.W.F. at Chaco Canyon National Monument.

"Dear Na-tohn-ne:" which means 'Boss' in Navajo.

As you can easily guess, we have all missed Mr. and Mrs. Julian; however we look for their early return, and we do hope it will be an early one.

"Since Mr. Julian's departure for the south on November 23 I have had thirty-five visitors to the monument. ~~Whenever~~ Whenever there is an occasion to make a report of this kind about the monument, I will be glad to send you a notice of current events.

"Ranger Don Watson, of Mesa Verde, was here for some time and was impressed with the Chaco. He visited practically every ruin up and down the canyon including the pit houses at 'Nine Mile Turkey.'

"I shall off and on through the winter look over our museum and I have already given it a good cleaning which I think will last for awhile. While visiting the pit houses some days ago I secured some rather interesting manos which I placed in the museum. Also tell Mr. Julian that I found a rather attractive piece of stone showing imprints of shells and other impressions which was also put in our museum.

"Plans are now being made for an Indian Christmas, a celebration for the Navajos of this district which will be held on the twenty-fourth at the Trading Post. We won't 'say it with Indian Ware' to the Indians, but with candy and toys for the kiddies.

"And now I think that just about embraces all the desert news for awhile. Hoping that by this time you are feeling well from the effects of the flu and will spend a joyful Christmas!

The assistant,

Jean J. Griffin.

The Annual Report of the Director of the National Park Service has reached us during the month and we have certainly enjoyed it. It is a good report and we thank you for the kind words about the South-western Monuments on page 65. National Parks Table 19, on page 95 has also interested us very much but we can't analyze as much information out of it as we would like to. In the first place the heading is misleading: it should be 'Summary of the activities of the Educational Division in the national parks and monuments Oct 1, 1931 to September 30, 1932.' It sounds about the same but it means something different to us and the public. I am not particularly interested in how many contacts the Educational Division has made in any one year because that is only a part of the total educational contacts, and what we are interested in is the total quantity and quality of the educational work done by the Park Service. This table doesn't reflect that. The only park that I am really acquainted with is Mesa Verde and its contacts seem to run as follows:

~~\$3,985~~ 17,987 auto caravan
 38 hikers
 5,890 museum lectures visitors
 15,825 museum visitors
 37,738 total contacts.

Is it possible that camp fire talks have been run in this table as museum lectures? If not, why haven't the visitors who attended the museum lectures been counted among the museum visitors in the next item? A lot of such questions come to mind as we study that table.

We are very happy to be able to publish Dr. E. E. Hewett's annual report to the ~~\$3,985~~ Secretary of the Interior on the current season's work by his expedition on the Chaco Canyon National Monument. This will keep all our men up to date with current information about the Chaco and will help them to send visitors in to that monument.

Notice that next to the last paragraph about H. R. Julian, the Destroying Angel. One more like that and he will be buying a new hat.

That erosion problem mentioned by E. Z. on page 12 is a real one and must be studied next spring. We want to get one of the Engineers in there as soon as we can in the spring to survey the lines of the monument and a study of this wash can be made at that time as well as some ground sapping problems at the foot of the cliff. Further down the wash we will have to make a study for a bridge location for the present old wooden bridge is not going to last forever.

We also want a Landscape Division man to go into El Morro early in the spring and study the location of a future residence and administration area.

These matters will be taken up with those Divisions at the proper time.

The treasure hunters at Gran Quivira have suspended work pending better weather. They seem to have high hopes as ever of making a big strike in a short time after they go back to work. We will keep in touch with their work and let you know about it next month.

Here's something that can't help but make us feel better:

"Enjoyed your November report as much as any of the former ones, and now am looking forward to the arrival of the December issue. Also for a good visit with Mr. Nickel some of these times to get the straight dope on your old ramshackle habitations. Mr. Attwell recently told me that he would not trade your sun baked monuments for all the glory of - - - - (park name deleted to save the Superintendent's feelings, Editor,) or any of the larger parks. You must have something worth while to bring out expressions like that.

"Wishing you and your 'crew' a prosperous, healthy,
HAPPY NEW YEAR, I am

Sincerely yours,

J. Barton Herschler."

We thank brother Herschler for his kind wishes and his letter causes the engineers to move up a notch in our estimation; by and by we will think they are most human.

