990/D-4
Vol. 3

The Southwestern Monuments Monthly Report for January, 1934.

Contents

Introduction----1

Arches---------34-39
Attwell, Walt.----49-51
Aztec Ruins------- 7-9
Aztec Archeology-10-14
Bandelier------- 26-30
Canyon de Chelly-- 32.
Capulin---------- 25
Casa Grande-----46--47
Cast G. Archeology-47-8
Chaco Canyon------15-16
El Morro---------17-20
Gran Quivira--------- 31
Montezuma---------- 2
Montezuma Arch.------3-6
Navajo------------- 5
Pipe Springs--------- 40
Tumacacori--------41--42
White Sands-------21-24
Zuni--------------38-34
Zuni Canyon------ 36

Conclusion---38.
Petrified Forest-----55-59

THE SUPPLEMENT.

More About Tunnels----------A
Repetition and Duplication---B
John Wetherill's Report------D
Irwin Hayden's Letter--------E
Wedding Bells----------------F

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF NATIONAL PARKS
BUILDINGS AND RESERVATIONS
SOUTHWESTERN MONUMENTS

Coolidge Arizona, February 1,

The Director,
Office of National Parks,
Buildings and Reservations,
Washington, D. C.

Dear Mr. Director:

January, with its hectic rush and exasperating episodes, lays behind us. It only remains for us to tell you through this report how much and how little we have accomplished.

The high lights of the month were, of course, the various Civil Works projects which we have going among the southwestern monuments. In general good progress was made, although the shut-down order which reached us by wire on the 18th has caused better than a fifty percent loss of efficiency in our work. The unnecessary uncertainty under which we have had to work since that time has been maddening; we were originally given certain set-ups for men and materials; we were keeping within our funds and were running along ship-shape, seeing our way through in spite of the hundreds of extra complications thrown on us by the peculiar manner in which we were tied into the State organizations; when the blow-off came, and since then we have not known four days ahead how much money we could spend for materials, teams, truck hire, etc. It has been a great game trying to operate 14 different projects over two states under such conditions. One of those old fellows who rode in the Roman standing races would seem like a long lost friend to us who have been trying to handle a hundred forms through State channels and keep everything in shape to go through the General Accounting Office at the end of the journey.

If and when the new Civil Works program gets under way, we can guarantee you at least 15% more efficiency if you can divorce us from the State Administrations; and I might add that they, on their side, would cordially agree with that, because our jobs do not fit well into their routine and so we cause them a lot of trouble in revamping their methods to fit our peculiarities.

Again our desert gods were with us and gave us an ideal month of fine weather. It is getting to the point now where the lovely weather is hurting the ranges and storage water in the reservoirs. Precipitation over our district is badly needed even if it does interfere with our work.

MONTEZUMA CASTLE NATIONAL MONUMENT. Martin L. Jackson, Custodian.

We open up this month with the following good report from Jack:

"Dear Pink:

During the past month visitors to the Monument have totalled 960, of which number 329 made the climb into the building. Nineteen states and two foreign countries are represented. The heaviest day of attendance during the month was 136 on a Sunday, when a group of C.C.C. boys visited the Castle and a great number of local people came to view the excavation work going on here.

"The weather has been practically perfect, and roads suffered only from corrugations and dust. Old timers say this has been the mildest winter they can remember, both as regards storms and low temperatures. Day before yesterday we had a light rain, the first of the winter, and some snow fell on the surrounding mountains, but unless we have a good storm soon a lot of cattle may not last out the winter. It seems that in truth the Verde Valley is becoming the Valley of the Sun.

"In addition to visitors this last month I have had two technicians, one clerk, one ranger, one museum attendant, twelve mules, one horse, some badly worn wagons and scrapers, and a lot of grief; and judging from some letters received from your office I believe you to be the authority for the saying that 'The first twenty years with the Park Service are the worst.' However, besides helping the un-employed, we are getting things done on the Monument that we would have been crying for in the years to come.

"In regard to the C.W.A. work at the Castle:

"The main project is the entrance road, which we had hoped to finish by the 15th of February. Due to the fact that we are having to make some fairly deep cuts in a very hard formation, and that our workmen have been cut down to 15 hours per week, we are going to be crowded to have the job finished by that time. We are getting a good road, nevertheless, and it is worth the money even if the cost is a bit high.

"We have the brush cleared and most of the stumps dug on the boundary road of the campground. We will not be able to do a great deal more on this part of the job until the Landscapers come in and lay out the individual camp sites. Harry Langley writes me that he hopes to come in during the first week in February and straighten this out.

"We have taken out the wooden curbing around the parking ground and rebuilt it with the malpais stones laid in a concrete mortar. This wooden curbing was put in a year ago when the parking ground was built, but was intended only as a temporary measure as half of the area is a deep fill and we were afraid to build the permanent curb until the ground had time to settle. This piece of work has added a lot to the appearance of the area.

"Last but not least is a very interesting piece of research work being done at the base of the cliff just west and south of the Castle. The work consists of excavation and partial restoration of what we have always designated as the Ledge Rooms. This work is being done under the supervision of Earl Jackson. Appended is his report covering the activities to date on the project.

"In general, things look well here. Despite our difficulties, which are had by all of us, we are getting somewhere with our projects. We are making the Monument even greater than it has been in the past; visitors are showing great interest in the developments and considerable good newspaper publicity for the Castle has been written. In the Valley, a trace of optimism in regard to coming general conditions this year is evident, and, although said trace is very coy and elusive, it is still there, and will not be downed.

Cordially,
Martin L. Jackson."

The report on the Civil Works Archaeological Investigation at the Castle, by Mr. Earl Jackson, follows:

"The archaeological part of the Montezuma Castle Civil Works program began on December 18th, with a crew of ten workmen and myself. Although handicapped until a week ago by the lack of wheel barrows for removing dirt, we have accomplished something which we believe you will agree is quite worth while, to visitors and to archaeology. The data given in this report is accurate in so far as it goes, but of necessity at present is incomplete. In our final report on this work we hope to be able to present a complete chapter in Verde Valley archaeology.

"Our first work consisted in the digging of ten test trenches, eight at the base of the cliff in the section marked 'C' on the control map, and two at the base of the cliff below the ruin marked '3'.

"In 'C' trenches, pottery sherds and charcoal were found to a depth of 10' 3" below the surface, with the bottom in river fill and clay at a depth of 11' 10". A crude 3/4 groove stone axe was found at 9' 3". In this section only one decorated sherd was found, it belonging to early Hopi.

"In 'B' trenches, plain sherds and charcoal were found to a depth of 12' 0" in river soil. Two well defined layers of charcoal were found, the lowest at 6' "2 below the surface, but no sign of a floor, and no decorated sherds whatever.

"Two trenches in the fill of the slope in front of the Castle, in the section marked 'Research' on the control map, brought interesting results. One trench revealed signs of a stone and mud wall three feet below the surface, and the other, at a depth of six feet in the trash fill, revealed a perfect section of a clay pit house floor and wall. We are asking for permission to excavate these house structures in our

tentative schedule for continuance of Civil Works funds after the middle of February.

"The main part of our work has been the excavation of the large cliff ruin marked 'A' on the control map. As you know, some 32 rooms or remnent of rooms of this fallen structure were cleaned out under Government supervision several years ago, and our task is to complete the excavation of this ruin and restore it in part. Those rooms which were already cleaned out were on the cliff face, while our present work is atop the slope at the foot of the cliff. We have removed a veritable mountain of fallen wall and rock and are still engaged in the removal of this fill. Six large semi-covete rooms have been cleaned, and three other large ones located and partially worked. Each of the six had at least one story on top of it, and one had two; so that already we know 'A' to have had positively no less than 41 rooms, and most likely at least 48. Signs of beam ends against the cliff run for six stories from the shelf on which the base of the ruin rests, so it is not preposterous to suggest a sixty or seventy room original building.

"The ruin 'A', as we shall call it in this report, undoubtedly burned down. Every room excavated on the lower level had fragments of burned ceiling timbers on the floor. This burning of ceilings, and subsequent collapse, would have caused the masonry walls to buckle and fall inwardly, as they appear in some cases to have done. With them went a good section of the cliff. Also, we do not now believe, as we did formerly, that burning of the building occurred while it was occupied; at least this was not the case on the lower floors. All of the floors on the lowest level have, underneath the charred ceiling beams, from two to four inches of stratified river soil and lime dirt, which shows positive signs of having been washed in by water before the ceiling fell. So that it must seem likely high waters or heavy rains flooded the people out of the lower section of their house, causing them to abandon it for the higher rooms of the same building or to flee to the sister house, the Montezuma Castle.

"Evidence to date suggests this building to be older than the Castle, although in its later occupancy its people must have been contemporaneous to the Castle dwellers. The main points in this evidence are:

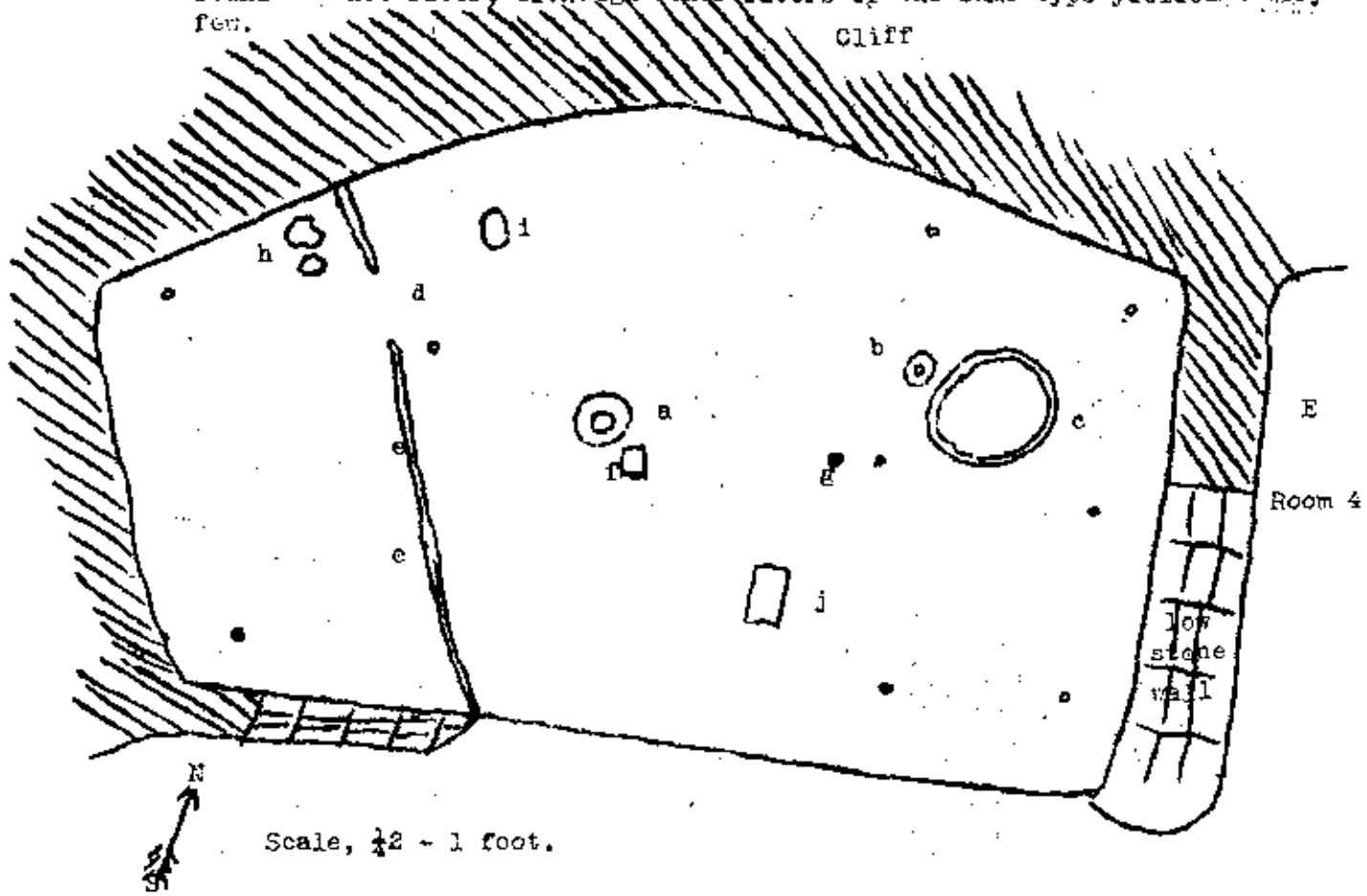
a. Older type of construction used in the base rooms of A.

b. Lower percentage of decorated pottery in A to that found in fill in front of Castle building.

c. Poor condition of pottery found, showing either greater age or earlier, poorer type of firing.

"For our old type construction, we cite two rooms having post hole arrangements significant of pit house supports for flat roofs, and no indication of any adobe walled structure; also two rooms having partition wall remnants of wattle walls, or wattle and daub, somewhat modified. these rooms have been dug out to half height in the soft limestone formation.

"One of these old type rooms has proved so interesting we plan to restore the ceiling and leave the whole thing as nearly like the original as possible. In place on the floor were found two large plain, Gila type ollas, both shattered but all pieces there, an excellent fire pit, with one of the ollas up against it where it had been placed to heat water, two metates, one a very large one and in position where it had been left, propped up at an angle on rocks so the squaw could work on it easier. A circular clay firing or baking oven about three feet in diameter, and a section of the wattle wall running the width of the room from north to south. The wall remnant is about ten inches high, and the sticks are gone, but the imprints in the clay which the vertical sticks left speak right out and tell us they were there. We have found so far only indications of vertical sticks, close together, running the length of the wall. Incidentally, not one decorated potsherd was found on this floor, although other floors of the same type yielded a very few.



Scale, ½2 - 1 foot.

a. Large Olla
b. Small Olla
c. Firing Oven.
d. Doorway
e. Wattle Wall.
f. Fire pit.
g. Post Holes
h. Part of olla fallen from upper floor.
i, j. Metates.

"These few could have been brought down in rat holes from the fill above, but of course we can't swear to that.

"The following sherd percentages are gained from sherds collected separately from fill over the rooms and from the floors themselves. In the fill we find that stratigraphy reveals nothing, so we present only the general count in the fill. The figures were worked out by Miss Sally Pierce, our laboratory technician, an archaeology graduate from the University of Arizona.

"A" fill to date:

Plain wares: 96.5%

Including a large percent of unslipped ware and a smaller percent of ~~unslipped/ware~~ red slipped ware, sometimes polished and sometimes with burnished interior.

Decorated Wares: 3.5%

Including Black on White, Old Hopi Brown on Cream or Buff (Jeddito Yellow). Polychrome with Black and White on yellow-orange or orange-red, the black being in broad bands outlined in white, (tentatively we shall call this type Verde Polychrome), Black on Red, and fugitive white on Red.

"A" rooms, to date:

Plain wares; 95.3%

Decorated; 4.7%

Percentages of distribution of decorated wares in total:

Black on White: 64.3%

Old Hopi: 23.2%

Others: 12.3%

"Black on Red, fugitive White on Red, occur in about equal percentages. Aside from a good part of one corrugated olla only about ten sherds of corrugated ware have been found. One corrugated exterior and Black on White interior was found. Two or three sherds of Verde Polychrome have been found, although other sites on the Verde have yielded a great deal.

"We have a great deal to thresh out on pottery yet, but at present we cannot fail to acknowledge that Verde decorated wares, especially Black on White, show an excellent paste and an excellent firing. Trade influences in design seem to have been felt from all directions in decorated wares, while forms in plain wares show a higher proportion of Gila shapes. Much of the plain ware is of very coarse paste, and poorly fired. A few molded pieces have been found. The type we designate tentatively as Verde Polychrome we believe to be merely an elaboration of Jeddito Brown on Yellow by an addition of a thin white outline to the Brown or Black decorations.

"We have found no complete pieces of pottery, save for the two ollas left in Room 5. When the ruin fell it shattered practically everything that would break, and when it was abandoned very little complete pottery was left in it.

"A number of excellent manos and metates have been found; stone hoes; bone awls and daggers of bone; and a good collection of stone axes.

"Of ten axes found, eight were 3/4 groove, and two full round. One was double bitted. Two stone picks, one 3/4 groove and one full round were found.

"Three baby burials, all under one floor, were found in very poor condition, with no artifacts whatever, but with rotted traces of twilled matting in which they were wrapped. In one cave were found the badly scattered remains of three adult burials, but pot hunters of long ago had stolen the skulls and any artifacts that might have been there.

"All in all, although we haven't found so much spectacular museum material, we are tickled over this wonderful ruin we are uncovering, and are getting out some archaeological data that will furnish food for a lot of thought, and should digest into a lot of knowledge about the people of Montezuma Castle and vicinity; and if you will let us uncover that pit-house in front of Montezuma Castle, who knows, we may set the dawn of this local culture back about five hundred years!

"Here's to the next report and to see what the other fellows have written about their finds.

Earl Jackson."

AZTEC RUINS NATIONAL MONUMENT. John Will Faris, Custodian.

"Dear Boss:

"Were it not for the calendar indicating this as the 26th of January, one could hardly believe it other than a balmy May day with summer just around the corner. Old timers have lived here practically all their lives and report that, to date at least, this year has been the best for working conditions of any year known. Not one day has been really impossible to work. Early in December a flurry of snow made work for that day disagreeable, but with that exception every day this winter has been such that one can very comfortably work in his shirt sleeves. The high temperature for January has been 58 on the 24th and the lowest temperature 7 on the 18th.

"Visitors for the month total 151 which, while not unusual, is a good showing compared to our 52 for January of last year.

"January, up to the 19th, was one of the busiest months the Aztec Ruins has experienced under my supervision. We have had construction in progress in several instances but I have yet to see any group any more enthusiastic and willing to dilligently perform the work assigned them than my group under the Civil Works Program. For an example, let me cite one of my workmen who, in the course of allotting work, was put to work in an adobe bank which constituted practically the equal of trying to dig into a solid rubber ball with a pin. The man worked all day at this work and that night had a hemorrhage as a result of

his very exceptional effort at the work assigned. From all appearances he was strong in every respect but unfortunately we were not aware he was an arrested tubercular case. The hemorrhage was not serious and the next morning this same man very willingly started to again undertake the work of the previous day. Fortunately for us, a friend mentioned to my foreman the experience occassioned after working one day at this difficult task and Mr. Thompson very tactfully assigned the man to work of a much lighter nature. During the noon hour the gentleman confided in Tommy his condition and mentioned particularly that he knew very well another day at the same work would have caused a recurrence of the night before but because we had shown him such consideration that he would not let us down and would not even at the cost of his own health, infer that he desired special privileges.

"On January 23rd at noon, at which time of course all the men were released because of the fifteen hour week schedule, four individuals of my 68 men made statements much to this effect: 'Mr. Faris, we appreciate very much the work you have given us and appreciate the effort you are making with our interest paramount. It is certainly unfortunate that the work was shut down when you have so much outlying and we will willingly work free of charge to help get these projects completed and to demonstrate our appreciation for the consideration the Park Service has given us.' Such remarks as this, Boss, make us feel exceptionally proud and impress us more than you can know of the responsibility we are carrying regarding the welfare of our little community.

"We have employed, practically since the beginning of the Civil Works Program, 68 employees and of that number not one has been released totally because of inefficiency. We have, naturally spoken to several and warned them that this program was to get work done in addition to helping the individual and we expected a full days work of every man, but these occasions have been rare.

"Our projects of course are handicapped with the 15 hour per week basis but we are concentrating our entire force on the administration area in order that we can present a fairly decent area should we not be allowed to continue. You will find many features that are in need of just a few days work and if allowed to resume our 30 hour week, we can make a finished project.

"Project No. 1, moving the barn, is completed and at the request of the Landscape Division the rebuilt structure was oiled with old motor oil to destroy the conspicuous picture it presented from our Monument area. This oiling has accomplished the desired result and it is surprizing how a structure of this size is so little noticeable after this procedure.

"Project No.2, The fence, is awaiting final placement and will be completed by February 15 in every detail. We find that in putting in a new fence grading was necessary in several instances and our boundary

has been graded to enable us to put in fence suitable and applicable to a Monument of national standing.

"Project No.3, the parking area, is our big problem at the present time. It is not showing up very fast with only 2½ days per week in which to work, but to give some idea I might say that Monday, the 22nd, in pouring walls, we used 102 sacks of cement in our mixer and the next morning our men determined to give the best that was in them, literally challenged each other to a more or less competitive operation and in only three hours, 9 a.m. to noon, we had poured 84 sacks of cement. Mr. Saunders, our Superintendent of construction, in estimating costs, has given us this satisfaction: contracting in Los Angeles he figures cement to cost approximately 30¢ to 40¢ per cubic foot and in our work we are putting our cement in the wall at a cost not to exceed 40¢. When you stop to consider that contractors work trained men with equipment advantageous to such work, while we have a crew not by any means expert in cement work; we have to haul our sand and water, cover our walls after pouring, etc., it is surprising that we are getting the efficiency that results show.

"We have practically enough boulders and sand on the ground to finish our wall and, believe me, we will have many piles of rock and sand if we don't get a continuation of Civil Works or some fund to allow our completing the wall in detail. For the continuance of our present program we will concentrate on this feature and endeavor to get all possible accomplished.

"I would like very much, under Project 3, if we cannot continue work, to at least be allowed to purchase approximately 400 yards of crushed rock to be laid as a base for our surfacing. We have funds available in our 'Other than Labor' appropriation to cover this and we can get the rock delivered here for $3.00 per yard, which is, in this section, very reasonable. I strongly urge your support toward doing something about this rock now and I would much appreciate authority while so doing to crush enough rock for our ruin repair, which will necessitate quite a source of this material.

"Under Project No.4, General Clean-up, I hardly know how to take this particular project. To tell you that we have made an exceptional progress in our clean up work, look out of the window and see piles of rock, sand, building stones, etc., I sometimes wonder that we have accomplished in the way of clean up, yet in a revision of our topographical map the topography will show up clearly the fact that wonderful strides have been made in cleaning up, leveling off, etc., of our Monument proper.

"You appreciate as we do, of course, that clean up work is more or less dependent on completion of projects and we will not be able to show a finished project under general clean up until such time as the projects themselves are completed and their necessary mess disposed of. Under this project we are leveling the field due south of the ruins

ordinarily spoken of as the five acres. For this work we are clearing debris away from our retaining wall several feet in front of the ruins proper, and it is surprising the way this exposed wall is setting off our ruin proper. We are all very much pleased with the leveling in general and I feel certain this exposure mentioned will add materially to the attraction as it exists.

"Project NO 5, Archaeological Reconnissance, is undoubtedly worthy of special mention. Miss Adams is most efficient and her products are certainly a relief and probably more comments have been made about the ability and beauty of this work than any other feature of our Monument. Of necessity her work is tedious and slow and probably will not be completed even by February 15, but anyone acquainted with the mass of broken pottery and the number of pieces only partially complete, can readily appreciate that it is humanly impossible to have finished the work in the time specified. In this connection I would strongly urge your consideration to some means of her being employed until such time as this work is completed, since I have no idea when we might get such work again and if so I very much doubt the possibility of getting anyone as apt in this particular work.

"The indexing of museum specimens is progressing rapidly and surprisingly few complications are arising. We have several pieces that worry us considerable as to classification, etc., and have arranged for these problems to be condensed and we will present them to Bob Rose for his solution on his first visit.

"Oscar Tatman, under clean-up work, has encountered several most interesting points. We will give you a summary of these features as follows:

"Room 151. The length of this room is 92 feet 8 inches, east to west, and the width is 9' 9" at each end. The south wall, which is the main outer wall of the ruin, is constructed of quarried sandstone to the entire length of the room and the average height is 6 feet above the floor level. The average thickness is 26 inches.

"An adobe wall extends across the east end of the room and also along the northern side to a point 16' 7" westward from the east wall where it joins the masonry wall that continues to the west end. West wall is also of quarried sandstone.

"The adobe wall on the north stands 5' 10" high where it joins the masonry wall and is 30 inches thick. Reinforcements of poles averaging about two inches in diameter, lying horizontal and lengthwise in the wall, are alternated with brush or sticks up to an inch in diameter lying crosswise. In some cases these small sticks are laid diagonally through the wall. About three inches of adobe separates the layers of poles. The adobe wall on the east is identically the same in construction as the one on the north.

"Beginning at the west wall, a portion of the room had been previously excavated to a point 36 feet east. The foundation for a wall that had apparently existed at some period previous to the last occupation, is located 14' 8" west from the east wall. The top of this foundation is 3 inches below floor level, 26" in width, and extends to a depth of 16". It lies east and west and joins both north and south walls at right angles.

"Through the masonry wall on the north side, and 8" west from its junction with the adobe wall, begins the opening of a doorway into Room 190. Width of opening is 4' 2", height, 3' 8". The bottom of the opening is 18" above the floor level. This doorway extends diagonally through the wall from southeast to northwest at an angle of 35 degrees. No apparent openings through the adobe walls on the north and east sides.

"The entire portion of the room excavated at this time was filled with refuse to an average height of three feet above the floor. The remainder of the room was filled with fallen wall material.

Burials.

"Burial #1. About 15' west of the diagonal doorway, beside the north wall, and 18" above the floor was found the skeleton of an adult lying on the right side with head toward the east. The body was flexed and the skeleton was badly decomposed. To the left, or south side of the skull were two large decorated bowls.

"The skull only of another adult skeleton was found on the floor two feet east of the first burial.

"Burial #2. In the northeast corner of the room was found the skeleton of a child lying face up and body at full length, with head toward the east.

"On the right of the skull was a large Mesa Verde mug and a small corrugated jar. Both were covered with large sherds. Encircling the left arm was a bracelet of shells. The bottom of this grave was 10" below the floor level.

"Burial #3. Midway along the eastern wall and lying on the floor with the head to the south, was the skeleton of an infant. No pottery or other specimens were found with this burial.

Room No. 190.

"Length of room north to south along the west wall is 10' 2"; along the east wall, 10'. Width east to west along the north wall, 6' 10"; at south wall, 9' 6".

"The east wall is constructed of adobe and reinforced with poles and brush in the same manner as the adobe wall described in room 151. this wall is 30" wide and 5' 3" high. The north, south and west walls are of sandstone masonry and all four walls were plastered with adobe.

"The diagonal doorway connecting rooms 151 and 190 has been blocked with stone and adobe on the side ending in room 190. The western edge of this doorway is 28" east from the west wall of the room and the bottom of the opening is 6" above the floor level. Width of the door in this room is ~~##//4//~~ 4' 4".

"Two floor levels were found; the upper level being 14" above the lower one. In the upper level, 45" from the west wall and 21" from the south wall, a fire place is located. The shape is comparatively round. Diameter; north to south, 25"; east to west, 29", both outside measurements. Depth, 14". Its walls are sandstone slabs standing on edge and covered inside with adobe.

"On the floor level were found parts of two large decorated bowls.

Room 191.

"The dimensions of this room are, 14' 3" east to west, 9' 9" north to south. The adobe wall on the west side is the same wall mentioned in the notes for room 190. It stands 5' 5" from the floor level in room 191. The north wall is of sandstone masonry and is 32" high at the west end and 15" high at the east end, the east wall is of adobe and is reinforced with poles and brush. Height at south end, 25"; at north end 10". The south wall is the same adobe wall described in notes for room 151. Apparently no doorways leading out of this room. Refuse covered the floor to an average depth of 1 foot. In this refuse was found a finely worked hammer, made of beautiful green stone. The remainder of the room was filled with wall material.

Burial #4.

"In the extreme southeast corner, and lying on the floor with head to the east, was the skeleton of an infant. A small globular smooth cooking pot was found at the left side.

Room 192.

The length of the room east to west along the north side was 29' 1"; on the south side, 29' 4". Width, north to south at the west end; 10' 10"; east end, 11' 8". Height of south wall at east end is 3' 11" above floor level and at east end of room, 2' 11". The east wall is 14" high at the north end and 22" high at the south end. The wall on the north side is 25" high at the east end of the room and 33" high at the west end.

"The west wall averages about 5' 10" high. Across the face of this masonry wall and starting at 6" above floor level is a band of green stone 10" in height and consisting of four courses of small stones. Starting at 35" above floor level is another band of similar stones, varying in height from 10" to 12". At a height of 4' 10' there is a band of thin sandstones about 4" in height. These stones average about one inch in thickness.

"A doorway 2' 10" wide, through the west wall, has been crudely blocked with stone and mud and later the crumbling fill has been bolstered with two abutments of quarried stone, built up from the top floor level. The top floor level was 25" above the lower one and approximately on a level with the present court level.

"At the east end of the room, 28" from the east wall and 32" from the south wall, is a circular pit that has been dug from the top floor level to a depth of 31 inches. The inside diameter of the pit at the top is 28" north to south and 26" from east to west. Diameter at the bottom is approximately 36". The bottom of the pit is lined with boulders and the sides are plastered. The adobe plaster and walls are red in color and indicate the presence of intense heat at some period though the walls are not blackened with smoke. A thin layer of ashes and charcoal occupied the bottom of the pit. A possible use for this pit was in burning pottery.

"In the bottom floor level, 6' 6" from the east wall and 12" from the south wall is a fire place approximately 36" in diameter, with a depth of 8". This is merely a pit cut into the floor with sides sloping gradually to the center.

"In the refuse below the top floor was found a very small decorated pitcher with handle broken off. A portion of a thin and finely worked sandstone was also found on the lower floor.

Room 193.

"This room lies on the outside of the main south wall of the ruin and extends eastward from the narrow passage at the southwest corner of the ruin. The length of the room is 85' 11" and width at east end is 14'; at west end is 11' 3". The outside wall to the south has apparently been a crude structure of boulders and mud. Only the lower course of stones remain. The eastern wall, where it joins the main wall on the north, is of adobe, reinforced with poles from the floor level to a height of 35". From this point and extending to an additional height of thirty inches the wall is of sandstone masonry. The main wall on the north has been plastered to the entire length of the room. No definite floor level could be found.

"Two animal effigies were found in the debris, both carved from sandstone.

"These finds are most encouraging, particularly since we have not made any attempt to excavate, but merely clean up unsightly mounds and mounds which interfere with our general program. In this connection, we are giving up offsetting our west boundary fence as planned, since by so doing we would expose and partially destroy a very interesting little unit directly in front of the old museum entrance.

"Our office work is presenting probably our most baffling feature We have instructions after instructions telling us what to do, what not

to do, usually followed a few days later by instructions contrary to those noted and in many cases adhered to in preparing the necessary papers. Many forms required for the proper execution of the papers of the Civil Works procedure have not been received until days after the execution of the material demanding this particular form. We appreciate the patience shown by the Coolidge office in our ignorance, carelessness, seeming bull-headedness, etc. and will make every endeavor to comply in every detail to the desires of headquarters.

"We have enjoyed immensely the activities represented by the above report; have been encouraged by the spirit and feeling of our employees; discouraged many times by our own handicaps and short comings; but, taking it as a whole, we proudly point to January, 1934, as probably the banner month of our existence.

"The Custodian has been more or less confined to office routine and has made only one trip away from the Monument of any major importance, this being on the 8th and to Santa Fe in connection with contacting the State Civil Works Engineer and the State Highway Department regarding features paramount to Monument interests.

"We cannot, with the rush of our work, give a monthly report without repeating our appreciation for the help of our Field Headquarters in San Francisco. The offices of all the branches have shown a remarkable spirit of co-operation and we extend our sincere thanks for this spirit. Without it, work here would be handicapped to an extent hard to imagine and our efficiency impaired to a point of rendering practically little service compared to the aim and goal of the Aztec Ruins National Monument.

"With every good wish to your entire force, and especially to your clerical folks, we are,

Cordially, Johnwill Faris.

"P.S. Gosh, Boss, I had no idea that I was wound up to this extent when I started this report but my crew and the foreman have given me so much to write about, that, believe it or not, this is actually condensed, with the exception of the burial explanation. I have another three pages that I would like to include on our museum possibilities and we are, at this very minute, over in one corner with Chuck, a couple of draftsmen and me popping in and out, trying to formulate plans that are at least partially in keeping with our museum. Wait until you see these plans!"

Chief, Johnwill doesn't fool us a bit with this fine, long, good report. We know that when Civil Works programs are a thing of the past and stenographers have gone the way of all lovely things, and he can't dictate but has to go back to the old hunt and peck system, his monthly report will shrink down again to one side of a sheet of paper.

But, let us be thankful for all we get, he covers the ground and leaves a pretty definite impression that things have been happening around his Monument in January, doesn't he?

CHACO CANYON NATIONAL MONUMENT. Hurst R. Julian, Custodian.

As we leave Aztec Ruins National Monument we might as well drop in with Mr. Julian and get his report on the doings at Chaco:

" Dear Boss:

"This will be one of the hardest monthly reports that I have yet been called upon to write. So many things have happened that if I set out to enumerate them, I am quite positive that no one would even begin to read a document of such formidable length.

"However, the monthly report usually begins with an enumeration of the visitors and their importance and place of residence. That too will be more a matter of guess work than of actual count this month. There have been parties of visitors upon the Monument every day this month; few of them have even had the opportunity to register. The book was, however, left where they could sign it if they happened to have the inclination and by chance roamed into the room where the book was kept. Upon it we find registrations from but six states. Possibly a conservative estimate of the number of visitors would be something like three hundred.

"The reason why it has been necessary that the visitors be estimated instead of counted is that there has been so much work to attend to in connection with the C.W.A. program that the visitors have received little attention. The University Archaeological Reconnaissance party has done their share of guide work, for which I am truly grateful. The reason why the estimated number of visitors for January is greater than the number counted during December is that the C.W.A. program has given considerable publicity to the Monument, and because the weather has been, with exception of the rather chilly nights, spring weather throughout the month.

"Elaborating upon the above paragraph, it is my suspicion that people in search of employment, agents, hoping to sell something either to the Government or to the workmen, and curiosity seekers have swelled the visitors count beyond that number which would have come to the Monument because of their interest in archaeology. Also there is the matter of the roads. There has been a State Highway crew at work on the road from Haynes to Crownpoint, and, until it snows again, we will have an excellent (for us) road.

" 'The God of All the Weather' seems to be in sympathy with our President and his plans for industrial rehabilitation. This winter has been a regular California winter (that is, 'unusual'). For the first time within the memory of the oldest inhabitant, snows, blizzards and storms have not prevented out-of-doors work from being done. The ground is frozen, but it can be worked, our water has not but we are able to build fires at night that will keep it warm enough that we can work the morning of the next day.

"We are at last started earnestly and with effect upon the cataloging of the Museum, again thanks to the archaeological party. We have done some work on the plans for diverting drainage from Chetro Ketl. Our boundary survey was, until we were prevented from spending our 'Other than labor' funds for transportation for the party, going nicely, and the dirt and rock walls are steadily piling up beneath the triple walled kiva at Pueblo del Arroyo.

"Dozens of little jobs that have needed to be done for the past year or two have been completed. The site of the subterranean chamber which was discovered by the Judd expedition has been drained, some of the walls of Pueblo Bonito that were falling the most rapidly have been secured, and we have made plans and surveys, drawings and illustrations for an elaborate improvement and conservation program for the Chaco which will keep us busy for several years to come even if ample funds are provided for the purpose.

"We have rented several rooms from Mr. Griffin, the rooms to be used as offices and drafting rooms, but are now at work roofing, with temporary roofs, some of the large rooms in the southeast corner of Pueblo Bonito which will be used for administrative purposes.

"The University tool room was placed at our disposal until we could get our own prepared. It, too, is inside the ruins, and the assistance, such as loaning us tools and equipment has made it possible to go ahead with the work at a pace that is, according to my opinion, remarkable, considering the handicaps of isolation of the Chaco.

"We have two boarding houses in operation and aside from a place to sleep in case of a severe storm, the workmen are fairly well taken care of. We have opened up a coal mine and it is in active production; that solved a very difficult fuel problem, as we are many miles from firewood. Every building in the Canyon is known as 'Hotel three-in-a-bed'; and, truly, every bed has three or more occupants, but we seem to like it.

"We did, like apparently every other monument, get our paper work balled up at the beginning of the job. This was partly due to the fact that there were no available persons with the necessary experience with the work and largely due to the fact that most of the instructions came to the job after it was too late to do anything about them. This condition was aggravated by the slowness of the mail system whereby letters are delivered across the deserts by any means available under the set of circumstances existing at the moment.

"We have two blacksmith shops in operation; one sharpens steel for the rock quarry; the other repairs the dirt moving equipment. In order that the blacksmiths and automobile mechanics would have a roof over them in the event of blizzards, we erected a temporary rock and mud building behind the Custodian's residence in exactly the correct position for a garage for the residence.

"Work is being done on the survey of the area in the gap upon which we have planned the administrative area. Maps will be made and the buildings landscaped, all according to the Richey plan. This is another advantage of having landscape architects and draftsmen on the crew.

"Some work has been done on the 'stairsteps' where the road leaves the Canyon to the north. This was necessary in order that we have the means of getting materials into the Canyon for our project.

"If I have overlooked anything of importance, it has not been intentional, and to write more would be to assure myself that no one would read any of it at all, except perhaps a few of us who are the most interested. Our advisor and confidant, J. B. Hamilton, has given us considerable of his time and attention during this period, and it is wondered how he manages to get around to all of us, but he does --drive.

Sincerely,

Hurst."

EL MORRO NATIONAL MONUMENT. E. R. Vogt, Custodian:

While we are in that neighborhood, we might also drop in with Evon and see how he is getting along:

"Dear Pink:

"Thirty days have passed since I sent you a monthly report of the doings around El Morro. Since then there have been plenty of doings and one is puzzled to know how to begin.

"The weather has so much to do with what happens between daylight and darkness at this altitude of 7,500 feet above sea level that there is no getting away from the notable and never-to-be-forgotten fact that sunshine has blessed us most all the time. It is either pure luck, or, as one of the Spanish American boys expressed it when speaking of the fine weather: 'Tal cierto El Presidente tiene mucho 'hallon' con Dios o como es que nos viene tan bonito tiempo'; which, when translated means, It is certain that the President has great pull, (influence) with God, or how is it that such beautiful weather comes to us?

"While it is true that the ground freezes on the cold, snappy, clear nights, yet through daily plowing we have been able to readily loosen the dirt so that the fresno and slip scrapers could pick it up and deposit it in the great arroyo which had been washing an ugly scar from the water cove down across the landscape in the fore ground of the south side of the cliff.

"Fearing a shiny spoil, we put a good sized force at work on crossing this arroyo. For eight days we worked twelve hours and about 20 men on the job of filling in the ditch which was 15 feet deep and 60 feet wide in places. By blasting down the sides with dynamite, the men soon made two crossings passable to teams which then pulled in great quantities

of the dirt into the arroyo. It is planned to use the dirt from both sides and thus create a gentle valley there, through careful planting of grama grass protected by a nurse crop of some kind, we may be able to restore the sod.

"The word we received on the 19th relative to shutting down the work threw a shock into our crew, but they took it in good spirit determined to work out the 15 hours in a few days and then go home for a rest.

"We did not learn until the 28nd that all teams had to be taken off the job also. Up to that time, according to the estimate of our engineer, Mr. D. B. Clark, there had been 3,000 yards of dirt moved with some 9,000 still left to be moved into the arroyo.

"We planned the work for the next day at once and by 8 a.m. we had our entire crew of 58 men on work which involved no teams and no trucks. Luckily Mr. J. B. Hamilton arrived the night before and brought the news that the men would be able to work 30 hours per week again, so we got in a full day. Mr. Hamilton assisted us in sketching and marking out a trail on the east side where it was necessary to use the reverse spiral staircase method of trail building.

"Other men were put on lesser erosion dams and others on check dams along the trail leading to the south face inscriptions. Altogether, so far, we have built 25 major check dams into which have entered 150 tons of rocks, 75 wagon loads of cedar and pinon brush, 1200 cedar posts, countless yards of barbed wire salvaged from our old fence but serviceable for binding and reinforcing.

During the month a force of men trained in Zuni Mountain logging camps was put to work with their cross-cut saws, teams, axes, etc., in the Box Canyon on a combination clean-up and erosion control campaign. They moved their camp around in the Canyon and did a fine job of moving a great deal of fire menacing dead timber. The large pines, some of them 100 feet high, were cut down and sawed up, snaked into arroyos where dams were built with them to catch the silt of rain storms. Branches were used to fill in smaller washes. All this was done with a minimum damage to the natural terrain.

"After a great deal of correspondence and wiring, we were able to locate an archaeologist. Mr. Ted Amsden, who came from Los Angeles, but who was raised at Farmington, New Mexico. Dr. F. W. Hodge, of the Southwest Museum, Jesse Nusbaum, of the Laboratory of Anthropology, Earl Morris, Clyde Kluckhohn, and several others, took a hand in the problem of locating our men.

"We consider ourselves lucky in getting Mr. Amsden, who is experienced, careful and scientific in his work. Assisted by several good men he has been busy daily locating the corners of the rooms of the largest ruin on top of the mesa which he says is about 300 feet square and must have about 600 rooms with a possible population of 1,000 souls.

"He is preparing a map of this ruin which we now consider one of the most important in the Southwest. The one kiva located thus far measures 30 feet across.

"Mr. Amsden reports that there is a great variety of potsherds showing pottery from the Little Colorado, Chaco Canyon, Zuni, and many Rio Grande glazes.

"The pueblo stood three and possibly four stories high and was occupied around 1,400, A.D. One plastered room was found near the surface of the ground. Two roof beams were found and samples were cut off to send to Dr. Douglass for use in his study of tree rings.

"Mr. Amsden is using the H. S. Gladwin method of reconnaissance and will carry his explorations over the eight or ten ruins on the Monument as well as those in the region round about. If time permits he will also conduct a careful examination of the entire cliff surface for undiscovered petroglyphs and Spanish inscriptions.

"Our saddle trail up the north face of the rock to the north ruins has been slow going and we had to make some changes owing to our inexperience in trail building. Mr. Richey and Mr. Hamilton have given us gentle but firm suggestions which we have followed out so that when the trail is finished we think it will look well, serve many years, and not spoil the natural beauty of the slope. The work here has to be carried on in shade all day as the sun shines but a few minutes on that side of the rock. Blasting has helped us speed up the work and we now estimate that no less than ten tons of rock had to be moved either by pick and bar or by blasting and fully as much rock of natural weathered hues has been brought down over the trail from on top to build the side walls of the switchbacks; the rock freshly taken out being glaringly white and quite out of place in retaining courses.

"While the teams are resting perhaps we can finish the trail over the top and down the east side. That will be our aim.

"The fence buying contract had been awarded but the order had not been let so we are faced with the possibility of not being able to enclose our Monument grounds. This throws us open to sheep, cattle, and horse trespass, since our old fence has been taken down. In case we are not able to buy the fence and complete the job our Custodian and ranger will hereafter be mounted and known as senior and junior herders.

"Mr. H. R. Little, an experienced surveyor of Los Angeles, arrived on January 15th to help Mr. Clark on surveying and mapping problems. He has now almost completed the surveying of the section and will accurately locate the boundaries of the Monument. Considerable difficulty has been presented by the fact that the original land survey which was made by Harmon and Pratt in 1881 is now very dim when it comes to corners. Witness trees given as 2, 3 or 5 inches thick were found

to be now 8, 10 and 12 inches through while a sheep corral near one corner has now entirely disappeared.

"Mr. Little will make a topographical map marking the monolith of El Morro, the inscriptions, trails, the water cove, washes, erosion dams, trees and canyons. This is especially desired by Mr. Richey and Mr. Hamilton to aid them in planning future work at the Monument.

"Discoveries have been interesting and fairly numerous. A water storage hole with prehistoric dam and pecked trail in the rock leading up from it, new pictographs, a cave with a single hand print pecked on the ceiling and an old carved trail leading from a dammed water supply, and two polishing places where stone axes were ground in the dim centuries past. Other ruins, caves, trails, etc., no doubt will be discovered by Mr. Amsden's crew on days when the cold weather makes work on top of the cliffs unbearable.

"The most helpful discovery was made through Rafael Dinch, aged Navajo Indian, who has lived almost all his life near El Morro. As a child he was taken by Kit Carson to Bosque Redondo where the Navajoes were held by force of arms. He remembers the trip on a burro and as this occurred about 1864, he must be about eighty years old.

"I asked him one day how the Indians who lived on the El Morro Mesa got their water. He said partly through rain water in rock pools and partly from the spring. I asked him, what spring? Then he told me that many years ago during a year of extreme drought, when cattle, sheep and horses died from lack of water and when even the running streams coming out of the Zuni Mountains dried back until there was no water, that in his desperation he started to dig for water in the Box Canyon below the ruins at a place where certain grasses led him to think there was water. By digging down about the height of a man he found a fine supply of water which watered his 15 saddle horses and 80 head of sheep all that dry season.

"He offered to show me the spot, so in the afternoon of January 10, he drove his little flock of sheep which he was herding down into the Canyon and there I met him. Together, accompanied by Mr. Clark, we walked up the Canyon almost to its end. Here he pointed out the spring about ten feet from the cliff where there is a shallow cupping of the ground which was well covered with brush and weeds. Rafael told me to dig here and water would be forthcoming. He told of broken pottery he had found there when digging there many years ago. This was an indication that this spring was one of the sources of water for the Indians who lived above on the cliffs many centuries ago. Old notched well curbing of cedar wood and a hewn pine tree trough, burned in some grass fire, lying close by, were no doubt the work of Rafael that summer when it was so dry.

"I took some pictures of Rafael, myself and Engineer Clark at the time when the spring was shown to us.

"Mr. Amsden is taking charge of the excavation of this water development and we plan to have a real Indian well ready to serve the public in a few days. I am taking out some rubber boots for the men who are digging the place out as they are now working in very damp earth only four feet from the surface.

"Our crew is all in good health and mood despite the cutting off of terms and trucks. All hope to be able to help finish up the big fill job in the water cove arroyo so that a finished project will be left there on February 15th.

"We feel that our savings in materials are worth mentioning since we have bought scarcely any tools and only the dynamite we needed for blasting, and tool steel for our capable blacksmith. The men have all bought their own fresnos and scrapers and are furnishing them.

"The morning sun is coming up now,- red, which, if the old saying: 'Red in the morning, Shepard's warning' is true, means a storm.

"With regards to all,

E. Z. Vogt,
Custodio del Morro Monumento Nacional."

We at headquarters considered ourselves especially lucky this past month when Mr. Vogt and his charming Honorary Custodian Without Pay coming down to Tucson on a business trip dropped in with us for a few hours visit. It was a great pleasure to see them again and get first hand word of their work and how they were getting along. Now that they have found the trail, we hope they will come often and stay long.

We now move on down to where Tom Charles is operating the biggest Gyp. outfit in the WORLD. I hope Tom will please note that we have kept him off page 13 again in our report. Here he is:

WHITE SANDS NATIONAL MONUMENT. Tom Charles, Custodian.

"Dear Boss:

"This is a busy week. When Harry Hopkins' order to buy no more material came Friday, the White Sands project had just four barrels of gasoline on hand. You can guess just how long that would run a twelve truck plating gang on a ten mile haul. There were rumors that some one had been running too heavy on the 'Other than labor' money. Fortunately we were able to show 25% of our project complete, 25% of the labor allowance expended, and less than 20% of the 'Other than labor' used, thanks to Pete Rose and Murray Hanson, each exceptionally good at his job. We are still in the air as to what is going to happen, but we are fixed to run until January 26th.

"Walt and Chuck were here at the same time last week. We had one of those Wild West sessions up at the house at which the bull was mercilessly thrown from immediately after supper until past eleven.

" I think that each possible angle of the White Sands development was discussed. Rose, the engineer, Hanson, Watchdog of the treasury, Cone, the landscaper, myself, Ruth and the Mrs. were all there.

"I did not have much luck in trying to convince Chuck that the Museum and the Custodian's quarters should be out on the Highway instead of three miles back in a cozy nook in the sands. Chuck is an ardent advocate of the split skirt idea,-- just a glimpse at a time for him. He thinks that all we should show out on the highway is a checking station and an ordinary ranger. The first peep at the real show, according to Chuck, should be at the entrance into the sands where he would present a nice parking area with rest rooms and shelter, a Museum with Indian artifacts, White Sands products, paint burros, white mice, long hoofed antelope, and a Custodian. Next in Chuck's climax would be the Sands themselves, out where the snow white hills climb higher and higher as far as the eye can see. Even these hills he would use as suggestive of what was beyond. The end of the road would circle a large sand dune and on the leeward side of a big white bluff he would establish a second parking place with rest rooms and picnic grounds. But if John Public thinks that the Sands are his when he arrives at this place, he is doomed to disappointment. Chuck still holds him back. He circles him about with a deep ditch and a ridge of sand quite impassable to cars and Mr. man must climb these hills on foot. The idea is to keep these hills as clean and white as they were when we, the pioneers, first saw them. That will be some task for the men in charge, but I believe at that it is worth trying. At least I am willing to consent if and when a ranger is located out on the highway in comfortable quarters. The public is entitled to that much courtesy. There is no reason why a tourist rushing from the tremors and floods and fogs of California should have to drive down off the highway 5 miles to ask for authentic information about the great White Sands.

"You will be interested in knowing that we now have our 104 man C.W.A. project going full force. The first three miles of road has been completed except for plating. Nearly 4,000 feet of plating is done and it makes a real highway. As long as the weather is dry the plating should work nicely but it will be very slick when wet. The only other objection to this plating is that the clay beds are eight miles from the nearest point in the road.

"Our 60 H.P. Caterpillar and blade are far out into the sands. They handle the valleys very nicely but when one of the high sand hills is encountered it calls for the Texas mule and the fresno. The soft places in the sand will have to be plated, but we hope the low places will pack down and harden and be good in wet or dry weather.

"The Sands are beginning to have their first visitors. The trails along the new highway are as bad as they can be and still be passable. The ruts are deep and full of flour-like dust, but even dry there are

visitors who brave these hardships and drive out to the sands. When they get past the first barriers of yucca covered hills and wind blown pits, the going is good. For a quarter of a century it has been thought impossible to traverse those sand hills in an automobile, but today there are car tracks on most of the high points.

"It is time for that count again. The last of December I was all set for a count. I had been meeting cars on the White Sands Highway at the rate of 30 an hour. I wanted and prayed for an official count, but since the first of the year I make that 20 minute drive daily and meet 3 or 4 cars. This is no time for a count, Boss. Will you kindly forget it until the 11 inch rain in California has cleared away and the 10 below zero weather in the east has modified and cars can get on the road again from one end to the other,

Tom Charles, Custodian."

"P.S. Dear Boss: your request for a report on the archaeological findings in the Sands has been turned over to Mr. Lawrence Cone, of the Landscape Department. His report is herewith inclosed."

Mr. Cone's report, under the heading: "This We Know." follows:

"Now that the rush for news has come to somewhat of an end, due to the completion of the exploration work, it seems to be the proper time to stop a moment and report with a great deal of personal pride, for both Tom Charles, whose stories have been proven to be true, and to the landscaper on the job, to say, well, this is what we have found.

"This job of exploration took on an added spark of interest with the finding of the first arrow point, to say nothing of the day that I could tote into the office of our Custodian, the most looked-for discovery, that of the skiied foot of an antelope. We are sure that this long, curved hoof was from one of the antelope for the reason that everyone here says that it was the hoof of some other animal, none of them agreeing from what animal it came! It matters little now whether we have the sanction of the town on the truth of this statement, for the mere fact that one of our party found a thing on the first day has served to spur the rest on to better things and at this time we have in our possession some fifty complete arrow points and many fragments of points centering about the top achievement of the portion of a folsom point. This last was the peak for the landscaper for up to that time he had not been able to find anything of enough importance to bring the Custodian to his feet with the all important remark: 'There, now, you have found something.' This was a big day in my life. Don't misunderstand, for I really think our Custodian is one very swell person, but the fact that I had found something out in those great sand dunes, seemed to the landscaper worthy of some recognition.

"The party, during the course of the work, has covered the entire Monument and in ground which most people told us was barren,

we really have done very well for having merely picked up objects that were lying on top of the ground. All through this Monument there are mounds covered with fragments of pottery: Little Colorado, one piece of which was made by Little Colorado and later repainted by Rio Grande: Chupedero which had been painted but, through the action of the White Sands this paint had been almost removed, and last but not least, great pieces of El Paso or Alamogordo ware. There have been found several pieces which have not been named, but are of the coiled, or so-called, thumb nail pottery. Beyond the new road, which is rapidly winding its way along the edge of the Sands we picked up a small pile of human bones, which, up to the present time, have not been claimed and rest quietly on my bureau -- much to the discomfort of my landlady.

"There exists today a definite trail through the sands which has been identified by the older inhabitants as the Indian Trail and it surely is correctly named, for it is along this path that the most important items have been found. Also, along this same trail are water-holes about which have been found the tracks of the wild burro some of which are said to exist according to recent observers, many tracks of the wild horse, and scattered tracks of the antelope. Dr. Dice, of the University of Michigan, found white mice and it was supposed that as the mice were like our common grey field rodents except in color, that the other animals out in the Sands might be governed by the same laws of environment - a theory which is still to be settled. One report that might be interesting to those discussing this question comes from one of the tourists who, a very short time ago, saw an antelope that was of a much lighter shade than its brothers, and the man remarked that this animal was almost white.

"All of the mounds that have been discovered so far have been topped with ashes which in turn covered several other layers, each separated by about three to four feet of soil. The theory that has been developed about these regions has been that wherever the Indians camped they had their camp fires which baked the soil, which is mostly White Sand, thus solidifying it, and, as the wind blew the soil from about these mounds, the solid soil was able to withstand the breeze and, with each succeeding group of Indians seeking out the highest point for their camps these constant firings and bakings have left, for us to explore, these queer formations in the Sands. This, of course is a question for the archaeologists to prove or disprove. The fact remains that there are many mounds about the Sands, all of which are covered with ash and abound with broken pottery, arrowheads and chipped flakes.

"Our work for the present seems to be done on the exploration line. It now remains for the archaeologist to take our information and, with the authority invested in their power and our locations charted on the maps, to enter the Great White Sands, shovel and notebook in hand and investigate all of the evidence that we have in the first month of the work here located for their convenience.

"The work has been vastly interesting to all of the party working on the job, and, with this growing interest, has come to the fore a desire on the part of the citizens of the town to be out there, seeing for themselves just what we have located in places which they have considered merely a play ground. We are able to stand before them with the evidence in hand and remark: 'This we know.' "

Laurence Cone."