To get some of his own ideas straightened out and give us all something to shoot at, H. R. Julian turned in the following to go under the heading of 'Shop Talk.'

The contribution to the monthly report from Chaco Canyon is rather limited this month, Chaco being officially closed, and having nothing of regular business to proffer, it was decided to contribute to the seminar supplement known as 'Shop Talk.'

Some of us have been talking 'Ruins' to the visiting public for years without fully realizing that we were also talking anthropology. In a word, several of those of us who maintain the guide service through the prehistoric ruins of the Southwestern Monuments, have been amateur anthropologists without having been aware of the fact. I wonder how many of us realize how closely our work is allied with anthropology? For that reason, this department of verbosity has decided that, unless restrained, there will be a short article of anthropological nature in each issue of 'Shop Talk' until the protests become so forceful that it is deemed discreet to discontinue them.

The first paragraph in most any text is concerned with the definition of the subject which is to be discussed; consequently it is judged proper for us to begin in the same manner, that is, with a definition of anthropology.

Anthropology has been defined as 'The science of man and his works.' If we analyze the term we get little more than that. 'Anthropos' from the Greek word meaning man, used in this case in the form 'anthropo', to signify that which is pertaining to, or like, man. The suffix 'ology' denotes the science of, or branch of learning. Combining them, we have again, the science of man.

This definition may be criticized because it covers too much territory; is too broad and all inclusive. If we accept this definition literally, all other sciences are but subdivisions of anthropology. In a sense all other sciences are closely related to, and many of them overlap, anthropology; yet anthropology has an especial field.

To particularize, we use the term to signify the science of man in general, whereas many of our other sciences are concerned with certain individual aspects of the works of man. In anthropology we are concerned with the physical facts of man, his history and development in a general way. It is in a sense, the correlation of many sciences viewed from a larger perspective.

Much of the anthropologist's study is devoted to primitive cultures, not that the science is limited to this field, but that it also includes this field. Much of the knowledge, anthropological in nature, which concerns the modern civilized man is quite generally disseminated. It is covered by the studies of the public schools. Anthropology seeks an account of primitive society in order that the preliterate man may also be studied.

It is natural that the pre-historic man should be of importance to the anthropologist because it is here that we find the beginnings of the things that the science is concerned with. Social organizations, cultures, and the contrasting characteristics of cultures. The simple origins of most of our customs, habits and institutions. If we would study the works of man, it is well to start at the beginning, when these works were in their infancy.

In addition to the accomplishments of the human race, anthropology deals with the race itself. The physical traits, as in somatology; the science of peoples without regard for their degree of advancement, as in ethnology, of the natural races and families of men. Man is treated geographically, by subdivisions, migrations, and their causes and influences, in a branch of anthropology known as ethnography.

Anthropology is the story of all that man has known, and done, and been, with, so far as they have been determined, the reasons for each.

Most of the questions which we are called upon to answer daily are included in this field.

Mr. Julian seems to me to have gotten away to a good start on his series of short articles on anthropology. We will welcome any differences of opinion you may have with him, and I am speaking here to the other men in the southwestern service or the Mesaverdeites who are our over-the-fence neighbors. Personally, I couldn't have written that much without dragging archaeology in; it is a good mouthfilling word and a good many of our southwestern monuments are full of it. No doubt Mr. Julian is holding it out on us and will bring it in some place later on. It is a good, live word, highly recommended in Mr. Webster's new book and it covers a lot of what we are doing. I wouldn't want to see it left out of any discussion of the work we are doing in the southwestern monuments.

As a matter of fact, those of us who deal with the pre-historic work of the southwestern monuments have a rather peculiar status. We are not bone digging archaeologists and one of them would be out of place among us. So it is with the other 'ologies.' Our work seems to be to translate the findings of the scientists into the vocabulary of the average visitor and thus put what might sometimes appear to be pretty dry facts across as mighty interesting statements.

("SHOP TALK" Contribution II)

In a lecture given Wednesday Evening, December 7th, in the Phoenix Junior High School Auditorium, Dr. A. E. Douglass of the Seward Observatory, University of Arizona, outlined the development of his Tree Ring method of dating prehistoric ruins. This method, the outgrowth of more than 20 years study, has won for its author high recognition in the field of science and research. In this lecture, using lantern slides and moving pictures, Dr. Douglass gave a popularized account of the whole field of dating prehistoric ruins by this method which he developed.