Next we have a report from Homer Farr, over at Capulin, and I am wondering if Tom Charles will note that aspersions are cast in the last paragraph at some one who has been reporting Folsom points..

CAPULIN MOUNTAIN NATIONAL MONUMENT. Homer J. Farr, Custodian.

"I have the following report to make for January, 1934. With wonderful weather all this month, our Civil Works project has just been going along fine with no time lost. Our road work has been progressing o.k. but, unless we are able to continue after the 15th of February I feel that we will not be able to finish our trails as we have so far put most of our work on the road. Anyway, we will be on the trails this week.

"Engineers Stewart, Williams, and Lyke, are still with us, having run the road, the two trails, the water survey, and are now running the boundaries to the Monument.

"Visitors have been about as usual this month. Although the weather was extraordinarly fine how could the Texas and Oklahoma tourists know that in advance? So only a little over four hundred ventured up on the Volcano this month.

"I have had some inquiries from some professor in Iowa this month regarding some specimens of this volcanic region to be analyzed by him. He stated in his letter that he hoped to prove that the lava beds in Iowa and Nebraska were from this old mother volcano. I expect to hear from him again soon and will give the results in my next monthly report.

"Efforts are being made to place a large view finder with a strong telescope on the very top of the volcano and through this one may see over into Kansas, Oklahoma, Texas and Colorado, and especially many high mountain peaks, such as Pipe's Peak about 160 miles distant, Baldy, about 120, and many other high peaks of less importance. No; you cannot see Mount McKinley on hazy days.

"Our crater here is still dry, for which we are very proud indeed. We understand that Crater over there in Oregon happened to be in a rainy district in that wonderful state and as a result is now almost filled with water. Too bad.

"Five arrow points which were used by some prehistoric Indians about 30,000 years ago have been unearthed near our Monument at the little place called Folsom, whence the name of Folsom points being given to them, since this was the first of their kind to have been found. This discovery was made in 1926. One of these Folsom points may now be seen together with the shoulder blade of an animal in which it lodged so many centuries ago, in the Colorado Museum at Denver. Also, one may see at this museum the complete skeleton of one of the rare and extinct buffalos, from one of which the shoulder blade mentioned above was taken, and Dr. Barnum Brown has estimated the age of the bones as given above. One of these very peculiar fluted Folsom points went to the Denver Museum and the other three are in the Museum of Natural History, New York City. One is led to wonder why the mighty eruption of this old Volcano, which is said to have happened in the last few thousand years, did not overflow the spot where the Folsom points were found, but upon closer observation it can be seen that the principal part of the lava flow here from this Monument was south instead of north where the points were discovered.

"In these days of progressiveness and competition for head-lines I would not wonder if some one before long might claim to have found the original Folsom point, but really we found it up here at Capulin National Monument four or five years ago!

Homer J. Farr,
Custodian."

Some one might raise the objection that if Iowa and Nebraska have high-graded some of the lava beds from Capulin, and Tom Charles is trying to get away with some Folsom points, a high powered telescope mounted on the top of the Mountain with the Custodian four or five miles away, isn't likely to last long. Collecting Capulin telescopes is likely to become one of the newest fads among visitors.

BANDELIER NATIONAL MONUMENT. M. O. Evenstad, Acting Custodian.

"Mr. Evenstad reports, under date of January 27th, as follows:

"Dear Boss:

"As only occasional groups visited the Monument this month, the total is 92. The greatest part of tourist travel must be taking the southern route as our weather has been ideal throughout the entire month, yet we had this comparatively small number of visitors. Occasionally the thermometer would drop to zero, but that is all. Our activities have continued almost without interruption on both E.C.W. and C.W.A. work, with the exception of the curtailment of C.W.A. due to the order of the 19th.

"During the month most of our activities were concentrated on the road leading into the Canyon, although the water line claimed some of our attention. Both E. C. W. and C. W. A. labor were used. Three

rented trucks started work on the second. The road is now completed to full standard width from Station 0.00 near the utility area to Station 34, just at the drop-off into the Canyon. We will therefore be able to push the work along much more rapidly on the remaining part than heretofore. The completed portion takes in the building of a rock retaining wall 325 feet long and averaging 30 feet high across an arroyo end. The rock for this had to be quarried and hauled about 6 miles.

"We have been somewhat short on equipment as the Forest Service took back all the large equipment we had borrowed. The implement we miss most is the ripper, as another seemingly cannot be had for love nor money. Picks and shovels are a poor substitute for this implement and we only partly compensated for its loss by rigging up one of the buldozers with ripper blades made in the shop.

"The two inch pipe line was extended for a distance of approximately 3,300 feet beyond the point to where the Army furnished pipe staying at a minimum depth of four feet. This was further than was at first planned but was necessary in order to get sufficient head to give a satisfactory pressure at the Ranger cabin. The line was teed off there and run up into the yard near the station and a hydrant and fire hydrant were installed. The plan is to carry this short line up to a cistern some little ways above the cabin so as to insure a supply of water regardless of gallons consumed on the main line. A fire hydrant was also installed near the hotel. The intake is as yet uncompleted, but work will be resumed on this next week.

"The order curtailing C.W.A. work periods threw the work program temporarily out of gear, but with the resumption of the 30 hour week, our prospects are good for completing two projects by February, 15th, the Frijoles Canyon Road and the Water Line complete with its intake.

"Several accidents have occurred. One where a Government truck was taken by a C.C.C employee on a trip to Santa Fe, on the 13th. Coming back the driver upset the truck, completely demolishing the cab. No one was injured although four were riding in the cab. A hearing was held at the C.C.C camp and the offender was given a dishonorable discharge. A C.W.A. worker was fatally injured on the 18th. He and another C.W.A. employee were holding a road plow which was being pulled by a tractor, when the plow struck a rock and broke the coupling chain. This caused the plow handle to strike the man in the stomach resulting in internal injuries. He was given medical aid by the C.C.C camp doctor and taken in an army ambulance to the Indian School Hospital at Santa Fe where he died on the 23rd. The inquest held on the 24th pronounced the death due to an unavoidable accident.

"Another C.W.A. worker was taken to the hospital on the 18th, suffering with pleurisy and congestion of the lungs. This was brought on by exposure while working on the pipe line ditch. He had gotten wet and did not report it until quitting time. He was then taken to

Canyon Frijoles.

Grotesque formations,
Aged and crumbling,
Waterfalls tumbling,
To bed rock below;
Jagged cliffs shearing
A thousand feet downward,
Rugged, inspiring,
Stark beauty aglow.

Homes in the cliff walls,
Hand chiseled, smoke blackened,
Trails in the Canyon,
Trails over the rim;
Remnants from life
Of a race long forgotten,
Fragment of history
Unwritten and dim.

Silence and grandeur
Enfolded in musings
Of races and ages
Forgotten and gone;
Silence, but haunted,
Canyon Frijoles,
Haunted with whispers
Of footsteps gone on.

Alton E. Pruitt.

the C.C.C. camp doctor for medical treatment, who ordered him taken to the Indian School hospital where he was discharged on the 24th, fully recovered.

"The archaeological reconnaissance party, consisting of Paul Reiter and two skilled men, worked on field work, mapping ruins until the 23rd when they went to Reiter's office in Santa Fe to complete some mapping details. For your information I am quoting below his report on their activities:

" 'The archaeological field party working at Bandelier National Monument, spent a most profitable month. Two operations were partially completed, and now are progressing as rapidly as the fifteen hour limitation will permit.

" 'First: The Community House ruin is being cleaned thoroughly. The sand and other debris which has accumulated since excavation is being removed down to the floor levels. The fallen blocks of tuff are being replaced, although, because of the cold, without mortar.

" 'Second: These preliminary measures have laid bare enough features to warrant making one of the scaled drawings inaugurated by Lyle Bennett at Mesa Verde recently. This work, done with a transit, is very exact, recording wall bulges, visible floor levels, wall joints and intersections, etc. The past month has brought this division of the work to the drafting stage, which is being done in one of the offices of the Museum of New Mexico, where drafting instruments were borrowed. At the present rate, two weeks will complete this part of the work.

" 'During the cleaning and re-excavation of the Community House, a careful watch was kept for stray potsherds, tree-ring specimens, etc. Although unfortunately no tree ring data was obtained, several other specimens were found.

" 'When the scaled drawing of the Community House is completed the party plans, if agreeable to the Superintendent, to transfer its attentions to the excavated talus rooms, continuing its program of cleaning and surveying. Another task which might be attempted would be the tabulation and condensation of all obtainable archaeological publications relative to the ruins of the Monument.

Most sincerely, Paul Reiter.'

"I believe that one of the finest things that can be worked out under C.W.A. work is something like that just written up by Mr. Reiter. I hope we will be able to extend activities to wild life survey and geological and naturalist features. Although the work, from its specialty, limits the number of workers to a very few, nevertheless I think we have an opportunity to do some work that under conditions different from the present would seldom be undertaken.

"Mr. Albion Blinks, who was appointed as a landscape foreman on E.C.W. work, reported for duty on the 16th. This job has been un-

filled for a month.

"On the whole, the month was profitably spent. Good working weather prevailed, although, due to the cold nights, there was difficulty in starting the trucks in the morning. This was remedied by building doors on the truck sheds and installing a box wood heater, which kept the sheds warm through the night.

"Our expenditures for the month for E.C.W. work ran rather high, mostly due to using much more dynamite for blasting than was expected. The tufa rock is very difficult to blast, and it does not cleave like ordinary rock but has a tendency to crumble so good action is not had. The materials for the pipe line was also another considerable item. In another month we expect to operate on projects where materials costs will be less.

"A sign advertising the C.W.A. project has been prepared and erected just at the entrance of the new road. It reads:

Federal Project 2003-C
C.W.A.
Extended to Standard Width
Frijoles Canyon Road
Bandelier National Monument.

"The sign is 4 by 6 feet in size and shows up well.

"Congratulations to Hugh Miller for changing his status. I think he showed excellent judgment in picking nationality. We wish him much happiness.

L. O. Evenstad,
Acting Custodian."

GRAN QUIVIRA NATIONAL MONUMENT. Mr. L. H. Smith, Custodian.

Mr. Smith has been very ill during the month and at this writing is slowly getting better. We hope he will soon be completely recovered and back on the job. In the meantime the work has gone on and the following report has been received from the Monument:

"Dear Boss:

For the month ending January 20, I have registered 370 visitors who entered the monument in 63 cars, horseback parties and otherwise. This shows an increase of 306 visitors over the same period last year, with cars in proportion. Although all of this is not due to the increase in travel in general, as we had a winter last year which made the roads impassible a great deal of the time: this is not the case this year. However we can readily see that travel is also increasing, which accounts for some of this gain. The President's program is putting a brighter outlook on the near future.

"Among our tourists this month we had Chuck Richey and his wife, of the Landscape Division, who were here on the 15th. Mr. Richey suggested a few minor changes on our approach road which will better the appearance of our Monument. He advocated some curves in the lower portion of our road. On the morning of the 7th Mr. Walter C. Attwell, of the Engineering Division, was here and he heartily approved Mr. Richey's suggestions. We also had a surveying party composed of Mr. Stewart, Mr. Williams, and Mr. Lyke, a few days during this time; who gave us finish stakes on the road and surveyed the parking area. On January 21, Mr. J. Bart Leck, President of the Cavern Supply Company, of the Carlsbad Cavern National Park, was with us. On the 22nd, Mr. Lansing B. Bloom, former Secretary of the American School of Research, of Santa Fe, was here with Mr. Fred Harvey.

"The C.W.A. work on our Monument is going steadily forward and we are going to be able to accomplish a thing which we have been ###### needing for many years. I am pleased to report that we have a crew of men who are really appreciative of the opportunity to earn their wages and who are giving value for every dollar they receive. We have moved a lot of dirt and I don't believe that with the equipment we have to work with, a contractor could turn out any more yardage for the money spent than has been done with the C.W.A. money on this project. We had to make some cuts in solid grey lime stone which is nearly as hard as granite. At present we have 50% of the road completed and surfaced. This has a cut of 5' 1" for some 140 feet in the above mentioned grey ######### limestone. Also we have made a fill of 5' 1" which is almost 200 feet long. This work under the C.W.A. is not only supplying work for needy people, but with these improvements it will be remembered throughout the coming years as one of the best of plans to obtain a much needed improvement as well as to sustain a group of people who would otherwise have had to depend upon the Red Cross.

"In the interest of our Monument and the touring public I sincerely wish we could be fortunate enough to open up some six or eight acres of this pueblo and have a way to take care of the artifacts we expect to unearth when this, one of the greatest Indian pueblos of the southwest, is excavated. It is hard to impress our tourists with the immensity of this prehistoric city with its hundreds of rooms, which, being covered, allows one to walk over them without grasping the idea that he is walking over one of the greatest, if not the greatest, prehistoric ruins of the southwest. As this ruin lies off the main through highways, and even off the better state and county roads, it doesn't have the advertisement it justly deserves. The tourists come here not expecting to find what we have, but when they walk over acre after acre of ruins, they are surprised and express a wonder that this place is not more widely known. I do wish we could open up a few hundred rooms to show them what they cannot realize as things are.

"The weather has been the finest this year I have ever seen in

this country in the seventeen years that I have been here. It certainly has been a great help to our work, and it makes it mighty nice for the tourists.

W. H. Smith, Custodian."

Coming back now into Arizona, we have report from the Canyon de Chelly National Monument which is written by Mr. C. A. Weintz, engineer in charge of the party working there. The report follows:

CANYON DE CHELLY NATIONAL MONUMENT.

"Christmas day of 1933, eight travel damaged engineers looked upon the mouth of the Canyon de Chelly with the relief that only weary travellers can experience. A bountiful Christmas dinner and the far famed hospitality of Cozy McSparron kindled an enthusiasm for the work at hand and a sincere appreciation for the wonders of this Monument.

"Since that date eighty square miles have been covered with primary triangulation and eight square miles have been mapped with twenty foot contours on a four inch to the mile scale. The south side of Canyon de Chelly has been detailed from the mouth to a point about two miles above the White House. Work has been extended along the north side of de Chelly and the tributary, del Muerto, to the mouth of Black Rock Canyon, which is just above Antelope House.

"About 25 acres of the flat around Thunderbird Ranch have been worked on a 40 foot to the inch scale and two foot contours. This detail work, when completed, will cover approximately two hundred acres, and will give sufficient data for the location of the National Monument buildings as needed.

"Six plane tables are being used with Navajo helpers as rod men and guides. Each detail sheet is tied into the primary triangulation and further secondary triangulation is employed as a check on elevations and traverse work. This has necessitated the building of Monuments and the crossing and recrossing of the canyons, but has resulted in a net work that can be used for a complete job. A rough terrain with an abundant growth of pinon and juniper, vertical walled canyons, and difficult native trails make this country tough to map, but delight and surprise the visitor.

"In regard to the working routine, misinformation is often obtained from the Navajo, mainly because of his pride and unwillingness to admit his lack of the desired information. This has been overcome to an extent by picking men to guide only in areas with which they are familiar. On the other hand several of the Indians have shown great aptitude for the work, and the more intelligent have tutored their less fortunate brothers in the fundamentals of top-

ographic mapping. Considerable Navajo conversation, a pile of sand, and an irrigation ditch or two often accomplish the desired result. Several of the Navajoes are able to point out on the map location of stadia shots given and help in drawing the contours.

"Owing to the problems encountered in field work and the necessity of continued concentrated effort while detailing, archaeological reconnaissance has been limited to week-ends. The Canyon north of de Chelly, known as Slim Canyon has been searched and eight promising ruins with attendant pictographs have been examined. The canyon south of de Chelly has also been reported to contain interesting ruins, and a trip into this canyon has been planned.

"As soon as this monument has been made more accessible to the public by a good road it should prove to be an area of great interest to tourists. We are on the ground and fairly well lined up to complete a topographic map of the Monument. In the time left us we can complete the large scale map of the area designated for headquarters, but unless more funds can be secured to complete the detail work begun, it and all our primary control will be lost.

Clement. A. Weintz.
Engineer in Charge."

Chief, I wish you would make a point of seeing that this work at Canyon de Chelly continues through the 12 weeks of C.W.A. extension following February 15. I think you understand that just because it is one of 25 national monuments in this district doesn't make it a small proposition. This one Monument is as important as any one of several of your middle class Parks, and its development is bristling with administrative problems. The only way we are going to keep from making a lot of mistakes in that development is to have a good map of the place to start with. Here is our one chance to get that map in the next ten years, and when you offset the cost of the map with the cost of the mistakes we will make in the next ten years without it, the cheapest thing to do is to go ahead with the map while we have this party organized and going.

WUPATKI NATIONAL MONUMENT. Mr. H. S. Colton, Custodian.

"During the month we have had two parties working on the Monument under C.W.A. funds. One party of 21 men are working on the ruin of Wupatki, and the other of six men are working at Citadel, another group of ruins on the Wupatki National Monument, nine miles northwest of Wupatki. Because of a water supply, both parties are based on the Wupatki camp. On the Wupatki party we have J.W. Brewer Jr., Associate of the Museum of Northern Arizona, as foreman, Ben Brocck Williamson, Associate [illegible] Museum, and Richard Van Valkenburg, archaeologist. [illegible] Chapin, architect and surveyor, with 17 laborers.

"At Citadel we have Dale King, foreman and archaeologist, Charles Steen, archaeologist, and Robert Harris as surveyor, with three men.

"Mr. Lyndon Hargrave, Field Director of the Museum of Northern Arizona, and the Custodian, who is also Director of the Museum, have been keeping in close touch with both parties. Mr. Hargrave also visited Kiet Siel, keeping in touch with Mr. Hayden and Mr. John Wetherill.

"At Wupatki Messrs. Williamson and Van Valkenburg cleared of debris the middens on the west side and excavated rooms on the east side. Much dirt was moved by truck to specified dumps and the fallen rocks were neatly piled. Room 4 was restored for use as a registeration room and is temporarily used for an office and laboratory. Mr. Metz, who has charge of reconstruction has also continued the survey of the quarter section east of Wupatki, and is preparing a contour map of that area.

"At Citadel Mr. Dale King has restored Room 1, Site N.A.358, a small site below the Citadel, as a registration room for that portion of the Monument. Mr. Steen and Mr. Harris have worked on a contour map of the Citadel portion of the Monument, tieing in accurately all sites.

Report on C.W.A. Project 10. Wupatki National Monument.

"The general plan was to clean up, excavate, and restore the large prehistoric ruin of Wupatki. Work on only one quarter of the ruin was projected.

"(1) Six trenches were dug to undisturbed ground on the west side; the fallen walls removed from the middens, the stone neatly piled and the dirt hauled away by truck.

"(2) A few of the rooms on the east side were excavated. This work should be continued until all are cleared up.

"(3) Room 4 was restored and the walls of room 49 capped. All walls should be capped.

"(4) Room 41 was cleaned up. There will not be time before February 15th to restore this room but it should be done in the near future.

"(5) Room 1 has been cleaned out and will be restored by the 15th.

"(6) The Northeast quarter of Section 30, T. 25 N, R. 10 E, which forms the east half of the Wupatki portion of the Monument, has been surveyed and a contour map prepared, 200 feet to the inch, with 10 foot contours. This section completes the map of this part of the Monument.

"The Museum of Northern Arizona established a camp, built a shack, 36 by 12 feet and loaned Project 10 four portable houses 10 by 12 feet. Two rooms in the ruin have been restored in which four of the men have taken up their abode. The Forest Service has loaned a Ranger Cabin, water is handy, it is a good place for a

camp and the men are well cared for. The weather has been so fine this winter that the men have not lost a single day on account of storms.

"The work at Wupatki could be continued for two or three more months with profit. By that time all dangerous walls could be made safe, the most important rooms excavated, and all exposed walls capped."

Harold S. Colton, Custodian"

ARCHES NATIONAL MONUMENT. J. M. Turnbow, Custodian.

I have the following report from Mr. Frank Beckwith, leader of the expedition, for the week ending January 22:

"Last week I went alone to the Yellow Cat, camped in an empty cabin, slept on the floor without a cot or springs, cooked my own eats, and roughed and toughed it. That facilitates the work very much and I got a lot done; found dinosaur bones, and was happy with the results. Two other sections I will have to work in the same manner, Salt Creek from Turnbow's cabin to the river, with Winter Camp Cave added, and next the Devil's Garden area.

"I found the Yellow Cat region rich in remains of dinosaur bones. The first day I found some scattered, then every succeeding day I found other ~~f~~ deposits, ranging from a few scattered little pieces up to larger and more abundant remains. That region is rich in paleontological evidences, and by all means some day should be thoroughly explored by some Government party. I find that the bones are much weathered. Erosion is fast, and frost and other agencies have shattered them into small pieces. In only one case did I find a large fragment, and that I judged to weigh about fifty pounds or a trifle more. I found parts of vertebra; many cross sections of ribs; a great many small pieces, weathered off from the main bone, all surface strewn. The most careful search that could be given in the three days in before I was moved, failed to find any bone in situ (with one exception to be given) so that at this time I cannot recommend that my party do any extensive digging.

"The one exception is as follows: Our cook, Heber Christensen, worked at the Yellow Cat Mining District for several years and knew the area thoroughly. Once he sunk a shaft for vanadium ore and about ten feet or less from the orifice of the shaft ran into a large dinosaur bone about four feet long solidly embedded in and below a massive sandstone layer (which is odd for a bone to be thus found -- usually in softer material). He changed the course of his tunnel and left the bone in situ. So I had him, Custodian Turnbow and Jack You Yon, the Navajo, come to me Wednesday so that Christensen could show me the bone. He led us to the shaft, as was correct. There embedded, not in soft material, but solidly

-3-

overlain with massive sandstone, was the bone, which is still embedded and not fully exposed; only one surface may now be seen. There is four feet of it so judged. I take it to be a leg bone, but wont say which one, as more work must be done on it to identify it.

"Archaeological evidences at Yellow Cat:

"About 300 yards from the spring at Yellow Cat, on the sandstone ledge near a cow wallow there is the following ONE group of petroglyphs:

"Two men bifurcated form, showing legs, not well done.
"Two deer. (?)
"One man on a horse;
"Hence the group is recent and of no value archaeologically.
"No other petroglyphs were encountered in that area.

"I haven't as yet worked the Devil's Garden area at all, except to visit it off pay day as extra and take a photo of the first arch that is to be found there. I have yet to go back to the second and larger arch and work the territory archaeologically near some seepage and some tanks, as the Custodian informed me that looked to him like good Indian territory.

"All this to do and I spent three weeks to do it in!

"Up to the present time both the geologist and the surveyor are still unfinished with the first third of the area, namely, still at work on the Arches sector, making a detailed contour and geological map.

"The Yellow Cat area is not, in my opinion, worthy or needful of a profile map nor a contour map; merely sketch in the deposits, with locations of each relative to the area, quickly done, with as little detail as possible, and the contour map is not to a close interval.

"The Devil's Garden area is long, hard to do, and if a close detail is wished, time is very short to get it done.

"Let me give some praise for Custodian J. M. Turnbow. He has run a ranch at Wolf Cabin, a scant half mile from the southeast tip of the Devil's Garden area, three miles from the Arches, and he knows the trails, the sights, and the country as a range rider would. He is an expert packer, has with several parties before this as packer and guide, is thoroughly practical, and just such a man as any party for the Government or any Institution should have."

On January 30, Mr. Beckwith again reports:

"I have put in the week under the care of Custodian J. M. Turnbow, who took me out in the field, camping at his cabin about a mile from the southeast tip of the Devil's Garden.

"I am very well pleased with the week's work. A short half mile from Turnbow's cabin we found a very satisfactory deposit of dinosaur bones, and I was greatly gratified to get for permanent use of Turnbow three nice large sections of vertebrae, the largest of which is about a foot in diameter. Two ends of what I think may be a fibula, of nice size, are well preserved. I have turned the three sections of vertebrae over to Turnbow, charging him with their care, for a permanent display feature in Moab, to show interested tourists that we have the stuff here, and that it is easily accessible. There is a little cementing to be done, which I will do for him some Saturday or Sunday. I have in mind putting the specimens on display in the Times-Independent office for publicity, as the editor is thoroughly in accord with our work, and quite willing to favor it with publicity and storage room.

"Within a long half mile from Turnbow's cabin, over a trail which will thrill the tourist, either as a horseback or foot journey, is one of the most beautiful arches in the entire area. Vertical sides rising say 40 to 60 feet, then the arch-over, and it is all very delicate and very pleasing, and in such a location as to command as the dominant feature the whole setting.

"I also visited Winter Camp Cave, where I found ten petroglyphs, nine of deer and one of what may be a man on a horse. They are on very soft sandstone which wears rapidly. These were found within the entrance to the cave, partially protected. This next week I will put two men on that cave to do some thorough, careful work, and will catalog all findings in due, professional, archaeological manner.

"Next week I will issue the order that as soon as the engineer and geologist finish the Arches they should move to Yellow Cat, and after that work is done, lastly visit the Devil's Garden. I have marked Yellow Cat with yellow flags for those points which I wish them to locate in their survey, being deposits of dinosaur bones and the cave with the one bone in situ.

"I have marked the one arch in the Devil's Garden for them. I will spend the next week near Turnbow's cabin on the cave and dinosaur deposits, and the week of February 5 to 9 at Devil's Garden on my own hook, whether the surveyors are ready to move there or not, and locate the principal points of interest.

"The men are enthusiastic over the resumption of the 30 hour week, and all is smooth at the camp.

"Mr. Turnbow wishes me to suggest to you that you have in mind the development of a trail from the Arches mid-section to a spring just north and down the hill, so that in summer water can be gotten there. He thinks such a trail would probably cost $150. I recommend it. It is distant from the mid-section of the Arches about a full quarter of a mile direct line - maybe more by trail - and not too difficult.

-2-

"Turnbow wishes to be authorized to make a trail fairly close to the sides of the Arches area from Balanced Rock to Double Arch, a distance of from one and a half to three quarters mile. It is advisable, and will cost about $200 to $300.

"Another trail, to the river, site not yet chosen, would be good for the tourist. Fine view. Will be a valuable feature if the main traffic to the Arches is by making Willow Spring the camping spot, and horseback to the Arches."

Under date of January 28th, I have the following report from Mr. Turnbow for the month:

"To the Boss:

Our archaeologist, Frank Beckwith, has failed, even after five weeks of intensive research to find within the Monument boundaries, evidence of the occupation by ancient Indians; says they just simply aren't there. He found a group of 'recent' petroglyphs near the southeast end of the Devil's Garden, and another similar group at Yellow Cat; both of these groups are of deer, and each has a man on a horse. No other evidences of the Indian in the area were found except a few trivial relics.

"But as to dinosaurs, he is wallowing galore in dinosaur bones; has heaped up finds of them all over the landscape. In Yellow Cat he was nearly distracted; they were that plenty. Almost every hill had some on it, and two finds were almost worth while, even for a paleontologist -- that is, he almost admitted he was satisfied. One find made a heap of nearly 200 pounds, with the biggest bone about the size of a water bucket. Another find was a bone lying in massive sandstone, in a vein of vanadium bared some years ago by a miner digging for that ore. This bone is nearly complete, of the lower leg, about four feet long, but only partly exposed in the hard rock. It will be a very attractive thing to take the tourists to -- chock full of interest, and when their appetite is whetted on that bone they can be taken to neat piles of them in the area.

"The paleontologist, (which they tell me is a long name for 'bone digger') was tickled plumb pink, vying with the red beds in which he found the bones. He says in fact: "That never before in one small area has he seen so many finds of dinosaur bones."

"Then he came to my cabin, about a mile from the southeast end of the Monument area, and there found a small but good deposit, with another large bone: later, he was taken to a deopsit to the east, about half a mile from my place, and there he got and put into my care, charging me with their safety, three large vertebra sections, the largest nearly a foot in diameter and nicely preserved. These he had packed to town where he will do some cementing and place them in the newspaper office for publicity, with the injunction that they are Government property, so that tourists and men of science can see

that we can deliver the goods when it comes to dinosaur bones.

"There is one more area yet to be worked -- namely, the Devil's Garden area, in which there are two major arches; and we hope the archaeologist will there find something as, in the immediate area of the Monument, there has as yet been discovered only a few minor things.

"Roads, roads, roads. We cry for them. About nine miles of them from the main highway to the Arches. Over 'slick rock', and the man who invented that combination must have had a sense of humor, for they are the roughest going roads a car could travel over. Yes, we need roads. Just now one can drive to our camp ground in low and second, but not in high.

"And trails: We need trails to water, trails to the double arch, trails past the caves, trails to the river. It seems we need a lot of trails.

"And markers on those trails. A marker to tell the tourist to load up with water, as there is his last chance; a marker for the first arch encountered on the way to the Arches proper; a marker at the bifurcated rock; a marker at the Double Arch; at the Arch in the Making; at Massive Arch; at the Great Oval Arch; at Turret Arch; at Elephant Arch; and a marker for the several faces that may easily be made out on the cliff walls. There should be a marker for the horse back ride to the nearest dinosaur bones; a marker for the next nearest; and, if all are marked, nearly a dozen at Yellow Cat.

"An arch on the rim at the Devil's Garden may be seen from near our camp across the valley; it may also be seen from a cabin at Yellow Cat. Another arch in the Devil's Garden area is out of sight of the usual horse back rider, and is known to only a few who have been conducted to it.

"Aside from roads, markers and trails, and a cabin for the Custodian, we want nothing as we have our message for the tourist and can give him an eyeful of the choicest bit of Arches he can find anywhere, and one unique in our nation -- two full span Arches rising from one abutment. We have everything for the tourist but the means of getting him to see it -- roads, trails and markers. We have scenery of a most inviting kind but a durned poor road to it; we have dinosaur bones in heaps, but no trails to them; and the Custodian, being modest in speech, needs markers to help tell the story.

------J. M. Turnbow, Custodian"

As we come down out of Utah, we might stop by and get the report of Leonard Norton: HE HAS BEEN QUITE BUSY THIS PAST MONTH AND HAS DEVELOPED A METHOD OF WORKING OUT HIS DUST PROBLEMS WHICH WE SHOULD ALL COPY TO VERY GOOD ADVANTAGE. PLEASE NOTE IT.

PIPE SPRINGS NATIONAL MONUMENT. Leonard Heaton, Custodian.

"Dear Boss:

"I pause long enough to get you the monthly report, leaving the worries of studying the C.W.A. instructions and reading matter, planning work for the men, and wondering if I will get these projects I have started finished by February 15.

"I regret that my count of travel is not complete this month, but I have been so busy with the work that I have not been able to keep an accurate record. The following is what I put down as I had the time:

Arizona cars.----	88	people,	223.	
Arizona trucks	37	"	84	
Utah cars--------	17	"	45	
Utah trucks------	17	"	33	
California cars---	8	"	24	
U.S.I.D. car------	1	"	2	
N.P.S. car---------	3	"	5	
Horse back---------	-	"	38	
Live Stock---------	-		--	128.
Totals--------171			454	128

"Our travel is still on the decrease and I expect it to continue that way until April or May.

"We have had one of the most unusual winters that I can ever remember up here. For the last two weeks there has not been ice on any of the ponds, and the days have been just like spring. It has even been so warm that the men have shed their coats and used their shirt sleeves to wipe away their sweat. On the 15th, while starting some of the men on the seep spring, I found five dandelion flowers, something that has very seldom been seen at this time of year. The buds on the trees are swelling like it was spring. The birds are still with us, bluebirds, robins, sparrows and two ducks. Today it is somewhat colder with a storm in the mountains north of us. But I still hope that we have good weather so that we can finish up the work we now have under way.

"Say, this C.W.A. work is about as good as a college course in Government management, and I tell you that if a fellow doesn't want to make any mistakes he had better keep all these circulars, letters, memorandums and so on in a handy place so that he can refer to them on a minutes notice. Then there will be some errors creep into some of his reports.

"With all the reading and rereading, I sometimes get so confused that I grab a shovel, pick, or anything handy and try and out-do the best man on the works, then after an hour or so I come back and work my poor head, planning what to do next and how it best can be done if we have to shut down on February 15.

"As I told you over the phone, all the minor projects are completed, and the projects on which we are now working are, the road, the fence, changing the trash, and the tunnel. If we are put back on the 30 hour week we will be able to finish them in good shape; if not, there will be some that will not be more than half finished by February 15th. We surely hope that our 30 hours comes back next week.

"In our road building we found several articles of interest like the iron pipe mentioned in last month's report. We found half a pair of U.S. chain mule hobbles; the sole of a child's shoe; a block walnut; Indian mill stones. All these will be on display when I can get shelves and cases for them.

"When work came on the 19th of the shut-down, the men had all kinds of questions for me to answer and most of them were feeling blue and wondering if the work would quit in a week or so, and some expressed themselves that they would like to see the work finished that we had started and not leave the job half done. I told them I thought we could finish up what there was on the road and maybe a little more.

"Mr. Rosell and his younger brother came in Monday, January 22, to do the surveying and map making which should have been done before we started the other work. They are getting along fine and will have the base lines run today. They figure it will take two weeks to do the work and are using some of my men to help them.

"The Indian Stock Man has asked several times if any thing more has been done about dividing the water, but I have not heard a word except what Dr. Farrow and Mr. Wrobel told me. I have moved the Indian pipe line from the east pond and will re-lay the line from the west end of the west pond soon.

"I will continue the report of this monument next month.

Leonard Watson, Custodian."

We are shocking up the clerical forces, bookkeepers, timekeepers, Custodians and Superintendent to see how many extra picks and shovels we will have to order to get this book work running smoothly. Hugh says our load wouldn't be too many. The system certainly has worked in Leonard's case as he has turned in some of the best papers in the district.

TUMACACORI NATIONAL MONUMENT. George L. Boundey, Custodian.

"Dear Mr. Finley:

We have had 1498 visitors for the month just past. Now that our C.C.A. project is under way, visitors have increased considerably.

January has been more like a spring than a winter month. We have not been bothered with rain up to the 25th. I got two men to help me and we got all of our 8,000 adobes under cover before any hard rains started.

"I notice many of the cottonwood trees have budded; the Indians say this is an indication of an early spring.

"The Landscape Division tells us that we will have to locate the foundations of all the buildings before landscaping and drainage can be properly carried out. We are excavating just enough to locate the extent of the buildings. We are finding indications of much pottery in some of the rooms. This pottery is the same both in shape and decoration as the pottery now being made by the Pima and Papago Indians on their reservations.

"In the pits made by the removal of the dirt for the adobes we are finding, at a depth of about five feet, quite a bit of the material which is of the Casa Grande culture. One metate shows that it was discarded because of continual grinding wearing a hole entirely through the bottom. Near this metate, under a pile of stones was found the skeleton of a man buried in the usual doubled up position. We excavated the entire skeleton very carefully hoping that in drying the bones might harden sufficiently to permit of its removal, but the bones were too wet and soon fell into powder. I got the skull out in a fair state of preservation. Three round balls of baked clay with a hole the size of a finger leading to a cavity within, were also found in the pit.

"The old church yard in back of the Mission is just filled with bones. The Indians did not mark the graves so that death might be kept secret from the enemy, and as the place was used for a hundred or more years as a cemetery and is not very large, naturally it is a mass of bones.

"In making a drainage ditch through the patio at the east of the Mission, we found, at a depth of two feet, beneath the old plaza, what is evidently an old cemetery. In a space two feet deep, three feet wide and eight feet long, we found nine complete skeletons and underneath them seems to be an untold number more. These bodies were all wrapped separately in yucca matting and as the beads are glass, both green and blue in color, it shows the burials were made since the coming of the Padres.

"About fifty smelters have been located in the vicinity of the Mission. When the Padres were not working the Indians in the fields they evidently set them to mining. In cleaning away a mound to the east of the Mission, we located near the bottom of the smelter a piece of metal the greater portion of which seems to be copper. The State Mine Inspector, Mr. Foster, was here today and he says that in

tapping the smelter a clay mold was made into which the molten metal was allowed to run and that the sixty pound mass we have is what adhered to the bottom of this mold.

Sincerely,
George L. Boundey."

CASA GRANDE NATIONAL MONUMENT. Mr. Hilding F. Palmer, Custodian.

"Dear Mr. Pinkley:

"January, 1934, is a thing of the past and we are due to report what we have accomplished during the month.

"The weather has been wonderful and we accomplished much under C.W.A. until the shut-down of January 19th. Since that time, working only 15 hours per week it has gone pretty slow, but we are struggling along, hoping that things will soon open up again. I had gotten along so famously with our ruins protection that it was a blow when the C.W.A. was curtailed. It was the first time since I have been with the Park Service that an extensive program for protection of the walls of the small buildings of Compound A has been undertaken. We had the curtain walls finished on the outside of the outside wall on the south end and west side when the stop order came. Some of the grading inside the Compound had been done. We were all ready to start back at the southeast corner with the inside curtain wall, but, since working hours were cut to fifteen per week I have done nothing except grading because had we opened up walls and built forms and then laid off until the next week before pouring the concrete, there would have been too much danger of a storm coming along and filling the trench with water to the ruin of the wall; so we are concentrating on getting the grading done and waiting until the program is opened up again and we can go at it on a full time basis.

"I can't tell you how much real good has been accomplished and how much more we can do if the C.W.A. is continued. This work is going to put our walls in shape so that when the Engineering Division who are now experimenting with materials, finds the proper weather-proofing materials we will be ready to go ahead.

"We are now making bricks out of fallen wall material to ship to the Chief Engineer for experimental work with weather proofing materials.

"The grading of Compound A is going to help in preserving walls because we are grading so as to take all the water out of the inside as soon as it falls. An inconspicuous ditch has been placed outside the walls so that the water will be taken away immediately to a low spot to the northwest of the ruins.

"The clean-up of the dead wood out of the trees and bushes on the Monument was continued successfully up to the 19th. This has resulted

in a very much improved appearance of all the trees around the administration building and residential area. In addition I think the trees and bushes will be benefitted by the removal of this dead timber. On the 19th this crew was transferred to the archaeological party for reasons explained below.

"One skilled carpenter has been engaged during the entire month in constructing some new museum cases. Our old cases were hurriedly built of cheap materials and were not the proper size, shape or depth for the display of our pottery and other artifacts. Since the original installation we have had time to study the problem thoroughly and now know what kind of a case is needed to properly display our materials. The old cases will be transferred to Tumacacori for use by Mr. Boundey in his temporary museum until such time as his new museum is obtained.

"The archaeological party worked the whole month full time. At the time of the shut-down on the 19th it was felt that this work was so important that no delay should be allowed to interfere with its completion and so the tree pruning crew mentioned above, were transferred to this project. The Superintendent works five days and half of his crew works the first half and the rest of them work the last half of that time. A complete report of the superintendent of this crew is submitted separately.

"So much for Civil Works; I am entirely satisfied with the results obtained and I feel sure we have had value received for every dollar expended.

"Public Works has been at a practical stand still during the month. We have done a few days work but all four of our force account projects are practically complete and the few little details to be taken care of yet have been put off until such time as there is more time for their completion. The total amount of these four projects is $6,300 and only $110 remains to be expended on them. The fifth project is a new employees' residence and working drawings were received on the 10th and forwarded to the Director for approval. As soon as this approval is received the bids will be called for and the contract will be awarded.

"Assistant Architect, Langley made one of his welcome tours of inspection during the month. We see all too little of Harry. Associate Engineer Attwell has been in and out a couple of times and given us a lot of good advice.

"F.P.119, Remodelling of two sets of quarters, is entirely complete and both quarters are now occupied.

"Under the regular appropriation one set of quarters was redecorated for occupancy by the Chief Clerk of the Southwestern Monuments, who got himself married during the month.

"And last but not least comes our visitors' record and when I look it over I swell up with pride. We had a total of 2272 visitors who were actually contacted by the personnel on guided trips through the ruins of Compound A and the museum. These 2272 visitors came in 711 cars. This is an increase of 395, or 21%, over January 1933, and is a very encouraging sign. Every state in the Union except Maine and Vermont was represented. 51% came from Arizona, 13% from California, 4½% from Illinois and the remaining 31½% from the rest of the states, Washington D. C., Alaska, and five foreign countries. There were 271 trips through the ruins and 250 lectures in the museum. Visitors were handled efficiently by Ranger Fish and temporary ranger Seagoe with the assistance of the rest of the personnel during peak periods. In addition to the 2272 visitors who were actually contacted, there were 238 visitors who visited the Monument and used some of its facilities but did not visit the ruins and museum.

"The percentage of the out-of-state visitors to the total is nearly 10% greater this month than at any time since we have been keeping accurate records. Another interesting point is that 49% of the visitors were out of state but 51% of the cars were out of state.

"The weather has been wonderful; it has truly been a privilege to live in Arizona this month. The mean maximum for the month was 68.8 degrees with the maximum of 76 occurring on the 1st. The mean minimum was 30.2, the minimum of 20 occurring on the 13th. The mean temperature for the month was 49.5 degrees. Total precipitation for the month was .28 inches. There were 29 clear and two part cloudy days.

"Our new C. W. A. program after February 15th and applications and justifications for Public Works allotments were prepared and transmitted during the month.

"The best way I know of to illustrate what progress we have made is to quote the Deputy Sheriff of Coolidge, who visited the Monument yesterday, (entirely unofficially), and remarked: 'I haven't been here for about two months and I'm way behind; a fellow has to come out here every day to keep up with the changes that are being made.

Hilding F. Palmer,
Custodian."

The following is the report of the engineer, Mr. C.F. Miller, who has been on the Casa Grande job during the month:

"Dear Mr. Palmer:

"The following is a brief outline of the work accomplished at the Monument by the Engineering Department.

"Starting at the U.S. survey monument 78' east of the parking area in the plaza, thence running westerly a distance of 78', thence northerly 250', thence westerly 110' thence southerly 250' thence westerly 112' to an iron monument, thence southerly 600' to another iron mon-

ument, thence easterly 121', thence southerly 397', thence easterly 80', thence northerly 397', thence easterly 39' to an iron monument, thence northerly 600' to the point of beginning. This reservation comprises approximately 8.81 acres of that portion of the Monument which is used for residential and administrative purposes and contains the administration building, residences, garages, tool sheds, etc.

"The purpose of this survey is to establish the exact location of all buildings and utilities such as water, sewer, power, and telephone lines, within the area on a large enough scale for practical location purposes in the field. The field work on this project is about 75% complete.

"Also during the month there has been a drainage survey made of Compound A. Grade stakes have been set at 25' intervals or intersections. Grade stakes were set on the south and west sides of the Compound, outside the walls to dispose of the waters drained from the compound.

"Work at the archaeological site has consisted of locating and mapping trenches, mapping the remains of old dwellings and floor levels that have been uncovered. To date there has been 10 dwellings or floor levels uncovered and some 500 objects or field specimens have been tied in.

"In the drafting room all the work done at the new excavation to date has been plotted. The drainage map of Compound A has been made showing the course and location of the exterior walls. This map shows complete information as to the correct location of all ruins in relation to the Casa Grande new walls as the cuts and fills necessary to acquire the desired grades within the compound.

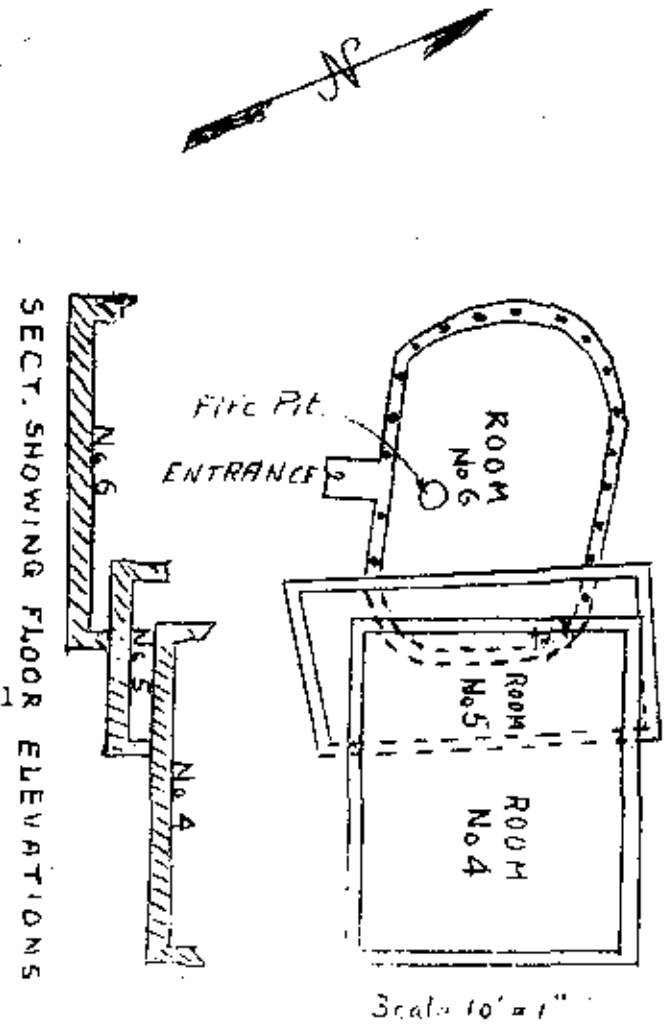
"The map showing the buildings and utilities has been completed as far as the survey has been made. All maps are being drawn on a scale of 10' equals 1"

Respectfully,
C. F. Wells."

SECOND PRELIMINARY REPORT ON EXCAVATIONS AT CASA GRANDE, 1934. Mr. Russell Hastings, Archaeologist.

"The architectural types.

"The fourteen rooms opened to date seem to represent three types of rooms used as dwellings and a fourth type possibly unroofed, which was probably an outside kitchen or workshop area. The sequence of dwelling types is clearly shown by two separate cases of superposition each of which contains dwellings of all three types. Some details of these rooms are not as clear as they might be however, as in both cases of superposition, part of the floor of



Rooms 5 and 6 are really on the same level

the early room was re-used for a later room and the resulting confusion has resulted in obliterating part of the record. The accompanying sketch plan and section will give an idea of the situation and show the relative position of the floors and walls. Room 5 is the earliest and room 4 is the latest.

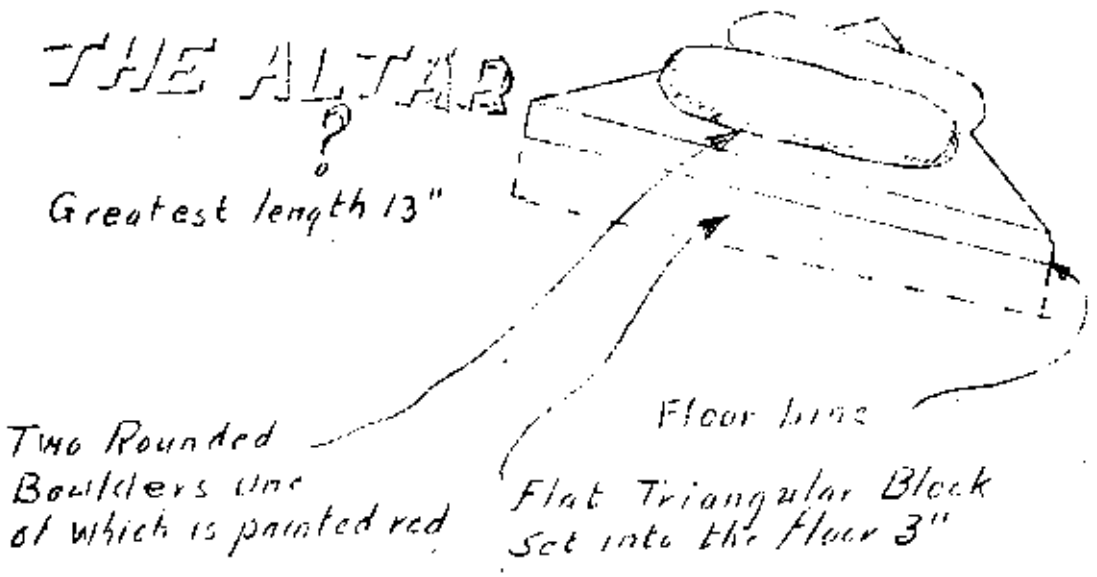
"It will be noted that the floor of Room 6 is on the same level as that of Room 5, and that a part of the same floor was used in both rooms. Most of the eastern wall of Room 5 was cut away when room 6 was built, so I cannot say whether there was a vestibule entrance in Room 5 or not. A similar situation was found to be the case with Rooms 8, 9, and 10, where Room 9 was the earlier and more than half of one side was cut away when Room 8 was built.

"The early type - Average dimensions 12 by 15 feet. The floor is rectangular with rounded corners. A fire pit is located near the center of the long side and about two feet from the wall. The presence

of an entrance way here is likely, though for the reasons mentioned above, none was discovered. The walls are of adobe plastered against reeds or small branches which are supported by posts at intervals of 24 to 30 inches. They are pit-houses, the original depth being approximately 9 inches. In plan they closely resemble the houses described by Hury at Roosevelt 9;6 except that the posts are at the edge or just outside the limits of the floor.

"The Second Type - Average dimensions 10 by 15 feet. The long sides are straight but the ends are almost a perfect half circle. A vestibule entrance way similar to those at Roosevelt 9:6 is present and the fire pit in the floor immediately in front of the entrance. Walls were the same as in the preceding type

"The Third Type. - Average dimensions 13 by 17 feet. The rooms are rectangular and the corners are square. None of these rooms have as yet revealed a fire pit or entrance way. The walls are solid caliche with an average thickness of not over 12 inches, though individual walls may exceed 14 inches. No openings have yet been discovered, yet many of the walls are less than a foot in height and it is possible that doors may have been above this level. Two specialized floor features have been found associated with this house type but their identification is uncertain. The one is a slightly raised hearth (?) and the second, an 'altar' (?). The 'altar' occurs in a room whose floor ~~xxxx~~ is 28 inches below ground level and is the deepest room yet discovered. None of the rooms excavated so far were built contiguous to one another and no compound walls have been found, but a section is now being opened which may show both these features.



MR. ATTWELLS REPORT.

"After spending four days at home after a ten month's absence, I again returned to the field for another session.

"During the month of January I visited Bandelier three times, Casa Grande five times, Capulin once, Chiricahua once, Gran Quivira four times, Montezuma Castle and Tumacacori each twice and White Sands three times, regarding C.W.A. projects and C.C.C. camp. I also stopped one night at Petrified Forest while en route. The last two days of the month were spent on the proposed C.W.A. projects for the period starting February 15th.

"My activities were mostly in organizing crews, selecting foremen and laying out the work. After this had been accomplished and the correct number of men had been employed and the schedules for 'Other than Labor' had been figured so that team and truck hire and materials would just balance, the entire set-up upset by orders to cut labor to 50% and Other Than Labor cut to nothing. It was then necessary to reorganize the entire set-up.

"The re-employment would not have been so serious if it were all within one park, but here it is spread out over several states and the mode of transportation was a discarded prohibition Ford. That made long distances in remote sections and bad country an inconvenience. An example of this is when I left Capulin at noon for White Sands the next morning, a distance of 473 miles. At about 8 p.m. the car lights went out and I had to wait several hours for the moon to come up so I could get to civilization. Anyway, I arrived on time, helped in the road location, looked over the survey and construction, had the lights thoroughly overhauled and left at 7 p.m. for Casa Grande, a distance of 425 miles. After travelling 18 miles the lights went out on the N.R.A. schedule and I was left without lights or moon. It was necessary to follow a truck over fifty miles to the first garage. I finally got relighted in Las Cruces and arrived at Casa Grande at 11 o,clock the following morning. I don't blame the prohibition service for going out of business when they had to operate this car.

"At Montezuma Castle the main work consisted of regrading the entrance road by easing bad curves and grades, widening the road bed and sloping the banks. A mason is removing the temporary wood curb at the parking area and replacing it with permanent rubble masonry. This is similar construction to the completed walls there of last years Public Works. A small crew has delivered suitable building stone for the new garage and equipment shed. The service road has been cleared and grubbed from the entrance road to the camp grounds. By the curtailment of activities the much needed revetment work must wait for additional allotments. The fencing and the trails to the ruins are also on the waiting list. The engineering crew located and cross sectioned the entrance road, the service road, staked the revetment work and made a reconnaissance of the irrigation ditch.

"While at Montezuma Castle I stole an hour on New Years Day to help Mr. Bill Beck, of Montezuma Well, open a burial vault. The find included the skeletons of a man and a woman with pots and vases but no jewelry. Near the woman's skeleton were found three arrow heads. Her skull had two sharp cut wounds in it which no doubt were made with some sharp instrument, possibly the arrows.

"The work at Bandelier shows value received for every man day's work delivered but also shows damage to equipment and life. Three accidents have resulted in three lives lost. Two were lost when a load of culvert pipe turned over with a truck driven by a C.C.C. boy. The third occurred when a plow shaker was struck by a plow handle while scarifying. The Bandelier project is a big one, using over 300 men with heavy equipment. Most of the men employed are un-experienced boys from the C.C.C. camp at the reckless age of 18 to 22 years.

"The work accomplished shows the entrance road well under way. The new water system is complete except for the intake. This was a large project as over 2,000 cubic yards of material had to be hand excavated and then backfilled. The trails up and down the Canyon have shaped up nicely and will add materially to the comfort of tourists going up to the Ceremonial Cave or down to the river.

"At Capulin road progress has been shown in the road work. Sharp curves have been eliminated by excavation of the blind points and placing the material in the fills. The road is already much safer, even during construction than it ever has been before. The cut in the program will eliminate the parking area at the rim of the crater and construction of the Rim Trail and the Crater Trail. The engineers have taken topography for the new parking area, located the road and trails, made reconnaissance of the water and are now staking the Monument boundaries.

"The peaceful slumbers of Gran Quivira were disturbed for the first time in a century when a grading crew on the entrance road started operations. The sandy section of the entrance road is being plated with caliche. The sharp curve at the Mission has been flattened. The steeper sections of the grade have been eliminated. The deep arroyos near the entrance have been filled with stone and sand. A lot has been accomplished.

"The cut in the program will prevent the completion of the road and will eliminate the entire parking area and all of the trails. It probably was this cut in program which got Mr. Smith down and nearly out. He took to his bed and called the doctor for pneumonia about 20 minutes after the cut went into effect. When I arrived he was so weak that he was hardly worth feeding, but rallied enough to whisper: 'I forgot to ask for an allotment to open up 800 or a thousand feet of the building wall behind the Mission. Be sure to have the Boss put it in. Tell him I don't want to open up much of the village but would like to have a quarter of a mile of it showing."