Most of our Southwestern personnel is familiar with the fundamentals upon which the Tree Ring method is based. However, the story of how Dr. Douglass, an astronomer, was led into this field may be new to some. Astronomers have long been aware of cycles of Sun spot activity which recur every eleven years. Weather observations definitely proved that these periods of solar disturbances were marked by abnormal climatic conditions. Dr. Douglass reasoned that if these changes were sufficiently marked, vegetation, especially certain trees, would be affected in their growth.

Each year trees add a new layer of living material- something of a sheath- over their entire trunks and branches. Variations in the amount of precipitation, especially during the winter seasons, are faithfully reflected in growth variations of this layer of material. When the trees are cut down, cross sections of these growth sheaths appear in the form of annual rings of the log sections while variations in the growth of the annual sheaths of wood can be seen in variations in the width of the individual annual rings.

Dr. Douglass applied his studies to living trees finding not only tree ring variations accountable for ~~20%~~ on the basis of climatic disturbances due to periodic Sun spot activity, but the finer seasonal variations as well.

He was then led to a study of timbers in the ruins of Chaco Canyon. Among these beams he found certain characteristic sequences of rings and groups of rings. However, they did not overlap the earlier series of rings and groups of rings observed in living trees of the region, nor could a calendar built up by pushing the modern series back as far as possible be hooked up with the Chaco beam rings. Despite this obstacle, Dr. Douglass, by comparing like series of individual rings and groups of rings, chose a "Relative Dating" scheme, abbreviated "R.D.", and using it he determined the date "R.D." of the construction of the various portions of Pueblo Bonito. A certain date such as "R.D. 15" merely indicated that the tree cut at such time was cut 15 years after an arbitrarily chosen zero. In this way he determined that the various stages of construction of Pueblo Bonito embraced a period of more than 2000 years. Yet, he could neither push his prehistoric calendar up far enough to hook onto the modern nor the modern far enough to hook up with any part of his "R.D." calendar.

Truly the great need at this time was the "missing link"-a beam cut from a tree whose life span overlapped the "Relative Dating" calendar at one end and the Modern calendar on the other. You can well imagine Dr. Douglass' satisfaction in discovering a charred timber from a ruin at Showlow, east central Arizona, which supplied the "missing link". This timber bridged the mysterious gap and immediately made it possible to translate in calendar dates A.D. all of the dates on the Chaco "Relative Dating" calendar. Based on these findings, it was learned that Pueblo Bonito was constructed between 919 and 1130 A.D., with 1066 A.D. marking the date of start of construction on the last effleur additions.

From all of these beams Dr. Douglass has worked out a Master Plot. This consists of a graph made up of a horizontally spaced series of little vertical lines of various lengths. Each line is drawn in length proportional to the width of the tree ring it represents. Thus, a long vertical line indicates a wide annual ring, whereas a short vertical line corresponds to a lean annual ring. In this way, characteristic series of individual lines as well as series of GROUPS of lines, are observed. Upon securing a beam the date of cutting of which is unknown, a chart of its rings is drawn up in the same way the Master Plot was made. If the life span of this unknown timber falls somewhere within the period of time encompassed by the Master Plot, one can, by slipping the individual beam plot alongside the Master Plot, find a position for which the lines, or groups of lines, correspond closely. When this correspondence position is once found, then the calendar date of any line on the unknown plot becomes known at once. Consequently the date of cutting of the unknown timber becomes established.

Pine, Douglas Fir, and Pinon show responsive tree ring growth and hence are satisfactory for tree ring studies. Juniper and Cottonwood show unresponsive and irregular tree ring development and are therefore of little value.

Dr. Douglass stated that by pyramiding of these rings through overlapping of characteristic series, a calendar from prior to 700 A.D. to 1929 has been designed. This has been accomplished, he stated, by the study of approximately a half million rings covering 22 generations of trees.

The moving picture reels were concluded by showing passing in review before our eyes the series of tree rings from prior to 700 A.D. to 1929. Lines from the ring series ran upward to important dated events in history. Similarly, lines ran downward to the dates A.D. of the construction of many of the well known ruins, these dates having been determined by the tree ring method. This chart was highly instructive and interesting and suggested possibilities of something of this kind for our museum.

Tree ring study has become a standard phase of research for each and every archaeological site in the Southwest to which it is