"The road work at White Sands kept up with the approved plans. I made three trips there to supervise the road location and surveys and re-arrange the Other Than Labor schedule. The error in the State road map showing suitable plating materials tested and approved, inconvenienced our program. This test material within a few hundred yards haul proved entirely unsatisfactory. We were obliged to re-arrange our program and haul from the next nearest pit eight miles further away. We have completed the water survey and the exploration survey. The road bed has been graded the entire distance, eight miles. Plating has been placed on nearly one mile but the cut in progress of the 19th fell entirely on the plating. At the end of this period on February 15, our road will resemble a modern house, complete except for the roof.

"The crew at Tumacacori is exceptionally adapted for adobe work. Most of them have been raised with it. The adobe walls around the Mission, requiring thousands of adobe bricks, are well under way. This project was lucky in obligating its materials at the start. When the project closes the walls will be nearing completion and the plazas will be drained.

"I was sent to make a report of the C..... program for Chiricahua National Monument. After contacting the Forest Service Officials, who used to be the parents of this Monument, I made a two days inspection trip on the ground. The scenic and geologic value of the Monument impressed me far beyond my expectations and that is hard to do after seeing so many of our spectacular places. One pleasing factor was that the Monument is so easily accessible on foot or horse. The walking distance to a car from any of these thousand different wonders is such that anyone may make the trip with ease.

"Some of the most interesting features to me were the numerous balancing rocks, many of only four cubical with only two foot bases supporting them; one has only an eight inch base. There were thousands of totem poles, one 160 feet high resting on a 2' by 4' base. There were painted caves, mounds of prehistoric ruins and pillars. No Folsom points have yet been found, Mr. Farr.

"The Monument consists of a series of fields of large rhyolitic monoliths eroded into many fantastic shapes. The area is cut by deep walled canyons, some of the walls being about 200 feet in height. Against the deep blue of the sky a picture is made which would be difficult to transfer to canvas not only on account of the million crevices, crevices and irregular forms of the rocks themselves, but also because of the many varying hues and gradations of color.

"After a strenuous month on the road with several thousand miles out of the old Ford, I settled down on the 30th for a siege at proposed C..... projects on 28 national monuments for both General and Historical programs.

Walter C. Mitchell,
Engineer-in-Charge.

IN CONCLUSION.

I think you will agree with me, Chief, that this report is too long; yet we have turned out a lot of work this last month and are mighty interested in telling you about it. I might have cut these reports down a little and saved space, but this is our only chance to get a lot of stuff into the record to which we might want to refer in the future, so I hesitate to cut a long report for fear I might cut out something which might become important in future years.

My own theory is that except for record purposes, a monthly report decreases in value every day after the end of the month which it covers. We of course get the bound copies of all the Superintendents reports; the reports for September arrived here the first of February and they are so dead that we felt like dipping the flag and receiving them with military honors. This is why we try to get this report to you as soon after the conclusion of the month as possible. We are perfectly aware that in getting speed we are sacrificing quality of finish and inaccuracies and errors will get in along with the news, but I still think that it is worth while if it gives you the general cross section of the southwest monuments and the feeling of the men who are running them while the events narrated are still fresh.

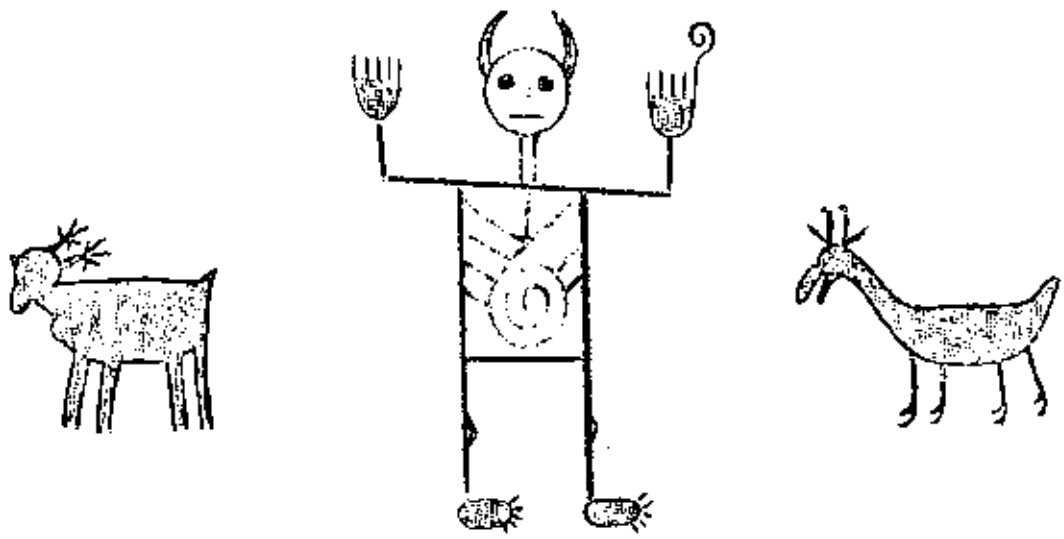
The big blow that struck us during January was the curtailment of our program. Unlike the State and Local C.W.A. projects, we started out with a set-up of money for men and materials; we knew just where we stood and outlined our work accordingly; then in the middle of things, while we still had balances on the books which would have allowed us to carry our projects through, our 'Other Than Labor' funds were held up and finally released to us in dribbling amounts which has sadly hampered our efficiency. This was all through no fault of ours as we were operating within the limits we started with, and could have completed the majority of our jobs as we had them outlined if we had been allowed to spend our funds as we had set them up. As things stand, we are going to have some incomplete projects on February 15, because some of them cannot be tapered off; they must either be finished or left in the air. We trust that these will be continued under the extended program of C.W.A.

Cordially,

Frank Pinkley

Superintendent.

UNITED STATES
DEPARTMENT OF THE INTERIOR
Office of National Parks, Buildings and Reservations



PETRIFIED FOREST NATIONAL MONUMENT
Holbrook, Arizona

February 1, 1934

The Director,
Office of National Parks,
Buildings and Reservations,
Washington, D. C.

Dear Mr. Director:

The time for submitting another monthly report has rolled around again in what seems to be a remarkably short period, so the report of activities in the Petrified Forest National Monument for the month of January, 1934, is respectfully submitted.

GENERAL:

The most important activity in this monument is still the Civil Works Administration. Work has been started on each of the jobs authorized in this monument, including the archaeological reconnaissance, with the exception of No. 7, which was the extension of Second Forest Trail; No. 9, which was to gravel First Forest road; and No. 13, which was to provide bank protection for the Rio Puerco. Work was proceeding on all the other jobs at good speed and men and equipment had been scheduled in the expectation of rushing most of them through to completion by February 15. On January 18 and 19 we received telegrams and messages from officials

of the State and County Civil Works Administration which indicated that a drastic reduction in the hours of Civil Works employees had been made, effective immediately, and that no supplies or materials, including the rental of trucks, could be made. This hampered our whole program greatly and resulted in a total shutdown of all C. W. A. activities on Tuesday, January 23d until more information should become available. On that day I attended a conference of state and county executives of the Civil Works Administration and in attendance were representatives from the five northern counties, Grand Canyon, Petrified Forest, Navajo National Monument, and others. After the general meeting was over I had a conference with Miss F. M. Warner, who is the State Civil Works Administrator, and the situation was clarified to some extent. She gave me authority to employ men who had been working in the monument from Winslow, Arizona, 24 hours per week; men who had been actually in camp and shown as such were allowed to work thirty hours per week; and all others only 15 hours per week. This made a very complicated situation as I had previously employed a number of men in camp but had not shown them as in camp at forty hours weekly because they had been working thirty hours per week in crews of men who were going back and forth from Holbrook, Woodruff, and other towns. The greatest hardship is on the men who had been working thirty hours per week, for it will be a great hardship for those who live in nearby towns, as they must travel from 17 to 20 miles each way daily. By the same token men cannot afford to live in camp, providing their own facilities, for $7.50 weekly wage. This will result in a great dropping off in the number of workers and whether they can be replaced or not, I cannot say. It will not now, of course, be possible to finish our program by February 15. A brief resume of the jobs under way or completed in this monument follows:

Job No. 1, Cleaning ditches and banks of the monument highways. Practically complete.

Jobs Nos. 2 and 3, Headquarters area landscaping and headquarters area campground development. About 25% complete.

Job No. 4, One mile road from headquarters to pictographs. Line has been surveyed and staked, but no work done.

Job No. 5, Headquarters 1/2 mile trail to ruins. About 50% complete.

Job No. 6, Completion of footpath in Third Forest, installing stone steps on Panorama Knoll, and extending of footpath to Agate House. This has all been completed and is a very fine job, particularly the stone steps to the top of Panorama Knoll will be a fine thing for the tourists for many years to come.

Job No. 8, Completion of the First Forest road to Eagles Nest Rock. Practically finished as to grading, the culverts

are in place, but no surfacing has been done and nothing has been done on the construction of headwalls for these culverts. This job will probably have to be left in an unfinished condition.

Job No. 10, Side road to Newspaper Rock. Nothing has been done except locate the road.

Job No. 11, Blue Forest Road. Nothing has been done except locate the road and a little preparatory work.

Job No. 12, Blue Forest Trail. About 75% complete.

Job No. 14, Drift fence around forty square miles of monument, requiring about 31 miles of fencing. About 70% complete. Due to the prohibition against hiring trucks and purchase of gasoline we have about 4,000 cedar posts still in the woods on the Navajo Reservation, about sixty miles from our headquarters, which were cut by Navajo Indians. These posts are worth at least 30¢ each where they are and it is hoped that the prohibition on the purchase of gasoline and hiring trucks will be lifted so we can at least get these posts in. By concentrating all workers possible on this project and staggering shifts, it may still be possible to complete this fencing by February 15.

The following brief report on the archaeological activities is given to us by Mr. C. B. Cosgrove, Jr., who is in charge of this work under Dr. H. P. Mera:

"The Agate House has been completely outlined showing that there were eight rooms in the building. Two of these rooms were evidently later rooms due to the fact that a later wall had been built over earlier walls. One room is being completely restored and roofed over. An opening has been left in the side of the wall to allow people to look in, but not enter the building. This will prevent vandalism, as we are leaving the fireplace, metates, bins, etc., in place as they were found. At present we are working on the roof construction. The walls of the remaining rooms are built up a couple of feet and have been left uneven on top to give the effect of fallen walls.

"A thorough survey of the monument is being made to locate and map new ruins. A complete sherd collection is made at each site. These sherds are sent to the Laboratory of Anthropology at Santa Fe, N. M., for study, the information gathered from them to be included in the final report of the project. The survey in the southern section of the monument is practically complete. To date seventy-six new sites have been located, ranging in size from small one-room houses up to larger houses of thirty or forty rooms."

WEATHER:

The weather conditions in this monument have continued ideal with the same fine warm days and cool nights that we had through December. The contrast between this winter and the same season a year ago shows that where sub-zero temperatures, in some cases 10 or more below zero, was the rule last year, this year the weather has been like fine autumn or spring weather all the time. A table of the weather statistics follows:

High temperature for the month was 65 degrees on the 23d; low was 9 degrees above zero on the 8th. Mean maximum was 48.5 degrees, mean minimum 19.7 degrees. Precipitation for the month totaled .11 of an inch. There were 25 clear days, 4 partly cloudy, and 2 cloudy days.

ADMINISTRATIVE:

Our office work has been kept fairly well up to date in spite of the fact that much of the Civil Works Administration voucher, payroll, and other work has had to be done several times on account of faulty or incomplete instructions as to the method to be followed in some cases. It has been particularly hard to get vouchers through for the purchase of materials, but all of our obligations have now been vouchered in what we believe is the required C. W. A. form and have been placed in line for payment.

As stated above, we have been seriously handicapped in this monument by the shut-down on the purchase of materials, which has particularly hampered our truck activities. I was allowed $80.00 for the week ending January 25 from the small funds which had been allotted to Navajo and Apache Counties, Navajo allowing us $60.00 and Apache $20.00. On January 28 I was notified by Mr. Lloyd C. Henning, Chairman of the Navajo County Board, that he had another fund available for the present week, and then on taking the matter up with Mr. Henning he stated that he would be willing to let me have as much as could be spared by Navajo County, but before he would commit himself he insisted that I should see the Apache County people and find out how much they could let us have. This made it necessary for me to go to St. Johns, the county seat of Apache, a round trip of nearly 100 miles, and I succeeded in obtaining $100 from them. I had figured our necessities at about $500, but was compelled to accept the $100 from Apache County, and with $200 from Navajo County we will have $300 this week for materials. I am not criticizing the county officials in the least, but this is a very unsatisfactory way to handle the C.W.A. program, namely, on a week to week basis.

The monument has been periodically inspected by the superintendent and things have been going in fairly good shape. Asst. Engineer C. M. Bell, of course, has been in direct charge of the actual work, and Mr. H. J. Cremer has been in charge of the landscape work around headquarters. The campground project is well

under way with the grading 100% complete, drive and parking areas are laid out, and the finishing wearing surface of coarse sand is being laid at present.

All approach roads to the monument are in good shape and the grading and surfacing of U. S. Highway 66 east of the monument is being pushed rapidly.

PUBLIC WORKS PROJECTS:

The only Public Works project under way by force account is water and sewer development. Under this project we are continuing the water well at headquarters and have not made any progress during the month. At the close of last month I stated that we had pulled the string of 5-1/16" casing and were going to effect a shut-off in the Coconino sandstone and continue drilling. We did not succeed in effecting a shut-off, and in pulling the casing after it was raised about twenty feet it became frozen and we have not been able to lift it any farther. In an attempt to pull the casing a spear was run down in the hole and engaged the bottom joint of the casing, but with all the jarring on this spear and as much strain as was advisable to put on the casing with hydraulic jacks, the pipe could not be budged. Then an attempt was made to blast off the bottom of the shoe with dynamite. In the meantime the Indian Service needed the hydraulic jacks which we had borrowed from them, and we are now getting these jacks again to see if we can pull the casing and run the hole down in the hope of getting a better seat for the casing and effecting a shut-off.

Work was continued on the dug well at Indian Ruins at the site which was selected by Mr. Vint and Mr. Hommon, and after sinking this hole to a depth of forty feet (about 12 inches below the river bed) without success, operations have been abandoned at that spot.

Invitations for bids on five checking stations, for which $4500 was authorized, were sent out and bids were opened January 22d. There were only two bids received and they were, respectively, $6,594 and $7,394. As the lowest bid was $1,094 more than the amount available, all bids were rejected. Other contractors had intended to bid but they told me there was no hope of their being able to bid within the amount available. I have communicated with the Branch of Plans and Design at San Francisco as to their recommendations in this matter, and when I hear from them I will make proper representations to you.

LABOR SITUATION:

The labor situation was much improved in this locality, but there are still a great many persons unemployed in the nearby counties and we may possibly secure replacements of our Civil Workers on account of that fact.

BUREAU OF PUBLIC ROADS:

Construction work on the overpass at the A. T. & S. F. Railroad north of the Rio Puerco has been shut down all through the month and that project will not be started again until danger of severe frost is over. Of the seven bridges over dips which are under construction, the four on that part of the road north and south through the monument are completed, and work is progressing on the three on U. S. Highway 260. Everly and Allison started work on their grading contract the first week in January and are proceeding in their usual efficient manner. They have raised the grade on a mile of road in the Blue Forest area and have graded approaches to the three northerly bridges over Dry Creek on the Petrified Forest highway.

MAPS AND SURVEYS:

I understand there has been a topographical survey under way through the monument and adjacent areas, but I have seen very little of the men engaged in this work and cannot say as to how far it has progressed.

I believe the B. P. R. have the survey now completed on the Painted Desert rim road, ready for submitting to their San Francisco office.

RANGER AND MUSEUM SERVICE:

Good service has been given to the traveling public by the rangers and the monument has been fairly well protected, in spite of the fact that we have about half as many men for that purpose as should be authorized.

ANIMALS:

Small bands of antelope continue to be seen, both east and west, and in some cases within the monument, but not as much small game is seen this year as usual. The rabbits and rock squirrels were practically exterminated last winter, the weather being so severe that a great majority of them froze in their dens.

TRAVEL:

On account of the gradual business recovery through the country and the fine local weather, our travel continues in excess of last year. The travel increase this month over the corresponding month of last year is 3,994, or 93%.

For the month, Petrified Forest section,	cars,	1,298	people	3,993
Previously reported	"	6,440	"	16,264
Total to date	"	7,738	"	20,257

For the month, Painted Desert section .,	cars	1,121	people	4,295
Previously reported . . . . . .,	"	7,586	"	28,154
Total to date . . . . . .,	"	8,707	"	32,449
Grand total for the month . . . . . .,	"	2,419	"	8,298
Grand total to date . . . . . .,	"	16,445	"	52,706
Grand total same month last year . . .,	"	1,270	"	4,294

SPECIAL VISITORS:

On January 1 the Federation of Federal Employees Union, Holbrook Local No. 423, held their annual meeting in the office of Superintendent Chas. J. Smith, and he was elected President. Messrs. R. J. Coleman and T. R. Neiswander from the State Land Office in Phoenix were business visitors in the monument on January 3. Messrs. Clarence Leavitt, V. F. Darrow, and Wm. James, S. P. R. employees, arrived on January 3 to assist in road construction through the monument. Mr. Chuck Richey, Assistant Landscape Engineer, accompanied by Mrs. Richey, visited the monument on January 6, while enroute to Bandelier National Monument. Mr. W. R. F. Wallace, S. P. R. engineer, was here on official business January 16. Associate Engineer W. G. Atwell of the National Park Service, was here January 27.

ACCIDENTS, C. W. A.:

So far we have had only three accidents to C. W. A. workers in this monument and they were all minor ones. One was an injured foot caused by the employee striking himself in the foot with a pick, which laid him up for a few days; another was an injured foot caused by a falling rock while the worker was engaged in loading rocks on a truck; and another worker sustained a bruised thumb which was struck by a hammer while he was engaged in drilling rock. Only two of these men were obliged to quit work, the one with the injured thumb not leaving his job.

MISCELLANEOUS:

I received word from Dan Nee that our dear friend, Mrs. Stella M. Leviston, passed away on January 22, 1934, and the funeral service was at two o'clock Wednesday afternoon, January 24. Mrs. Leviston had reached the age of 85 years on January 9. Although we had known for some time that she was in failing health and on her last visit here a year ago last fall she had stated that she wanted to get as much out of the trip as possible because she knew it was her last, we had hoped that possibly she might get around once more. The Service has lost a dear friend and to those of us who knew her, her passing comes as a distinct personal loss.

Very truly yours,

Chas. J. Smith,
Superintendent.

SUPPLEMENT TO THE
JANUARY MONTHLY REPORT
OF
THE SOUTHWESTERN MONUMENTS
****

Dealing with shop talk, folks, and things.

MORE ABOUT TUNNELS.

The following letter from the Chief Architect is of enough general importance to be quoted in this report. We have had our say about tunnels and handling visitors through cliff-dwellings and it is only fair to give Tom an equal opportunity.

"Memorandum to the Director:

"Attached is a blue print sketch plan showing Mr. Pinkley's proposal of a tunnel arrangement to reach Montezuma Castle. The Castle is now reached by a trail and a system of ladders, and visitors are allowed to go through practically every room in the building. This practice has threatened the life of the building as there is a certain amount of vibration every time a few people walk through it.

"Mr. Pinkley's idea is to handle the traffic something like it is handled at Mount Vernon, where one stands in the hallway and views a room through the doorway. His idea, applied to Montezuma Castle is to enter through a tunnel into the cliff and reach the rooms from the rear. The sketch attached shows approximately the amount of tunnel and stairway that would be required.

"I have always been opposed to the tunnel idea because I feel that it is an artificial way to reach the Castle. Frank Pinkley has written you a number of times about it and has said that: 'Tom Vint wouldn't like it even if it was good'. That does about express my viewpoint of the tunnel idea. For a time I felt that we were taking a certain amount of risk to construct the tunnel as the actual construction of the tunnel might threaten the Castle. However, Mr. Attwell's report, of the Engineering Division, indicates that they feel that the tunnel can be dug without any danger to the Castle. The only precaution necessary is a very careful control of the blasting.

"My suggestion for handling the traffic is along the general lines that it is now handled, except that I would make a longer trail and one that would allow visitors to come on the ledge at the top of the bottom ladder. This would eliminate one of the existing ladders. This ledge that I speak of is the one the Indians used when the Castle was occupied. The route that I have just described is shown on the Montezuma Castle Master Plan.

"Mr. Rose, the Naturalist of the Southwestern Monuments, proposed the scheme of giving the lecture of the Montezuma Castle at the foot of the cliff in what has recently been used as a parking area.

When the parking area was built last year it was located some 800 feet back from the foot of the present trail which was the location of the old parking area. Mr. Rose proposes that we build a small amphitheater where the lecture can be given and make some models to illustrate the sections of the Castle, and its different periods of construction. These could be very nicely shown by models, and without doubt would give the listener a clearer picture of the entire structure than he could get by going through the building. It is contemplated, by the said means of the lecture, that a number of people would refrain from making the trip through the Castle. The traffic through it would be reduced by that much, and those who would go through would not need to be there so long as the lecture would be given at the foot of the cliff.

"This preliminary sketch has come to us for landscape approval. The above gives my opinion of the scheme it represents and I would appreciate you reviewing it and giving your ideas of the policy involved.

"My recommendation is against the use of a system of tunnels to reach the Montezuma Castle."

Thos. C. Vint,
Chief Architect."

There is one fine thing about this report, Chief; you know where Tom stands when you get through reading it.

"Your December report was really thrilling and inspiring. As I read it the other night (and much of it I read aloud to Mrs. Albright) I could visualize the Southwestern Monuments as hives of industry with fine results being achieved under the C.W.A. and P.W.A. funds allotted to you. The spirit of your staff of aids and monument superintendents is a marvelous thing. Once more I say I am proud of all and again I congratulate you." From former Director, Albright.

In the matter of repetition and duplication in Southwestern Monument exhibits, which has been argued back and forth in this Supplement, I want to quote from a memorandum of Mr. Schellbach, dated January 16:

"The usual procedure in handling visitors in the Southwestern Monuments is to collect them in a room until there are sufficient numbers for a guide to conduct them to the ruins. This room is, of course, an assembly room, and in many cases has the place of the museum, in which the story of the ruins is told in detail and illustrated by the specimens secured from the ruins. This assembly room should not and function as an introduction to the story of the ruins and a gateway to them.

"The introduction, then, would consist briefly in orienting the visitor on the archaeology of the area and to act like right as to where this particular ruin fits into the scheme. This excites interest in the visitor who wants to know more to be oriented further and asks the stock questions of, 'Where did the Indians come from?' 'Why?' I thought

all Indians were the same.' 'How do you know?', etc.

"Most of these questions can be answered by the guide, but certain questions can be answered best and briefly by a graphic chart. The guide can point to a chart and say, "This shows where the American Indian came from." At a glance the visitor gets the picture and answer without a lecture.

"Certain charts will, of course, be necessary in orienting the visitor at any of our archaeological parks or monuments. This will make for duplication, but a necessary duplication. This duplication will in no way interfere with the main story of the park or monument. Nor will it attempt to go into detail so as to duplicate the entire archaeological story of the southwest or interfere with the whole story of Southwestern archaeology as told at Mesa Verde National Park.

"For this orienting of the visitor a chart showing the supposed migration routes taken by the people crossing Behring Straits into America, a chart showing the chronological order of the prehistoric cultures of the Southwest, with the particular monument in which it is placed emphasized, and another chart showing the method of tree-ring dating and the dating of the ruin in which this exhibit is placed, would seem necessary. These charts would constitute really the sum of duplication gone into in the Southwest. Here and there there would be a duplication, as, for instance, the showing of costumes of the Basketmaker or Pueblo, or the method of working stone, or the food plants used by the ancient peoples of the region. However, duplication in this respect would be worked out to tell the story in different ways.

"Linguistic charts deal with ethnology and are of such a technical nature that the average person is not interested. Nor should we attempt to enter the field of the university."

Which puts the situation with which we are dealing before you very plainly. And we might rise here to remark that we are somewhat amused at the idea that we are not to tell the whole story of Southwestern Archaeology at any place except Mesa Verde. Why in the world should Mesa Verde, with its meager 18,000 visitors per year be given a copyright on the whole story of southwestern archaeology? From a pure publicity angle; the angle of reaching the most people with your story and hitting them hardest, Mesa Verde isn't by any means the head of your list. This is so plain to us and has been for some years that we are surprized that there is anyone in the Service who doesn't realize it.

Here is a cross section of what happens in camp; a report from John Wetherill which reached us the day after we finished the first section of this report. John and Irwin Hayden were down here at headquarters for a couple of hours one day during the month and

we were all trying totalk at once for the all too short time they were here.

"Dear Frank:

"Mr. Hargrave of the Wupatki National Monument visited our camp last week. Mr. Haydon, Mr. Coston and I had to go to Ash Fork to attend a meeting of the clerks and officials of the C.C.A. From Ash Fork, we being so close to Coolidge, a matter of only a couple of hundred miles, we decided to visit our Superintendent. We found him on the jump trying to keep up with the changes in the rules and regulations of the C.C.A. as fast as they came out from Washington. Washington was about two jumps ahead the day we were there.

"Upon our return we had some bad news. One of the packers had just left the Marsh Pass Camp to carry a message to Mr. Hain at the Turkey Cave Camp, informing him of the death of his wife which occurred the night before in Winslow.

"Mr. Hargrave was at the Marsh Pass Camp and he took us on to Kayenta in his Coupe. Mr. Haydon, Mr. Coston and myself along with Mr. Hargrave made quite a load for the car. Mr. Haydon had to ride on the spare tire in the rear, as his size would not allow for three men in the front seat, if he was one of them. We all arrived at Kayenta in good shape, except Mr. Haydon, who will have no use for the rear end of a Ford car in the future.

"About nine o'clock Mr. Young and Mr. Nevins brought Mr. Hain in and he and Mr. Hargrave left for Flagstaff within a few minutes. Mr. Hain expects to be back in a few days.

"After arriving at Turkey Cave Camp Friday morning we found one of the men sick. We doctored him up for the night and he seemed better the next morning but about noon he became so bad that I thought it best for him to get to a doctor. Mr. Coston left camp with him about three o'clock and took him on to Kayenta. Our hospital doctor was not there so he left him in charge of the head nurse. Sunday morning Preston Coston took him on to Flagstaff and gave him money to get to his home in Snow - flake.

"Sunday, one of the men who had been shot up during the war wanted to take a horseback ride. Monday his old wounds pained him so much he had to stay in bed all day. Tuesday he was on the job again in good shape.

"I seem to be writing of nothing but our bad luck. I think our hard luck was caused by the action of the C. C.A. in cutting to 15 hours. It helped some when they raised the men back to 30 hours.

"The men working on the trail are making quite a showing. Mr. Haydon, our Geologist, is very enthusiastic over his work. He is a careful worker, and what he does will be done right. We have to haul all the mud used in repairing ruins up on polleys, it is a 55 foot pull. The water is packed on a mule for 300 yards. Even with all this they are getting along fine. There is so much to be done, that we will not make a large showing by the 15th of February.

"I want to thank you for getting my 'Other than Labor' funds raised.

"January 30th. A heavy wind started up last night. It is still going and is not still ////////r either. The old tents are popping, cracking, snapping and jumping and the men on the trail are working in a heavy dust.

"Mr. Henning has let us know by 'phone that our 'Other than Labor' fund has been raised to $150 per week. I have had to send two men out to Flagstaff. One of them had pneumonia. What show will I have to get pay for the cars that took them in? We cannot get bids on a thing of this kind and have to take what comes along. Two men of course have no money to pay with. Yours truly,

John Wetherill."

John doesn't bring out the fact that this man with pneumonia had to ride eleven miles horse back down to Marsh Pass and 160 miles in an automobile and 100 miles by train and 35 ~~miles~~ more miles in an automobile to get home. You see, he lived down in the other part of the county. And you will also see how funny it is to us when we relay instructions from the C.W.A. in Washington to the men in the field to 'keep in constant touch with your County Administrator' and so on.

Here for instance, this being Monday, we get word this morning that John can have so many dollars of his 'Other than Labor' money to hire pack stock etc. but these dollars must all be obligated or expended by next Thursday night. All we have to do is to telegraph to Flagstaff and have it telephoned to Keyenta and taken up twelve miles in an auto to Marsh Pass and eleven more miles by saddle up the Tsegie to John; and all he has to do is spend the money by Thursday night, and then, theoretically we all sit around and wait until next Monday to find out how much of our money we are going to get to spend by Thursday of that week. Practically of course, John can't shut down the pack and saddle stock and has to go it blind from Thursday to Monday wondering if his money will cover the expense.

Here is another little view into that camp up in Turkey Cave: it is a letter from Irwin Hayden:

"Dear Frank:

It was about three p.m., Saturday, January 20. We were at work cleaning up a section of Keet Seel when we saw a lone rider coming up the trail. We took him for Mike Loving, one of the packers and a darned good man; he helps Bill Young with the pack train.

"We wondered why Mike was riding alone into camp. Soon we found out. Hosteen John (John Wetherill, our Superintendent), sent a man up to call us in. He had letters from Keyenta telling of a telephone message received in the morning from Holbrook. Poor service that day made it impossible to get the message as sent; what we got was a vague, alarming report that C.W.A. hours were cut to 15 per week with cuts in pay for Superintendents and foremen. The message contained orders for Mr. Wetherill and his clerk to report to Ash Fork on the 23rd.

"Hosteen John put it up to his crew: "What do you want to do, men? It looks as though we were through, but maybe not." To a man, the outfit stuck: "We'll stick, hours or no hours, pay or no pay, until you get back from Ash Fork." Bill Young, head packer, said he would stay by John Wetherill to the end. Josh Young, another valued member of the party, said he would stay with John Wetherill even though a certain place notoriously hot might become completely covered in by ice! At least that is the gist of what he said.

"We have a group of men from Navajo County which will stack up with any C.W.A. crew, anywhere, in our opinion. They are willing workers and interested in the project. In spite of the five hour day, morale is good. A good violin, skillfully played by two of our men, helps mightily in the evenings.

"We are here in Teagie Canyon, some 12 miles from Marsh Pass. If we get beaucoup snow, we shall be thankful for John Wetherill. That vetran of the Navajo Country can bring us through anything that may show up by way of weather.

"Speaking of weather, we have so far enjoyed mild, clear, days and nights cold enough to freeze the water in the buckets.

"Oh Yes! When Hostein John returned with news of the 30 hour week we all said: "Well, we knew John Wetherill would take care of us!"

Irwin Heyden,
Archaeologist, Project 6."

There is a lot of other stuff that could go into this Supplement but this whole report is about to get away from us, so we will save some back for next month. Incidentally, we have issued so many instructions and directions to the boys on the firing line that our supply of plain paper is exhausted and we had to go over to the print shop and buy this with our own good money, which accounts for the cheapness of the quality and those low chuckles of the Custodians who will feel that it serves us right for being so liberal with those instructions. You might put a little speed on that order for plain paper we placed back there a month or so ago.

I mustn't close without telling you that we have an Honorary Chief Clerk without Pay. Hugh and Christine were married on the 18th, and are now settled down in Quarters No. 8 with the good wishes of all who know them for a long and happy married life in the Park Service. Brownie and I went over to Phoenix and stood up with them, for once Hugh admitting that I was the best man, and we had a very happy little wedding in a very pleasant little church. When the Civil Works and Public Works and E.C.W. blows over and we reach that financial desert where Chief Clerks can take a rest, they are going on a honeymoon.

With all the clamor and rush, the high pressure work we have had to put on this new machine of ours this last month, things have gone pretty well on the whole. We have a couple of bad spots to plug up next month, but we are getting to the point where we just reach out and take on any kind of an earthquake and issue a new set of instructions to the Custodians to order another first aid kit and tie into it. Running under the Civil Works has been a lot of fun in some ways!

Cordially,

Frank Pinkley

The Southwestern Monuments Monthly Report for February, 1934.

Contents

Introduction--------1.

Aztec----------15-16
Bandelier---------- 7 -8
Canyon de Chelly--------13-14
Capulin---------- 23
Casa Grande----------34-37
Chaco Canyon----------10-13
El Morro----------26-31
Gran Quivira---------- 6
Montezuma Castle--------19-23
Natural Bridges----------25-26
Navajo---------- 9 10
Petrified Forest---------39-44
Pipe Springs----------24-25
Tumacacori----------31-32
White Sands----------32-34
Wupatki---------- 2 -5
Walt Attwell---------- 37

THE SUPPLEMENT.

The Tunnel is blocked----------A
More about Altars----------B
Museum Traffic----------C
J.B.Hamilton's Report----------D
Hostess John's Supplement---------E
Capulin Again----------F

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF NATIONAL PARKS
BUILDINGS AND RESERVATIONS
SOUTHWESTERN MONUMENTS

Coolidge Arizona, March 1, 1934

The Director,
Office of National Parks,
Buildings, and Reservations,
Washington, D. C.

Dear Mr. Director:

It seems that we finished the January report; dove back into the whirlpool of C.W.A. affairs, and here it is, time to report for the month of February! We thought we were acquainted with all the twists and turns a C.W.A. program could take, but we were not prepared for the complete cutting off of all "Other than labor" funds and being asked to operate fifteen jobs consisting of a dozen kinds of work and working six hundred men without even one thin dime to hire trucks, teams, equipment, buy a sack of cement, purchase first aid supplies, buy gasoline to operate cars to go after mail, buy coal for the blacksmith's use in sharpening tools; absolutely and unqualifiedly without operating funds of any kind; and we were hung up that way for ten days! I am free to tell you that it came near getting our goat. And then we had the episode of the diminishing program. We were ordered, in a 250 word telegram, among other things, to taper our projects ten per cent each week, closing out at the end of ten weeks, and to submit a complete list of the number of men in each class on each project for each week, but to be sure to hold together our research parties as long as we could. We put that order on the pan and worked on it all one afternoon and part of the next morning and finally got off a long wire and an air mail letter and heaved a big sigh of relief. Next day here came another wire telling us to do the whole thing over again on a basis of eleven per cent per week cut and break the party up in nine weeks. Can you imagine how happy we were when we were building all that up the second time?

To put it as mildly as possible, it has been a hectic month and one of suspension and depression and general tough luck and we are glad it did have only 28 days - half that many would have been entirely too long for the kind of breaks we were getting.

Anyway, we got through it and the boys have been sending in some surprisingly good reports considering the tough luck they have been having. Maybe this C.W.A. is like working for the Park Service; after the first twenty years it gets easier.

The desert gods have been with us through it all and have given us the very best winter weather all over the Southwest that we have had for the last thirty or forty years.

The regular monthly reports from the various Monuments follow:

WUPATKI NATIONAL MONUMENT. Dr. H. S. Colton, Flagstaff, Arizona.

Dr. Colton has the following to say: "C.W.A. Project No. 10 weathered the vicissitudes of the old program and now is fairly embarked on the new. Much was accomplished and when the fifteenth rolled around the boys had the place all cleaned up, paths laid out, - all raked and clean. It was a credit to any National Park Project. I am sorry no one of our superiors dropped in to see it.

I append the report drawn up by the entire staff at Wupatki.

Project 4 centered at the Citadel, which we have re-christened Tewalanki, a good old Hopi word meaning, "A Lookout Guard House."

I append, for Project 4, the reports of Dale S. King, Foreman and archaeologist, Robert S. Harris, engineer, and Charles Steen, Assistant Archaeologist.

Project 10. Report by J.W.Brewer, Jr., Foreman; Ten Broeck Williamson, Archaeologist; Richard Van Valkenberg, Archaeologist; and J.C. Fisher Motz, Architect.

"Wupatki, located on the edge of the riotously colored Painted Desert region 35 miles north of Flagstaff, is still unique. Red Moencopi sandstone mesas, white Kaibab limestone canyon floors, black volcanic cinders, and green vegetation give it a variety of sharply defined colors. Sharply defined shapes, too, are there, the result of a canyon system which drains into the Little Colorado river, and of a great lava escarpment which borders the area on the south. At the base of this 250 foot lava wall a crumbled sandstone point projects into a small canyon and on this spot stands a prehistoric Indian pueblo. Nine years ago President Coolidge made this site a part of the Wupatki National Monument. Though it is the largest ruin in this area, Wupatki is but one of hundreds of sites, including Antelope House, Crack-in-rock, and Wukoki, which, it is hoped, will some day be included in the Monument.

"The weather torn walls of Wupatki are 700 or more years old, yet they still stand 14 feet high. To the visitor who approaches by the canyon roadthey appear to stand still higher, for so perfect is the color harmony between rim rock and walls that the two blend into a single mass. This illusion is particularly true of the more southerly of the two units. On the canyon floor, just north of the ruin, is a large eliptical depression. Another depression located on the eastern slope of the sandstone point proved, upon excavation, to be an arena-like enclosure, a thing unique in southwestern archaeology.

"With a more intimate view of the site, several features are liable to give rise to perplexing questions. Most of the talus has been removed from the southern slope of the southern unit. Four rooms have been restored and many others outlined, indicating that there are between 75 and 100 rooms in the ruin. This work was done under the direction of the Museum of Northern Arizona. Beyond this restored and fairly regular portion, is a seemingly illogical jumble of walls; some completely down, some almost intact, slipped, bowed outof line, and each on a different level. Once, after original occupation, a sheepherder used the

in as a corral. Since there were gaps in the walls he had to fill them; and needing quarters for himself, he restored one room though not at all along original lines. The recent clearing of this room disclosed a San Francisco newspaper dated September 20, 1889, which dates rather accurately the sheepherders occupation. Pot hunters from time to time have come to search for trinkets, digging holes and demolishing walls, thus adding to the confusion. The huge rocks upon which the pueblo was built have slipped and settled. All these things, sheepherder, pothunters, and weather have had their chaotic effect, but the most liberal contributor to the confusion was the builder himself. For generations he built, tore down, and rebuilt to suit changing needs, so that the result is comparable to a medieval castle with its terraced rooms and odd-angled corners.

"In that portion of Wupatki which archaeologists have excavated or restored, this confusion has been mitigated. The visitor may now build an accurate mental image of the pueblo at one stage of its occupation. At one stage only, however, for the superposition of generations, the many overlapping levels, could only be preserved in scientific notes and drawings.

"The architecture is a typical stone pueblo type, much like the Hopi towns of today - great communal dwellings with earthen floors and adobe roofs. However, there are certain interesting differences; the Wupatki windows and doors are fewer and much smaller, roof entrances are more common, walls are heavier, and a few loop holes exist. The most unique architectural features of Wupatki are the two large depressions already mentioned. The smaller of these, about fifty feet in diameter, and almost a perfect circle, was probably a ceremonial structure. There is a banquette with a seating capacity of a hundred persons; a cut to the northeast for an entrance, and as a roof, the heavens. The larger, an ellipse of 60 by 80 feet, has not been excavated, and is hence the subject of much discussion. Due to its location with respect to drainage and its exterior appearance, some believe it to be a reservoir, while others maintain that it is but another and larger ceremonial area. Whether reservoir or arena, its excavation will be a matter of considerable importance to southwestern archaeology.

"Wupatki is unique not only for her outstanding architectural features, but also for the priceless treasure of perishable textiles and wooden objects. This condition was made favorable by the hanging walls of sandstone which support some of the rooms and partially cover others, thus making those protected impervious to the enemy of perishables, moisture. No other open site in the southwest has given to archaeology the bounteous supply of textiles and wood yielded by Wupatki.

"The first written record of the handiwork of the Wupatkians was given by Dr. Fewkes after a visit to Ben Doney in 1900. Doney, a veteran prospector, made a notable collection from the ruin. Dr. Fewkes writes of it as follows: ....."One of the most instructive objects is a desiccated body of an infant wrapped in a coarse cotton cloth ....". This

bundle was inclosed in three small cotton kilts which were later washed and found to be good as new. At the foot of the infant was a desiccated parrot (?), some of the brilliant plumage of which is still to be seen. This bird has a prayer stick tied to one leg, which makes reasonable the belief that it was a ceremonial object.'

"Four parrot burials were found by the first Wupatki expedition of the Museum of Northern Arizona last summer. The skeletons of these birds were found articulated and as the bodies were wrapped in rush matting when buried, as shown by the imprints in the soil, parrots must have had an important place in the Wupatkians life. The report of a Hopi informant related that the site was the traditional stopping place of the Parrot Clan of the Zuni Indians on the way from the Grand Canyon to the Zuni Valley in New Mexico, adds interest to the archaeological discovery of the birds at Wupatki. Dr. Alexander Wetmore, of the United States National Museum, has examined the material from the recent excavation and states that three of the birds were the red, blue, and yellow Macaw (Ara macao) and that the fourth was a Thick-billed Parrot (Rynchopsitta pachyrhycha). Both species occur in Mexico and the Thick-billed Parrot has been seen in Arizona. Burials of what are believed to have been dogs were also discovered by the Museum expedition.

"Dr. Fewkes further relates: 'There are several fragments of beautiful cotton cloth and netting. Some of the specimens are embroidered, others are painted with circles and others with geometric designs. A heavy wooden club, several planting sticks, and other wooden objects, are to be seen in Mr. Doney's collection. There are also many cigarette canes, some with woven handles, as well as seeds of cotton, squash, gourd, and corn, and many objects of shell, as tinklers, ornaments, rings, and bracelets. There are also many turquoise ornaments, some an inch or an inch and a half square. The many metates are made of lava, and are deeply worn as if from long use. The copper bell from a grave is a remarkable specimen'.

"From the J. C. Clarke collection of the Museum of Northern Arizona can be seen many objects taken from Wupatki: yucca needles, a wooden dipper, a three-piece wooden cradle board, textiles, pottery, and ornaments of shell and turquoise, some of which are inlaid.

"Recent discoveries of particular interest are, fragments of a painted basket, a bird effigy bowl, and a complete section of fallen roof which includes beams, shakes, reeds, and grass. Three copper bells were taken from a grave. Though numerous burials have been encountered and worked out, it is probable that the main cemetery of Wupatki is still unlocated?

"It is interesting to draw from the ruin of their villages mental image of these earliest Wupatkians. Loop holes indicate political unrest. The very obvious care used by the masons, which made the work durable in spite of the inferior methods, indicates some leisure and a solidness of character. The design of the homes and the traces of coursed ornament showing a stirring of architectural consciousness.

The building of walls across wide crevices and the manner of using double beams show engineering skill. Communal spirit is strongly implied by the apartment-like pueblo. Fine craftsmanship and a considerably advanced material culture are indicated by the artifacts. We picture the Wupatkians, [redacted] as an interested and intelligent individual in the process of [redacted]id evolution. But where has his progress taken him, and where is he now? Is he in truth the ancestor of the modern Hopi?

Project No.4. Report by Dale S. [redacted] Foreman and Archaeologist, on Nalakihu.

"This report deals with the activities of the Foreman and three men at a small ten room masonry pueblo ruin, named Nalakihu, (N.A.358) at the foot of the Citadel mesa. Here four rooms were excavated and a large room reconstructed to serve as a registeration room. The other rooms were backfilled to serve as entranceways or porches. A parking place was leveled [redacted] and 26 man hours were spent on the roads. Several broken pottery vessels were recovered as well as implements of bone and stone which were deposited in the Museum of Northern Arizona.

Project No.4. Topographic survey of the region about Teuwalanki, The Citadel. By Robert S. Harris, Engineer.

"The purpose of this survey was to furnish a topographic map to serve as the base for the location of all prehistoric sites in the Citadel portion of the Wupatki National Monument. The tract is located in Township 25 North, Range 9 East, of the Gila and Salt River Meridian in Arizona. Six quarter sections were surveyed and mapped. This was chosen because of the large number of sites found there and the presence of important geological features such as solution cracks, faults, and sinks in the Kaibab limestone. The bottom of the Citadel sink was found to be 160 feet below the cap rock, and 90 feet below the bottom of the valley. One of the solution cracks was sounded last summer to the depth of 180 feet. The scale used on the map was 500 feet to the inch with a contour interval of ten feet.

Project No.4. The archaeological survey, reported by Charles Steen.

"The archaeologist served as rod man to the engineer. He checked 33 sites that had been previously recorded and located 64 new sites on the six quarters studied. Twenty-six sherd collections were made which were deposited in the sherd library of the Museum of Northern Arizona."

From these reports you will see that business is looking up at Wupatki National Monument in the way of obtaining information and getting together the good foundation of a museum collection. We are to be congratulated on the way the Museum of Northern Arizona has worked with us on this research job and the amount of mutual good that has come out of it. After this C.W.A. is over, the next work for Wupatki is to get a nine months temporary ranger position allocated.

GRAN QUIVIRA NATIONAL MONUMENT. Gran Quivira, New Mexico.
W.H.Smith, Custodian.

"For the month ending February 20, we have registered 300 visitors entering the Monument in 41 cars, trucks, horseback parties and otherwise. Again we are glad to report that we have stepped over our registration for the same period as last year by about 175 visitors. The above figures show the number of visitors we have actually registered, and it is probable that in the rush of our C.W.A. activities we let about one fourth of the people get by without registering them. Among those visiting our Monument this month were Mr. L.D.Cone, of the Landscape Division, who is stationed at White Sands National Monument, and Mr. Stewart and Williams, of the Engineering Division, who came by on the 17th on their way to Tumacacori National Monument.

"We are glad to report another month of fine weather for travel and also fine for the C.W.A. program. It seems that the weather has been suited to the favor of the ones who are working, for if the weather had been as severe as usual here it would have been impossible to have worked. Nor would we have been able to accomplish as much if the ground had frozen every night. With the warm weather we have proceeded with the work very nicely and have accomplished a great deal for the money expended. We have about 2,000 feet of the approach road finished to grade and about three fourths of this amount plated with caliche clay. We also have the road from the top of the hill southward toward the parking area under construction and about half finished. So all in all, it will not take much longer to finish the approach road. When this is completed with its graceful curves, and capped with white caliche in this natural brown soil, it is going to make a pleasing color scheme to the visitors as they drive over it. The south turn of the road, from the top of the hill to the parking area is laid out in a way to beautify the Monument and give a satisfactory entrance to the parking area.

"Taking the whole thing into consideration this C.W.A. has been a fine thing with the internal improvements it has brought about and the work it has provided for the needy in this community.

"On the 19th, while making a cut for the road, as we attained the top of the hill where the road turns southward towards the parking area, we unearthed a skeleton which was some 18 inches or two feet below the surface of the ground. The main reason for any extra interest in this burial over the common ones here, was that this body was not interred sitting up in a room as usual, but was laid on its left side with the head toward the north, facing the east. The dirt around this skeleton for some distance was adobe and the resting place was hollowed out of the adobe dirt in the form of an egg, with the head in the small end and the body flexed in the large end. The skeleton is slightly larger than the average found here. I should say it was fully six feet tall. This person was of the male sex, and long headed; with the anterior portion of the head sloping backward immediately above the eyes. Nothing was found with the burial, although near it we found a great many sherds, some red, some black on red, cooking pottery fragments, and some pieces of plain gray that indicated a large sized vessel."

BANDELIER NATIONAL MONUMENT. M.C.Evenstad, Acting Custodian, Santa Fe, New Mexico. Box 669.

Mr. Evenstad reports as follows:

"Dear Boss:

"Visitors for the month total 65. A good many of these were Courier parties, but a number of private cars came, especially on Sundays. The weather has been ideal with only two threatening days. A little rain fell one night, but this caused no cessation of the work.

"During the month our main activities were centered on the road leading into the Canyon. Landscaping, except road clean-up, is finished from Station 0.00 to Station 45, and grading is finished to Station 84. The work is continuing on widening the road from Station 84 to Station 105. The biggest part of this is through rock and therefore rather slow work. From Station 105 to Station 125 we have started work on several deep cuts and fills, and the bulldozers are working on this night and day. As this section takes in a good many deep washes we are using up a good deal of culvert pipe. We have rented five wheel-scrapers, and are getting sufficient horses to furnish power on these. A temporary corral was built for the horses.

"The pipe line is now completed, including the intake. The intake was the subject of considerable discussion and planning, as no permanent plan had been made for it. At first a reinforced concrete archway was decided upon for covering the reservoir. The principal change was in substituting a 36 inch culvert pipe 30 feet long for this archway. This pipe was chiseled open for its entire length and the bottom was spread about two feet wide and secured with rods. This was then placed between two concrete head walls and then caulked and concreted in and covered with dirt. A man hole was built in one end of the pipe for easy access and cleaning out. Through the upper headwall, and below the level of the creek, we laid a 10 inch sewer tile, back of which we laid about 50 feet of 6 inch sewer tile loosely. Seepage through the sand around the tile furnishes a flow of water considerably more than the capacity of the pipe line. Through the lower headwall, we started with a four inch steel water pipe, gradually reducing each length down to a 2 inch size of the pipe line. Gate valves have been placed at suitable places along the line to enable us to shut the line off if necessary if trouble should ever develop. I believe we now have a good dependable supply of water with sufficient pressure for ordinary use and for use in case of fire.

"The archaeological party completed the mapping of Tyuonyi pueblo ruins, and then, owing to the uncertainty of the C.W.A. program, decided to wait until something definite could be planned. The party, now represented by the person of Paul Reiter only, is now back and as the first project has chosen the cleaning and protection of one of the prehistoric cliff-paintings. When this is done Mr. Reiter expects to go back to the original program of making a surface survey of various of the ruins in the Canyon, afterwards doing some of the ruins on the detached portion of the Monument. This part of the program can be extended as far as is possible in the time we have to work, and has the advantage of our being able to cut off at almost any time, and yet have a complete job as far

as we have gone. For this survey we expect to add one skilled and two unskilled men to the party for helpers.

"I am attaching a separate report submitted by Mr. Reiter of the Archaeological Reconnaissance.

M. O. Evenstad."

Archaeological Report. By Mr. Paul Reiter.

"My dear Mr. Pinkley:

"The archaeological crew assigned to Bandelier National Monument spent the first two weeks of this month finishing the drafting of the detail map of the Community House ruin. This plan is finished in two different scales. Each of the several sections of the ruin is on a different sheet in half-inch scale, to better record the details. On another sheet, in one-eighth inch scale; these sections are united, giving a complete plan of the pueblo. The elevations were determined from an arbitrary point, and the highest of the several first floor levels in each room was recorded. Also noted were the character of each wall intersection.

"The third week of the month was lost. The men in the crew found other work and I waited in Santa Fe for a continuation before organizing another party.

"This last week I spent working on the painted wall a quarter of a mile above the Community House. This wall is recessed into the cliff and served as one of the rear walls of a talus house. It bores a design of red paint which later was covered over with the usual adobe plaster. For many years a portion of this stepped design has been visible in places where the outer plaster layer has chipped off, exposing about two thirds of the painted area. That the wall was noticed by tourists is evidenced by the multitude of carved initials.

"The work on this wall consists of removing the remainder of the latest plaster layer, and attempting to obliterate the many initials. This week nearly finishes the delicate work of separating the plaster layers, and next week I plan to cover the painting with plate glass.

Respectfully,
Paul Reiter."

The measured drawings of the Community House will be a welcome addition to our archaeological knowledge of Bandelier and we hope, in his final report, Mr. Reiter will include the new information which undoubtedly developed while these drawings were being made. Such a close study of the walls cannot fail to give us additional information.

In the second C.W.A. program Mr. Reiter proposes to (1) make an intensive survey of the ruins in the Canyon and spot them on the topographical map now being made; (2) survey and map the ruins of the detached portion of the Monument, and; (3) make stratigraphical tests on one or more of the large ruins.

NAVAJO NATIONAL MONUMENT. John Wetherill, Custodian, Kayenta, Arizona.

Mr. Wetherill writes as follows:

"Dear Frank:

"It seems as if the ink is hardly dry on one report when it is time to send in another.

"The work on Keet Zeel has progressed more rapidly than I expected, due in part to a day or two of snow storm. About nine inches of snow fell. This allowed me to put the men who had been working on the trail on the ruin work. The change in work seemed to put new pep into the men and they took hold in great shape and accomplished a great deal. The broken walls were built up as if by magic.

"While Mr. Hayden and Milton Wetherill were working over-time in the trash pile below the ruin, they uncovered the body of a child. It had two pieces of pottery buried with it of the Pueblo 2 type. This is quite a bit older than the culture of the ruin itself.

"We are finding the three types of Pueblo pottery and a great deal of what archaeologists call Basket-maker 3; they have more to learn about Basket-maker 3.

"We have found quite a lot of small artifacts, such as arrow points, bone awls, yucca cords, pieces of baskets, pieces of cotton and yucca cloth and quite a few good yucca sandals, besides many other specimens too numerous to mention.

"We are sending in a stump of a tree which we found in the bottom of the creek, 35 feet below the ground level. From all indications it grew to maturity at the time the elephant and camel roamed this country. the 35 feet of covering soil had washed away in the past twenty years.

"While I have been down this time one of the men brings the report that Hayden has found the skeleton of a parrot in the ruin. We will have the laugh on him if it proves to be that of an owl or a hawk.

"During the two days of the storm Mr. Hayden and Tom Bowen cleaned out a large Kiva in Turkey Cave which proved to be of especial interest, having an extra fire box and several loops of yucca rope in the floor. The loops were evidently to hold some kind of screen, behind which they made their magic.

"Twelve of my men left for home, but want to come back if the work continues long enough. They all seem to like the work and the country and I want to repeat that never before have I had the pleasure of working such a willing bunch of men.

"There are many interesting features turning up at Keet Zeel, which will all be brought out when the final report is turned in.

"On the 11th there was a party of 25 visited Betatakin Ruin. They

were mostly all Indians from the erosion control school at Cameron: Navajos, Hopis, and Zunis. This is the first time since Betatakin was discovered that a pleasure party could get in at this time of year.

"The weather still holds wonderful, very mild during the day and not too cold during the night, but we would all like to see some wet weather.

"Trusting that you can find time to get up and give us the once over before the work stops, and with best wishes, I am

Yours truly,
John Wetherill."

From which it will be seen that things are going all right up in Hosteen John's country, as usual. Here is another Monument where we need at least an eight month ranger and we need him badly on several counts. First of course is the vandalism which is bound to come with the increased diffusion of knowledge of this very interesting country and the consequent influx of visitors. Second is the chance to give information of some value to visitors and stop the wild stories of pygmies and so on that spring up like weeds among unattended visitors. Third, we need to have some studies made on the ground with these visitors to find out what they are thinking and how they are reacting to our ruins.

This will be a strictly pioneering job of ranger work, quite different from our other temporary jobs, and needs a man who can go out with a pack outfit and enjoy repairing trails, studying ruins, talking with the Indians, meeting the visitors, and turn in some ideas on the best way to handle that Monument in the days of increased visitors which lie just ahead of us.

CHACO CANYON NATIONAL MONUMENT. Hurst R. Julian, Custodian, Crownpoint, New Mexico.

Mr. Julian reports for the month as follows:

"Dear Boss:

The visitors to this monthoffor for the month of February numbered 78, and are registered from four states and the District of Columbia.

"This will be only a summary of the work accomplished under the C.W.A. program, the full and final report will be sent in within a few weeks, or possibly at the end of the job. This final report will be in detail and will cover every possible activity and thing; naturally I would not leave out anything we had done, I would want to brag on it regardless of how poor the job was.

"Starting with the Archaeological Reconnaissance party, because they have been able to accomplish a great deal, we have done considerable work on cataloging the museum collection, a job that has long been waiting. The materials that were on exhibition were simply on exhibition, there was no record to show where they came from or the circumstances of their recovery. Since I had collected many of the artifacts, I was the only one who had this knowledge, and since the tenure of men is so uncertain, it is exceedingly important that complete records be kept of all research.

"With the idea in mind of systematizing future activities, and leaving the work in such shape that a perfect stranger could come in on the job and go ahead without hesitation with a complete knowledge of what had been done and exactly how it had been done. We laid out a base line for the complete length of the Canyon floor. This base line has been tied in at convenient section corners and the angle points were set permanently in cement. From the base we turned angles to the cliff every one hundred feet of distance on the base line. This of course divided the cliff walls into sections varying in length according to the irregularities of the cliff face. At these points we drilled small holes into the stone and put a short section of pipe into the hole. The advantages of this is apparent; with these sections numbered, everything from a pertoglyph to a cliff cavity can be described as to location so accurately that they can be found by any stranger familiar with the system who may have occasion to check our work and investigate the matter further, within the next hundred years.

"Feeling that there had been entirely too much digging and entirely too little repair of walls uncovered in the Chaco, we hoped to set an example of perfect conservation in our work at Chetro Ketl. We had removed considerable of the dirt from behind the back wall of Chetro Ketl and in so doing exposed many holes and weak places in the walls. All of these holes have been repaired. Naturally I do not expect an archaeologist to follow this policy because it means that nine tenths of his crew will be on repair most of the time and that would leave such a small proportion of the crew to dig that no archaeologist would consider our system for a minute. The scientific practuce has been to uncover these walls in order to let them fall down. Asking the pardon of all who may feel that in this statement I am unjustly criticizing them or their work. Gordon Vivian ably handled these activities.

"Mr. Owens, who has been doing the restoration and what have you, for Morris for the past decade or two, has been my right hand man in the repair and restoration at Pueblo Bonito and at Pueblo del Arroyo, and has accomplished wonders for the Great Kiva A at the former ruin, and is doing some experimental original ceiling protection work at del Arroyo. The Great Kiva was restored to the condition in which Judd left it at the conclusion of his work at Bonito, and the ceiling protection work consisted of restoring enough of the walls above the ceiling that a restored ceiling could be placed above the original.

"It should be noted that we are not attempting archaeological investigation or research. Our work at Pueblo Bonito was to protect the Great Kiva, our work at Pueblo del Arroyo was to protect original ceilings and to work out some method whereby a general policy might be formulated. The work at Chetro Ketl was simply one of protection from the flood waters of the Arroyo which rushes down past the ruin. We put dykes and ditches on the cliff top above the ruin to direct the water down certain courses and then ditched these courses around the ruin.

"The engineers have done an excellent job of protecting del Arroyo from the main Chaco Wash. Our dirt and rock work is to me a work of art. It appeals to me particularly because it took the load of worry off my mind about the immediate probability of losing the re-

maining portion of the only triple walled tower or Kiva that has been found, to date, in the Chaco culture. This has been, perhaps, the largest undertaking of the entire program, but is not as detailed in its substance as some of the other jobs, so consequently there will be less written about it.

"With the remaining time and the P.W.A. money we hope to have the boundary survey completed and the lines marked so that they may be followed from one post to another completely around the Monument. It is considerable satisfaction to know where the Monument is, anyway. Too, this survey will become the basis for the only complete and permanent erosion control work that can possibly be done upon this or any other area; namely, grazing control. We could not do anything on this most necessary and important matter because we have never known where the boundaries were until this time. I consider this the beginning of perhaps the most important work that has ever been done in the Chaco, and in this statement I do not except the excavations, because what would it profit us to uncover a city if we let erosion, the great destroyer, take it away from us?

"Fifteen years ago Dr. Pearson was telling a skeptical world that all there was to erosion control was grazing control, and that nothing else mattered. All other efforts were but palliatives, simply the rubbing of soothing salve upon a cancer. I did not believe him as the majority of people doubt him today. However, one by one, the most advanced experimenters are coming into agreement with him. It took the world at least two centuries to admit that Galileo was correct, and in the early part of the seventeenth century, this greatest perhaps of all scientists, laid the foundation for the demonstrative principles of science, without which fact is not fact, but the matter of Aristotelian opinion. With these things in mind I do not hesitate to place the boundary survey and marking as the greatest of our achievements because it is the beginning of the end for the great god of destruction, the god of Erosion.

"When we found our equipment and supply money taken away from us we decided to improve the shining hours by working the roads, as this sort of work could be done with labor alone. Formerly it took but ten minutes of rain to block our roads from the south. We hauled and carried gravel for the bridge approaches and dug a system of drainage ditches to carry the water away from the bridge top and approaches. With high hopes and not too much exaggeration, it might be claimed that we will be able to negotiate this miserable stretch of road for some time in the future regardless of weather conditions.

"Every hard rain blocked the northern entrance. The flood waters poured down over the 'stair step hill' and made impassable what was under normal conditions an almost impossible passage. It has been necessary for me to keep a tow car in readiness at all times to assist visitors into and out of the Monument because of the condition of this hill. The lucky, the good drivers, and the well equipped, sometimes made the passage unaided, particularly at such times as the neighbors, by community effort, were working the hill. However, we hope that this is a thing of the past. We have widened and smoothed the road on the hill and have cut drainage ditches through solid rock to divert the floods.

"This road work was a necessity, because with one hundred or more people in the Canyon more or less permanently, and with our work going on, it was absolutely essential that these roads be kept open for emergencies and for the transportation of equipment and supplies.

"No account of activities would be complete without a prayer of thanksgiving to the god of New Mexico weather. Our bright sunshine, and, for the past few weeks unfrozen ground has made this entire project possible. We have undertaken this work during what is perhaps the only winter within the past twenty years when it would have been possible. I doubt if many of us will live long enough to see another winter which will permit such work. The unsheltered workmen have been more or less comfortable throughout the entire time.

"The conclusion of the program will see little new in the way of accomplishment. For the remaining time we will be concerned principally with cleaning up our messes, putting the finishing touches on the almost completed jobs, and adding refinements to the roughly finished bits of work. And, with the permission of the Superintendent, the completion of the boundary survey with the P.W.A. funds provided for that purpose.

"In the last few weeks of our program, when the most of the laborers have been discharged, we intend to run a few experiments on the business of capping walls. This experiment has been started and, from all indications, it seems that no capping at all will be the best capping. I think that we can demonstrate that here, as was done at Casa Grande; that all the forms of capping which have to date been used in the Chaco were either detrimental or of very little value. But this matter will wait for another report and the time when we have more evidence to support the statement.

Sincerely,
Hurst."

You will have to admit there is one thing, Chief, between tunnels and wall capping, we always have something to talk about in the Southwestern Monuments. I have been monkeying with wall cappings for the last twenty-five years, or rather with wall protections of various kinds, so I'm perfectly free to admit that I don't know much about them; which, however, doesn't keep me from talking for and against most of the known methods. It does make one feel foolish to have his nice capping crack and peel and fail and the fool wall which was laid up by a dumb Indians 800 years ago, just goes right on standing there, in most cases in spite of our protecting measures. However, I am still of the opinion the engineers are smart enough to out-wit nature if you give them plenty of time and the landscapers can tone the job down to where it won't look too awful bad, and that eventually we may get some protection on our ruin walls which will be effective and more or less artistic.

CANYON DE CHELLY NATIONAL MONUMENT. C.A. Weintz, Engineer in Charge, Chin Lee, Arizona.

Mr. Weintz summarizes conditions at de Chelly as follows:

"What this country needs is a good road; it can then hold its own with any of the show places of the Southwest. It has color,

archaeologic l interest beyond measure, and a number of scenic attractions. Even after having done field work over much of the Rockies from Texas to Alberta and being familiar with mountain canyons, bad lands, and sage brush flats, I was unprepared to see so many interesting sights.

"North and west of the Canyon mouth, in a brilliant array of color, are the variegated shales of the Chin Lee formation known as the painted desert. In the lower part of this formation considerable red, yellow, brown, and white agatized wood is found.

"Fifteen miles to the west, Black Mesa, with its yellow capping of Mesa Verde Sandstone supported by black and green-white shales, presents an ever changing array of color and shade as the sun changes position throughout the day. In the late afternoon somber tints prevail, and the entire Mesa is a dusky purple.

"Migrating sand dunes with acres of live yellow sand lay a mile south of the Canyon mouth. The crescents are well formed and many of them are near one hundred feet in height.

"The Mesa Country, through which the Rio de Chelly and its tributaries have cut channels a thousand feet deep, is covered with pinyon and juniper in abundance. In the deep talus slopes below the Canyon rims large Douglas Firs are frequently found while in the higher country to the east Yellow Pine is predominent.

"The light color scheme of this country is farther brought out by sheer cliffs of the Chelly sandstone which are often seven hundred feet high without a break. Angular and tangential cross bedding in the sandstone with laminae of varying hardness have created spires, monuments, overhanging walls, and odd shapes of every description. It is this feature of the de Chelly that has made the Canyon such an ideal spot for the location of cliff dwellings. Large caves, high above the Canyon floor were ideal shelters and easily protected from attack.

"The floor of the Canyon is over two thousand feet wide in places, and numerous corn fields, peach orchards, and grazing patches are located on the higher stream terraces. Mud thatched hogans of juniper house the Navajos who live in the Canyon during the summer months.

"The routine of mapping is kept interesting by the varying character of the topography, the numerous cliff dweller ruins, and the climbing skill of the Navajo rod men. These boys have become quite proficient in their work, and can surely cover the ground. The instrument men have their parties in an oth working order, and will soon start on the more isolated sections of the cany ns.

"Approximately twenty square miles of canyon rim, floor and mill have been mapped on a four inch to the mile scale and contoured on a twenty foot interval. One hundred acres of the area near the mouth of the Canyon have been mapped on a one inch to forty feet scale and contoured on a two foot interval.

"From a historical, archaeological, and scenic viewpoint it seems to me that this region is outstanding, and I am sure that in the years to come many visitors will find it so.

Clement A. Wointz,
Deputy Engineer."

I would call that a favorable decision from an expert and an outside expert at that; so not biassed by the fact that he feels obligated to brag on Park Service stuff.

AZTEC RUINS NATIONAL MONUMENT. Johnwill Faris, Custodian, Aztec, New Mex.

Mr. Faris sends in the following good report:

"Dear Boss:

Visitors for the month total 374, which will undoubtedly surprise you when compared with the 61 of February last year. It may be explained by a series of fortunate features. The weather, with the exception of a couple of days, has been ideal, and the interest in the development and progress of our Civil Works has probably reached its peak during February, and the fact that the publicity secured from Civil Works projects has been more or less general throughout this entire basin might explain this raise in attendance.

"We certainly wish to express our appreciation for the attitude of the public at large and in expressing appreciation for the public it certainly behooves this office to publicly express appreciation for the loyalty and earnestness in which every employee undertook his or her part of the Civil Works program. It has been expressed by numbers of outsiders and the workmen themselves, that for many years they have been unable to witness the close cooperation and genuine appreciation of all employees that is evidenced in our personnel at the Aztec Ruins.

"February 15th, while considered more or less of a death knell for Civil Works projects, is at the same time considered by our remaining personnel as a challenge to even more concentration and effort for the continuance of our Civil Works program. The point has been reached where each individual has a more or less personal responsibility in the completion of our projects as outlined. Such a regard throughout makes my duties as Custodian a pleasure and limitations on what will be accomplished are only those that I possess personally.

"The only feature of our entire program that has been disappointing was that of our fence. As you know by the correspondence, shipment was delayed due to no fault of the contracting party and our fencing was not completed on February 15th. We suffered no inconvenience by this delay since our entire efforts were concentrated on the parking area and the time of each man can be accounted for with profit and worth to the National Park Service. We are taking this fence as one of our first duties on our continuance and are proud to say that we anticipated a fence parallelling any in the National Park Service of a nature similar to this of ours. Regarding this fence, I want to express appreciation for the attitude shown by the Santa Fe Builders in their willingness to assist and complete the contract to the mutual pleasure of all concerned. In this connection it might be only fair to say that we have yet to encounter a disagreeable contractor or firm in our Civil and Public Works projects.

"Project No.1, the removal of the barn, has been completed in every detail and we are very pleased to state that the Abrams are satisfied and pleased with the project. We have a complete record of distribution costs and labor on this particular project and it will be only a matter of a few days until we will supply your office with a complete breakdown of labor and costs on each project.

"Project No.2, fencing the Monument boundary, we have mentioned above in a passing way and I might add that this subject will probably enhance

our Monument as much as any one project could. We have a grade of fencing and a type of posts that would do credit to any park throughout our country and it will only be a matter of a few days until we have completed this project in every resppct.

"Project No.3, our parking ground, is undoubtedly showing up better than any of our other projects. We will lack the plastering of our walls, the topping of our parking area and some of the minor features yet. We have received many compliments on the fact that our parking area is an improvement long hoped for an one needed many years. With our continuation of Civil Works, we will concentrate on the completion of this area, not only from the standpoint of efficiency but from the standpoint of beauty as well.

"I might mention a few figures in connection with our parking area. We have completed approximately 1,000 feet of curb, which includes our island in the center and our curb around the walks. The concrete walls so far constructed contain approximately 230 yards of concrete and are approximately 600 feet long, two feet thick and four feet above grade. We have in place about 250 yards of crushed stone and rock. This is of course distributed over approximately 21,000 square feet of parking area and walks.

"Our entrance gates are being formed at present and we are now working on the huge redwood timbers and getting our lettering completed so they can be installed in the form. This particular feature has been one of our worst problems. No one we could locate in this section of the country could do the work to our satisfaction unless the cost was so great that its consideration was prohibitive. Our Landscape Division has designed a type of lantern for each gateway that is most appealing and picutresque. These lamps are in the process of construction by a local firm in order that we can give them adequate supervision and we have every hope that when complete our parking area will present a model to be envied by any Monument of Park in our vast Service.

"Our Archaeological Reconnaissance program is more or less at a stand still due to our not being able to hold personnel on a fifteen hour per week basis. Unless some definite program can be outlined whereby archaeological reconnaissance parties can be worked thirty hours per week, we will have to forego any plans for measurement of ruins and complete detailed map of our archaeological values. If such an arrangement cannot be made, Doss, will you lend your support to a very definite archaeological program with a set amount to be allowed on Public Works with a very definite program to follow? I do not want to be too discouraging on the archaeological work since actually, with conditions as they are, we have accomplished wonders.

"Our museum, with its artifacts, is completely indexed and one set of cards will be completed for inspection as soon as photographs can be returned and placed on the card. We have instigated, I think, the most perfect system of indexing to be found anywhere and it will be practically impossible to lose a piece, and should any piece be lost we will have a complete record for any investigation that may result. The credit for this thoroughness is due entirely to the foresight of Dr. Russell and Bob Rose.

"Miss Scranton is now working on the duplicate cards for your

office and at the same time is taking particular pains to check each list that we may be assured of not only a complete but accurate record. We have listed, so far, 1,378 artifacts in our museum collection. These are some short since we are missing a few pieces. This loss is not of a serious nature since in many cases it represents just fragments which were numbered and were of no consequence whatever.

"The pottery repair is progressing satisfactorily under the adequate supervision of Miss Adams and we would like to again express our appreciation in being able to secure her services for this work. Mr. Morris had several pieces most unique but almost beyond repair. Miss Adams has restored these jars and added to our collection some of our most valuable pieces.

"I would like very much to have your early attention to this archaeological handicap of fifteen hours and your reaction to this being carried under Public Works as a special project. It is one that I can whole heartedly recommend and also one of such nature that its completion will result in statistical information of untold worth to the archaeological world. We are carrying a few men right along on Public Works and under this we have laid approximately 325 feet of eight inch drain tile. We have about 650 feet in all. This ditch varies in depth from one inch to twenty feet. We have encountered some sub-water and sand which has hindered our work somewhat.

"In our Public Works drain ditch we encountered, several hundred feet southeast of our ruins, several burials, and these burials, while in a very dilapidated state and of no value whatever, connected with the body itself we found two of the most interesting bowls of our entire collection. One is of more or less vase type with handle attached and the base might represent a frog or horned toad. I know of only one other of this type in this section of the country and you may have seen it while it was displayed at the Aztec Ruins. Do you recall the little deer with the head lying over on the side? These bowls were not broken to any extent and a wee patch here and there by Miss Adams made them perfect.

"It is our hope to further cooperate in our President's plan for reemployment and with his policy in Public Works taking up Civil Works personnel, by starting our Public Works force about the last of March or at least the 10th of April, at which time Earl Morris will have been here to give us some of the details expected of our office in cooperation with him on ruins repair. I am unable to state at the present time how many we anticipate using. This will depend somewhat on whether or not we will be allowed to build our museum on force account. You recall my letter regarding this after I had given it much consideration with both Mr. Richey and Mr. Hamilton.

"We were somewhat disappointed in our museum plans not being in accordance with the desires of the Educational Division and still hope that we may cooperate with them to the mutual agreement and benefit of all concerned. We do not want to appear contrary or hard-headed on this museum idea, but after being complimented repeatedly by hundreds of visitors on the attractiveness of our museum, principally because it was not like thousands of museums in the country, we cannot but cherish these comments and endeavor to incorporate them in our plans for a new one.

If we cannot profit by the suggestions and the pleasure of our visitors, on whom we depend for our existence, I doubt whether I would be fulfilling my duty as Custodian if I did not fight for the ideas they wish us to adhere to in our future development.

"I appreciate fully that we cannot allow the layman to dictate the policies we may follow, yet if our policies are too much in contrast to the layman's desire, what have we gained after all?

"We enjoyed February as well as we did January even though its trials and tribulations were many. We sincerely hope that having experienced these difficulties we can grasp the continuance with renewed vigor and hope. We have no doubt but that it will be much easier to continue, having experienced the period from January 19th to February 15.

"With every good wish to your force and congratulations to each of my colleagues in the Southwestern Monuments for the splendid work they are doing, I am

Cordially,
Johnwill Faris,
Custodian."

Johnwill, the Landscape Division and the Educational Division are in a more or less three cornered argument on the type of structure for his new museum building. As usual, each angle has some good points and each party will have to do some compromising. The present museum collection at Aztec is spread through eight or nine of the original rooms of the ruin. This method of displaying the stuff was forced upon us by circumstances over which we had no control several years ago and, as Johnwill says above, most of our visitors get quite a kick out of the arrangement and compliment us on its difference from the average plate glass and mahogany type of museum. Chuck Richey and his draftsmen have turned out some mighty nice sketches of some proposed interiors of a museum which is to be built on force account, wherein they use the pieces of the collection as decorative members of the museum interior. There is considerable danger about this, because some of the most important pieces in the average museum may not be decorative and the Landscaper might not be in favor of putting them on display at all. Another possible objection is that the artistic interior idea might call for placing certain bowls in certain niches, whereas, in conducting your visitors around the museum that particular bowl might not fit in with your talk when you had reached that part of the room. Also, if you build a room with certain niches and so on to fit your present collection and make an artistic interior your main theme, what are you going to do when a bone digger comes along and turns up a lot of new facts and new materials that don't fit in the collection as you have it arranged?

All this is on one side of the argument. On the other side we just naturally recoil from the glass-coffin type of museum where the attendent is so busy keeping the kids from putting their dirty noses on his lovely plate glass that he hasn't time to tell pa and ma what it is all about. Some place in between these points is probably the ground we are looking for, and in the meantime it won't hurt the boys to air their opinions and we may possibly get them to strike out something on a new line.

MONTEZUMA CASTLE NATIONAL MONUMENT. Martin L. Jackson, Custodian, Camp Verde, Arizona.

Mr. Jackson sends along the following report:

"Dear Pink:

"By actual count we find the Castle had 1,065 visitors for the month. Our register book shows that the following states and foreign countries were represented: New York, Connecticut, Minnesota, North Dakota, Montana, Idaho, Oregon, Washington, Texas, California, Colorado Michigan, Indiana, Ohio, North Carolina, Louisiana, Rhode Island, Maine, Pennsylvania, British Columbia, Canada, France, England and Mexico.

"To write you that we had 1,065 visitors from twenty states and five foreign countries would not make the headlines in any of the big dailies, and would mean but very little to anyone not familiar with what is required of a custodian or ranger on a National Monument. But to us in the Service it means nothing more or less than that these parties will come in groups of two or three, or quite often only one to a party, and that each and every party, regardless of the number, is entitled to, and gets, if desired, all the information that the archaeologists, ethnologists and anthropologists have been able to get together in the past hundred years, besides the results of our observations on this particular cliff dwelling. We then conduct the party through a museum and explain a hundred or so artifacts in detail, and, lastly, find out where the visitor is going and explain or show him on the map how he gets there. By that time, or even before, there is another party waiting to go through and you go into the same procedure again.

"We are not complaining, and I'm sure that you know we are always glad to have visitors come in, and I still think the visitor is entitled to all he gets at any park or monument but what causes me most is the number of people who ask how you got these soft government jobs where one is sure to get his salary and not have a great deal to do. I still insist that we have a very fine class of visitor at this Monument, though occasionally we get a wise one who asks such questions as; 'Why did Montezuma build his Castle so far from town?' and 'Did Montezuma have a horse?' and 'Do you stay here all the year' and 'Don't you get awfully lonesome?'.

"Worse yet, I have been told that I am out of date. I think so too for I am still so old fashioned that I think visitors to this Monument are my guests while on the Monument. Anyway I naturally would be out of date because I live in a community that is quite behind the times. I know several men around here who still have only one wife, quite a lot of the people still think they should wear an obligation and I doubt if there is a pyjama in the community.

"If I am old fashioned, at least part of my early education in the Service is chargeable to yourself. I have before me a memorandum to Custodians that you sent out several years ago when Custodians were working for a dollar a year, although the butter class were drawing down $12 per year. No doubt most of the older fellows in the Service received a copy, but I still think it is good and might be of interest to some who have entered the Service in recent years, so I quote it in part:

> 'Some of you will think that this line of talk is not going to touch you because you are only a part time custodian, but

get that out of your mind. Wherever you step on your Monument, you are the host there on behalf of the United States Government, and that Government has a right to demand that you treat its guests with courtesy and respect when you are on duty and give them all the information and aid to the enjoyment of your Monument that you can. It is perfectly true that if you do this, you will be doing more than you are paid for, but the all time men are doing the same, so you are no exception to the rule. A clock-puncher who figures that he must be careful not to do more than a dollar's worth of work he is getting paid for is of no use to this Service, and the sooner he gets out, the better it will be all round.'

"Concerning the C.C.C. project going on here, while we have not made the progress we had hoped, due to the reduction in hours, and part of the time our 'Other than labor' funds cut off, we have done the best we could.

"I am going to close my part of this report and give the other members of the personnel a chance to be heard. The archeological project here is being done under the supervision of Earl Jackson and he is ably assisted by Miss Sallie Pierce. Their work, being more or less technical, necessitates their own report. The ranger, the clerk, and the Sup't of construction, not being so technical will take a chance on riding along with me.

"Kittie Statham: (Clerk).

'When the Londscapers are here they talk in the lingo of curves. The Engineers insist on the shortest on the shortest distance between two points; but when I figure on vouchers and term hire my mind runs in circles, which is the line of least resistance.

'Vernon Tuttle: (Road Foreman).

'We are about to accomplish our point, the finish, and the road around this Rock of Gibraltor is beginning to look like a path to paradise. The way these lads heave gravel and dodge falling rocks would make one think that Montezuma was after them with his pop gun. However we have a good place to dump rock, which is a very good thing, and this gang thinks in terms of bigger and better rocks as well as more and better roads. We appreciate the interest the men have shown in their work and we hope the public will be as proud of our road as we are.

'Everett Hurst: (Acting Ranger).

'Quite a lot of interesting people this month. Our California friends wonder how it is possible for the Castle to remain as it is, for they still talk in terms of earthquakes.'

"Appended is the archeological report.

Cordially,

Martin L. Jackson, Custodian."

The surprising thing, Chief, about that quotation Jack springs on me from the good old days, is that any Park Service man can file a thing and then go back and find it again. I'll bet it was an accident.

SECOND PRELIMINARY ARCHAEOLOGICAL REPORT FOR MONTEZUMA CASTLE C.N.M.
by E. Jackson and S. Pierce.

"Archaeological excavations are as uncertain as a woman's whims; One day may result in discoveries of an abundant and astounding nature, while the next may reveal a diametric negativity as regards quantity, albeit an extended conformity to the astounding. Our work here at the Castle further attests these facts.

"Up to the 25th of January, despite shortage of time, labor, and tools, the excavations, being confined largely to the top of a great mass of fill against the limestone cliff, were yielding almost day by day more interesting features about the ruins of the great fallen cliff dwelling 100 yards west of Montezuma Castle. Since that time we have confined our work to the base of the fill, below and in front of the ruin, with the intention of doing 100% excavation of the building, and learning of any additional structure or burial area at the bottom.

"To date, on this same ruin, which is marked 'A' and 'C' on the control map, all rooms save two have been cleaned, the fill has been about three quarters removed and all building stones piled up, and only about a 40 foot frontage of the base ledge remains to be uncovered. The remaining fill consists of hugh limestone boulders and fallen wall rocks and dirt is 10 to 12 feet high, filling the right angle between the level of the river terrace and the ledge face below the rooms.

"Practically nothing has been found in this fill. When only half a dozen sherds are found in a ten foot cut, stratigraphy is scarcely worth while, for much of the wall material in which they are found has fallen a distance of from two to six stories.

"After about three days I managed to find enough of the kind of timber suitable to use in the restoration of Room 5, which was outlined in last month's report. This restoration will be a shed roofed type, and will be done immediately upon removal of enough of the front fill to determine signs of a floor or fallen south wall in front of the room. In ten days at the latest we should be doing this restoration, and will have the ruin practically excavated.

"We have one man started at work on the pit house excavation on the slope directly in front of the Castle. The one pit-house so far found has been partially destroyed by weathering, as the course of an arroyo lies over the east end of it. About half the room has been uncovered, but the floor will not be cleaned until about six feet of debris has been removed from the entire enclosure. An interesting feature about the location of this pit-house is that thirty feet to the west, on the same level, are traces of a stone walled structure.

"In the past month Miss Pierce and I have been attempting to familiarize ourselves with the pottery classifications adopted by the Museum of Northern Arizona, as it covers types from the region which most vitally affected the central and upper Verde drainage culturally. In her laboratory work she has tried to check our sherds with as many sources of information as possible, and has presented the following tentative outline of wares found in our excavations.

"With the people who in prehistoric times lived next door to the Castle the making of pottery was more of an industry than an art, judging from the sherds and incomplete sections of ware we have so

far uncovered.

"'As indicated in the preceding monthly report, practically all the sherds recovered are plain ware, showing no attempt at decoration or even at a very careful workmanship. This plain ware was probably made by the people themselves to answer their purely utilitarian needs. The paste is coarse, the sand tempering very noticable, and the firing uneven. Nearly all of this type are blackened from use on or near the fire. The thickness of the sherds, the rims, and the very slight curvature shown in large sherds indicate that the two prevailing shapes were large ollas and large, slightly flaring bowls. One olla of this type was found nearly complete near the fireplace of Room 5a; the bottoms of three similar ollas were found in place in the same room.

" 'A small percentage of the plain ware has a polished red slip, sometimes showing the regular striations which give 'Onion Ware' its name; many of this type have smudged interiors, rarely polished to a burnish. In this division of the plain ware the general workmanship is better and the paste is usually much finer; one semi-complete bowl was found, the sides of which are only an eighth of an inch thick. The usual shape seems to have been bowls; one small nearly complete olla was found in place in Room 5a and enough pieces of another olla were found to enable its shape to be determined. This last mentioned olla is about ten inches high with a mouth eight inches in diameter; and a deeply curved 'shoulder' beginning four inches from the rim; the diameter at the widest part of the shoulder is over thirteen inches; the shoulder curves in sharply where it joins the sloping base. Variants of this form seem to have been common in this red ware.

" 'In the true decorated ware, forming 4.1% of the total number of sherds yet found there are four other cultural areas represented by trade ware or by their direct influence on design and color: the Hopi or Tusayan area: the Flagstaff area: the Roosevelt area: and the Gila area. In the case of the Gila area the accuracy of this statement must be judged by only six sherds: one typically red on buff in color and design; five Gila Polychrome. A large part of the decorated sherds is typical Jeddito Black on Yellow; comparison of these with Jeddito Black on Yellow sherds from old Chimopovi shows the same type of paste and leads us to believe that these were true trade pieces. Black on White ware predominates in numbers over other decorated types and is varied in design; a few designs are of the 'negative' type of the Tusayan and Kayenta areas; a few are more like those found in Roosevelt and Tularosa ware; and a few are typical of designs of the Flagstaff area.

" 'It is the very small amount of decorated ware, its lack of unity of design, pigment, and paste, and the substantial percentage of recognizable trade ware which leads us to believe that the people of this site confined their pottery making to the plain, usually coarser vessels and traded for their decorated ware. It has been suggested that the large salt deposit near Camp Verde, which was worked in prehistoric times, may have given them a valuable article of trade for such products of other areas, and thus lessened their interest

in pottery making.

" 'This is surmise; before we come to conclusions we hope to do some work on comparison of mineral contents of clays and the pastes of sherds from this site, with the hope of determining which wares could have been made in the vicinity and which must have been traded. Not enough work has been done in the Verde Valley to determine positively what is a typical Verde type or types, or exactly what influences from contacting cultures to expect; the excavation of another site in this impedicte vicinity would, of course, greatly aid in the correct interpretation of our findings here.' "

Whether you knew it or not, Chief, these two youngsters, not long out of school, have tackled a problem at Montezuma Castle which the older bone diggers of the Southwest seem to have pretty carefully avoided. The Verde Valley, in the vicinity of the Castle, seems to have been one of the cross-roads of the Southwest in the ancient days and we have a grand mixture of cultures to unravel. As one of the prominent archaeologists of the southwest once said of another site; the pottery was so very confusing that he could do nothing with it. This is one of the reasons we have never been able to get an expedition to spend any real money in research at the Castle.

CAPULIN MOUNTAIN NATIONAL MONUMENT. Homer J. Farr, Custodian, Capulin, New Mexico.

"Dear Mr. Pinkley:

Our genial weather man has not been so kind this month; although we have lost no time, we have had two fine snows this month and they in reality made the road dress fine. We have had no cold weather all this winter and even now, with the bountiful moisture, we do not have frozen ground to work in.

"Visitors were slightly over two hundred; from Oregon, New Jersey, New York, California, Idaho, Colorado, Kansas, Texas, and our own good sunshine state.

"We have hopes of completing the two trails and the road within the limit of time given us even if we are only permitted to work fifteen hours per week.

"We still have a very loyal crew and most all of them are good workers who understand and appreciate the situation and are willing to help out to the best of their ability.

Homer J. Farr,
Custodian."

Mr. Farr writes me that he had just received word of the very serious illness of his sister and was making a very short report just before leaving to see her. He has the sympathy of the other members of the Service and we hope the next news from him will be good.

I might say here that we had to quiet some rumors last month by thoroughly investigating the Capulin job and I am happy to add that the rumors vanished into thin air and Homer and his job came through as clean as a hound's tooth.

PIPE SPRINGS NATIONAL MONUMENT. Leonard Heaton, Acting Custodian, Moccasin, Arizona.

"Dear Boss:

"I have been punching this old typewriter so long trying to keep up with the paper end of the C.W.A. that after I get through one letter it seems that there is always another to be written or some records to make. I am mighty glad that I don't have to sit in an office like some of you fellows down there do, for I don't get along very well with indoor work for very long periods of time. If I can come and go at will I can manage to get things done so they look like some sort of office work. I really do enjoy wrestling with the problems that come up here, though sometimes it seems that they almost get the best of me, but by using all my knowledge and skill I finally get a head lock on them.

"All in all we had some fun out of the last month debating whether the C.W.A. would go on or off, and your announcement of closing up the work here on March 22 came as a surprise. Nevertheless we are going to carry the work on to a finish that we have started IF WE CAN GET SOME OTHER THAN LABOR FUNDS; if not, I am afraid that one or two projects will be incomplete when March 22 comes around.

"Mr. Ross Rozell spent three weeks here doing the surveying of the boundary lines and the making of the contour map. I think he did a very fine job and the only thing that is lacking to make the map complete is the elevation of the place. He assumed a 5,000 foot elevation on the doorstep of the lower house leading out on the south side of the Fort. On the 16th I met Mr. Harris of the U.S. Geological Survey, who is running a line of bench marks through this part of the country. He said they would be out to Pipe Springs about the 23rd or 24th and wanted to know if we wanted any of his markers here. He suggested that a bench mark be placed on the Fort which I thought would be all right but he should get the approval of Mr. Langley or the San Francisco Office. I mentioned this to Mr. Cowell and will again tomorrow and see what he thinks is the best place for these markers.

"Mr. Langley was here on the 31st of January and again on the 6th of February and changed things a bit from the plan I was working on but they will now be more in line with what he wants of the place. I sometimes wonder if Mr. Langley is not using the wrong yard-stick in planning the planting for Pipe Spring. I think we should not depart from the spirit of the Mormon Pioneers which they always made prominent about their settlements, that of removing all undesirable vegetation from around the home and planting it with more attractive trees and flowers. If I get Harry's idea, he wants sage brush, thistles, unsightly weeds, etc. growing all about the Fort with only small foot paths leading to and from it. I am strongly opposed to such a condition here immediately around the Fort, though I would like to encourage native growth on the other parts of the Monument.

"The work has been done up in good shape but we surely need a team or two to be able to finish up the projects as we want to; there is a lot of capping of roads and moving of rock to complete most of the projects now under construction. The way the new road is coming in from the east, one cannot get a view of the Fort on account of the

trees that surround the ponds. Mr. Langley wants some of these trees to come out so people can see the Fort.

"We have the south fence and half of the east fence up, and when the posts are cut off even it will make the place more attractive as all posts are peeled and set 10 feet apart and the fence has six wires eight inches apart. It makes a good solid fence.

"Since I have been taking down fences within the Monument I think it adds to the beauty of the place to have the fence down around the meadow, and with a good fence, cattle guard and a lane around the south and east sides I can't see why we need any fences within the boundary except the one around my barn and hen house which are on the south side of the Monument almost out of sight from the road.

"We are going to cover up the tunnel and fill up the upper meadow pool and pipe the water into the lower pool; this is because of the deepness of the tunnel.

"Well, I have almost forgotten to make a report of the travel for the past month, and by doing so have broken the rule that it should have come first. Instead of making the report of the cars by states as in the past, will say that Arizona, Utah, California and New Mexico are the only states represented with the total count of travellers, 436.

"On the 20th, we had our first rain this winter to speak of but not enough to stop the work, and it has been trying to storm a little every day since. I don't look for any heavy winter storms now; I think they will be gentle rains that will get a man wet if he is out in them for very long.

"Our spring has come as Meadow Larks, Blue Birds, Geese and Ducks have been seen on their way north. The weeds are starting to come through the ground and I have noticed several varieties of them in the fields.

Sincerely yours,
Leonard Heaton,
Acting Custodian."

I might say here that Mr. Heaton has misunderstood some of Harry Langley's instructions evidently in the matter of the planting as Harry in talking with me said we could plant practically anything we wanted to around the houses at Pipe and on the camp ground, and I have checked this up with him since getting Leonard's report so we will be able to work out a very pleasing planting arrangement.

We will be glad to have that contour map of Pipe Spring National Monument as it will allow us to lay out plans with certainty without having to go on the ground every time to see how the scheme we are talking about will fit the location.

NATURAL BRIDGES NATIONAL MONUMENT. Mr. Zeke Johnson, Custodian.

There is sleeping going on at Zeke's monument at this season but he sort of checks in this month with one of his welcome letters.

"Dear Frank:

Just to tell you that I am still on the job and longing for spring to come so I can go back to dear old San Juan County and the

many old haunts of mine. I am still hoping and praying that something can be arranged so I can have a little money to fix up the roads and trails so people can come and go in safety around the Natural Bridges.

"I have made many visits to the State Capitol and begged the State Highway Commission and the C.W.A. officials for some help and every time they have promised me that they would have men working on the road from Blanding to Cotton Wood Wash, a distance of 13 miles, but as yet nothing has been done, yet they still keep promising to do something, but I guess I am from Missouri. Sometimes I think I am a real hoodoo to the Monument but I am not going to lay down until I am thrown out and I am going to keep hammering away at those in charge until I get some roads, trails and a little cabin to live in. I am inclined to be blue when I see so many parks and monuments around me getting roads and trails and buildings and poor me with nothing so far. They say every dog has his day but I wonder if I did not have mine when I was a pup. I am like the old Danish brother who said he was 'tankful for all the tingsI have got and for the tings I don't got, too!'

"Hoping this finds you and yours all well as it leaves me,

Zeke."

Zeke has been rather left out of the improvements this last year, and I wish you would consider this when you come to checking over the Public Works list we recently submitted to you. We put him in there for some roads and trails, a residence, and water supply. If we don't get these things this year there is no telling when we will get them and the visitors are going to be in there on us in numbers in the next year or two and we will have the usual situation when our newer monuments come into use undermanned with personnel and over run with visitors with the consequent impossibility of delivering good service. I wish we could build one Monument up a little ahead of the visitors instead of four or five years behind them.

EL MORRO NATIONAL MONUMENT. E. Z. Vogt, Custodian, Ramah, New Mex.

Mr. Vogt's report is dated February 26th and runs as follows:

"Dear Frank:

"You know from previous reports how the open, mild winter has favored us in our C.W.A. program at El Morro, a Monument which is located far from stores or settlements, with Navajo Indians our closest neighbors and well over fifty miles back from the railway in what is still the hinterland of New Mexico.

"Our untrammelled progress has now been ended by three days of snow and storm so that we are completely tied up and unable to work. Roads are all but impassable; cars that try to travel go into the deep roadside ditches, others gum up with deep mud, unable to move while not a few tear out their differential or break axles in their unwise efforts to negotiate roads which are really only safely passable for horses or burros.

"The phone line operated by the Indian Service between Ramah and Zuni and Gallup is down under the weight of fallen trees weighted with

heavy wet snow. Families with full cellars and a quarter of beef hanging on the back porch are sitting pretty, but those that are not, and there are so many, even ranch people, who live like they were a block away from a Cash and Carry store are packing food at tremendous expense through the mud. Or, like the Navajoes working on a dam 15 miles southwest of us, come afoot and pack their needed supplies back to their camps on their backs. Those who have horses help some that are afoot but not to the point where the squaws and children have to walk.

"Temporarily we are unable to go ahead with the work in hand such as building our new fence, trail completion, and archaeological reconnaissance. We will lose Monday and Tuesday but if it doesn't snow more today we think we will be able to clear the snow off the fence line and shovel off the mesa slopes and go ahead with the chiselling of steps on the south and east exposures of El Morro by tomorrow. After the weather clears the run-off will be rapid and heavy.

"Everything has its advantages however, for we are going to be able to studythe effect of rushing waters over the great fill of dirt we have made in the great arroyo. You will recall that the project of greatest magnitude which we undertook was the erasure of the great arroyo which washed a terrible gash in the terrain in front of the 'Rincon como una naranja' as General De Vargas called it in his diary when he visited El Morro and carved his remarkable inscription on the nearby cliff in 1692.

"This cove collects the water which rushes over the high cliff overhead after rains or snows and after the concrete dam will no longer hold the water it passes over the spillway and flows down the swale which was once the arroyo. During the last month we have blasted off the banks of the arroyo with blasting powder, making passageways for teams and scrapers, and gradually filled up this entire arroyo so that the scar has been removed. Some over 15,000 yards of dirt have been moved to make the fill in this deep gully which was 50 feet wide and 30 feet deep in places and over 200 yards long.

"Right here it is interesting to note that when Dr. F. W. Hodge first visited El Morro back in the 80's this arroyo had just started to cut and he says in a letter to me received in January: 'I could easily step across the gully at its widest place.'

"The present period of water flow will give us a chance to observe the effect of water on this fill, the efficiency of the check dams placed every 50 feet across the fill, as well as what will happen at the major check dam placed above and beyond the point just above the bridge.

"During the month past I have conducted an exchange of letters with Mr. Aldo Leopold, of the University of Wisconsin, with the Forest Service, with Dr. Merry Kent and his experts at the Agricultural College of New Mexico, concerning the ways and means of getting the grass and natural grasses started to grow on this area where our men and teams have been working so strenuously. Both Mr. Richey and Mr. Hamilton have considered this problem with me and we hope soon to decide on a course to follow. One thing is certain, that in a country where 15 inches of rainfall is about normal, all the moisture that falls will be favorable to regrassing the area and if enough moisture falls we

might even be able to direct the overflow from the cove so that irrigation could be accomplished.

"The building of the trail up the north face of the great 300 foot cliff to the north prehistoric Indian ruin has been finished. The trail along the sheer edge of the mesa which gives a fine view and the thrill of danger, though it is very safe, has been finished and the stairway cut into the rock leading to the top just over the 'Rincon como 'una Naranja' is about completed. From there going along the top to the largest or south ruin there is still some work to be done. Coming up from the base of the cliff on the east side we have had a crew of men chiselling the trail so as to meet those working from the other way.

"I may be overly enthusiastic about our trail, and my acquaintance with trails is limited, though I have climbed over those at Navajo Mountain and Rainbow Bridge and those at the Mesa Verde and Bandelier. It does seem to me that it is going to be an accomplishment which will be appreciated and favorably commented upon by all who visit our Monument for centuries to come. There are three spiral stair cases one of them containing a reverse spiral containing 14, six and eighteen steps enabling one to pleasurably and easily ascend the cliff. At one place Juan Chavito, who is Spanish crossed with Hopi blood, built a wide trail of natural hued rock, harmonizing with the cliff itself, over a run-off place which at times carries lots of water and under this trail he devised, with engineer D. B. Clark's guidance, an undershot to carry the water without damaging the trail or discommoding the visitor in his journey. The course of the trail was so planned, under Messrs. Richey and Hamilton's guidance as to give the best views, easiest ascent, with occasional levels to enable the ranger to re-group his party and point out the wonderful views of the enormous, unpeopled region of mountain and mesa country in every direction.

"We were fortunate in the hauling of our fence material which will be used to enclose our 240 acre area of the Monument. Though the entire weight of the 47 inch woven wire, the barbed wire, the iron posts, braces, etc., was over 26,000 pounds, our men rolled the material out in three days from Gallup, a distance of nearly 60 miles, over bad roads which fortunately were not much soaked at the time.

"We commenced building the fence last week and will go right ahead with it as soon as the weather permits. The corners must be placed in concrete and we have to haul our sand with teams a distance of ten miles. Going up over the mesa slope the fence will be supported by the iron posts, holes for which have to be drilled out of the solid rock and the posts set in concrete. We hope when you come to see our work that you will be pleased to find a well built fence, strong and well stretched with no buckles in it. You know from experience how fortunate I am in my crew of resourceful ranchmen who know how to improvise and carry on and through and over all difficulties and who have all built plenty of fence, and some of it in rough country. Nearly all of them have stock raising homesteads which require four miles of fence to inclose their square mile of land.

"I am thankful for the second hand Model A coupe which you sent me after engineer Attwell received his new Ford sedan. The car runs well,

has a heater in it and has plenty of power and life to it. The car has a history, however, which I learned through Indian Prohibition Enforcement Officer M. K. Clark. He saw my drive the car in Gallup and asked me where I got it. I told him how it had come down through the Engineering Division of the Park Service. He enlightened me with the fact that it had been his car and that in it he had captured more bootleggers and stills than in any other car he ever drove. That was before Mr. Attwell got it. I am wondering now if someone will recognize the car and take a shot at me. At any rate, I have returned the rented car we had to carry on the C.W.A. work, thus cutting our expenses that much.

"Our archaeological party has been busy on its work under Mr. Ted Amsden. To date they have located and collected pottery samples from 72 prehistoric Indian ruins within five miles of El Morro. On El Morro itself they have located 13 ruins and have nicely mapped the one great south ruin which occupied more of their time than any other since all the corners of the rooms were located under the ground and had to be opened in order to take the measurements.

"This ruin is characterized by its unusual symmetry in shape, uniformity of room sizes, unusually late pottery, and the very large Kiva which measures 26 feet in diameter.

"Sherd collections have been made and will be divided among the following institutions: Gila Pueblo, Laboratory of Anthropology at Santa Fe, University of New Mexico. Beam material of sufficient size to enable them to work outa date of occupancy has also been found and will be divided as above.

"Since Mr. Amsden went through Globe en route to Los Angeles recently, he left quite a lot of the collections and a beam sample at the Gila Pueblo with Mr. H.S.Gladwin and Mr. E.W. Hamry. Our clerk, Lon Pat Fletcher, made a trip to Albuquerque over the week end and took in a box of material for the University of New Mexico.

"Five major ruins in the region have been examined and more are to be visited to the south and west. The Ice Cave region was visited where basket maker material was found. Few caves have been found though in one to the west and south a few miles some basket maker sherds were found. Most of the sherds show black on red with great quantities of black glaze on red and white; some have green glaze on white.

"We spent one day between El Morro and the Box X and Nutria Country, taking in the lava ruins at Cienega, the long ruin east of there on the Zuni Mountains, the Box S ruin down the creek a mile or so from the old Box S ranch house, the Figure 8 ruin in the Sobollita Canyon 3 miles above my ranch house at the mouth of Jose Pino Canyon. I hope to have time to take the car and Mr. Amsden down to other large ruins on the Crockett ranches and down on our ranches near Atarque where there are several major ruins, a few of which were once visited by Dr. Hewett when he was out with me.

"We realize that we are working in a virgin country in a way, and Mr. Amsden is making careful records in the way of locating and collecting. He is ably assisted by Fred Gliddon who has also written some newspaper stories about our work at El Morro, and by Joe Bice, one of the few rancheros who has a real flair for the work. Most of the work

is still done on horseback trips occupying the day, the men packing lunches on their rides.

"We have noted a bunch of six deer near the Monument, three coyotes in a pack, and a happy family of birds and rabbits.

"During the latter part of January I was privileged to make a trip to Gila Pueblo, there I was deeply impressed, a visit to Casa Grande where I had the opportunity of hearing you tell the absorbing story of the unique ruin there, which I never had known anything about. We met Bob Rose, Hugh Miller, the rangers and office force, but missed seeing Mr. Palmer who was away on business.

"After noting the immense amount of work they have to do down there they won't find me standing on top of El Morro and yelling for supplies and information which I can get along without, especially when they are so pressed with work and for lack of time. We also have taken a check on our voucher and paper work and sincerely hope we will turn out paper work which will make the grade.

"Going down over the mountain near McNary, we had a little bad luck in running into a bunch of cows. I missed 18 of them but hit two which were asleep on the highway, it being night when we all should have been asleep. The two I hit effectively streamlined the front of my Ford sedan so that it approached the shape of a Chrysler Air Flow car. With bent fenders, demolished headlights and caved in and horn marked doors, we proceeded by benefit of moonlight to White River where we managed to get new globes for the lights so we could proceed down the mountain side with more safety.

"I caught Mr. Boundey on his day off at Tuweseori and will have to go down again to visit his monument with him.

"I am reading the copy of Bandelier's Report which you loaned me and am enjoying it very much.

"Our crew is working well and has now been notified of the gradual lay-off which will take place this spring. We did this through a good form letter which you sent to us, one copy for each man, upon which we dated the time of each worker's retirement from our job. We spent long hours considering the needs of every man for employment and tried hard to make decisions which were just.

"During the month our oldest employee, Waldo Haroldson, our blacksmith, has been married. Two babies have been born to wives of members of our crew. There have been no deaths and very little sickness. Health conditions continue to improve and all are happy and thankful for the help they have had.

"While in Albuquerque I was fortunate enough to be invited on a courtesy ride with 15 city and state officials on the new Douglas plane of the T.W.A. air line. This plane is aptly called the Luxury Liner and is certainly a beautifully built and easy traveling cabin job. This is the line whose planes fly over our Monument every day on their transcontinental course.

"Generally the cow and sheep men and farmers are very thankful for the downpour of moisture which assures green grass for spring grazing and good farming conditions. The Navajos and Zunis are busy with their conservation work to the point where Navajo rugs are not coming in like they used to.

"Several hundred Navajos are still gathering pinyon nuts south-

east of El Morro some 100 miles and not far from Botil. Most of the nuts come from pack rats nests which they locate and rob. They are careful never to kill the rats. Nuts bring them about 15 cents per pound at the trading posts.

"Both Mr. Hamilton and Mr. Richey have been with me and I am looking forward to their visit with their wives the latter part of this week. Their wise guidance is always appreciated.

"We are having road signs made by our woman employee who will paint enough road signs to post all the main roads for about 60 miles from our Monument, thus directing people to our Monument and saving them from getting lost on the numerous roads.

"As this is typed we do not know just how we stand on Other Than Labor money, to proceed, but are expecting word from you at any time.

"Books of interest which have recently come out are Mrs. Ickes 'Mesa Land', Kuipers' 'Navajo Sky', and Villagra's 'History of New Mexico, 1610,' the latter published by the Quivira Society.

"With best regards to all, Sincerely,
Evon Z. Vogt."

Speaking of Pinyon nuts reminds me to tell you, Chief, that Evon nearly wrecked our office routine by bringing down a little bag of those pinyon nuts when he came down in January. They are little things that you crack between your teeth and then extract a kernal about half as big as a coffee bean, sweet and good, but you could starve to death eating the things, and once you get started you can't hardly stop; it served E.Z. right if his pay rolls were late in producing checks with those pinyon eating girls in the office. One fellow who certainly gets a lot of fun out of the nuts is Dermit who is by way of being the office paroquet and who thinks Park Service people were made by a kind Providence to crack nuts for him.

Also, E.Z. forgot to tell, in that trip to Tucson and our headquarters, that he brought the Honorary Custodian Without Pay with him to all our great pleasure, and she made many purchases in the metropolis among which was a ball gown, and how he dropped me a note one morning and said he had intended to get his monthly report out the night before but the H.C.W.P. discovered a dance and 'Not having worn that Tucson dress yet, that dance involved my time, conversation, eyes and feet until 3 a.m., so I am not equal to anything in the way of a report, but the dress was pretty and if there were any prettier girls on the floor than she, I couldn't find them,' which I consider a mighty good excuse for not writing a monthly report, don't you?

TUMACACORI NATIONAL MONUMENT. George L. Boundey, Custodian, Box 2225, Tucson, Arizona.

"Dear Mr. Pinkley:

"We had 1,140 visitors for the month.

"We have had ideal weather throughout the month with only one rain of any consequence. The cottonwood trees are leafed out in many

localities and the old Padre peach trees are all in blossom here at the Mission.

"Although we have been working only fifteen hours per week with the C.W.A. program, we have the front adobe wall nearly completed and have made quite extensive repairs to the Mission buildings.

"Mr. Attwell and his three engineers made us a short visit the past week and set the stakes for the back wall and assisted in establishing a grade in the front plaza, etc., Mr. Attwell also succeeded in getting a donation from the State Highway Department of 68 rails for cattle guards and enough pipe to finish the culverts under the front approaches.

"The Rodeo being held at Tucson has sent us many interested visitors. They are all enthusiastic about the C.W.A. work which is being done here.

George L. Boundey,
Custodian."

Just as soon as the C.W.A. work eases off on us here at headquarters we intend to let a small contract of about $2,000 under Public Works covering the construction of a parking area wall and some entrance gates at Tumacacori. That Monument is coming round into fine shape and we are beginning to get quite proud of its appearance as one approaches it on the paved State Highway.

WHITE SANDS NATIONAL MONUMENT. Tom Charles, Custodian, Alamogordo, New Mexico.

"Dear Boss:

Is a real for sure mirage worth exploiting? If you could drive out into the country twenty miles and show your eastern friends a mirage any hour of the day, any day of the year, would it be an attraction? I fear that I am affected by the local color and that my judgment is warped. You know these natives are about as much moved by seeing a mirage as by seeing a jack rabbit or a coyote. I begin to suspect that I have grown to be a native. As usual I am falling back on you for advice. Some one in the Park Service will have to decide before long whether or not these mirages on the old lake bed are worth while.

"Our surveying crew, in fixing the western boundary of the Sands have been working on the old lake bed for about a month. They have seen mirages of every imaginable form every day. One man reports a modern airplane carrier, another sees a farm home with corn and chickens and children playing in the yard, while a third sees only sky scrapers and modern city streets.

"The dry lake bed is some twenty miles long and ten miles wide, dotted with dunes of snow white sand, spotted with areas of coal black mud,, here and there a salt cedar bush, a clump of yucca or hummocks of glistening mica break the horizon. In the background rise the rugged San Andres Mountains, in the foreground the rolling hills of snowy sand. It is an ideal condition for the reflection and refraction of light. I, personally, when there, get visions of high board fences with strips of light and strips of dark colored wood, running up and down.

Mirrored lakes of water and irrigation ditches are in abundance, but we never find them. Moving objects appear like herds of cattle; gorgeous groves of palm trees seem to be everywhere about us.

"The present road to this mysterious area is around the southern end of the sands, 30 miles or more of almost impassable trails. A trail across the sands themselves is possible, however. From the 'Turnaround' at the end of the new road, it is about three miles into the lake bed. To make this trip by auto it would have to be a personally conducted tour and decidedly a matter of following the leader for it would be through the deepest valleys and over the highest hills. Is the mirage worth while?

"In the past three months about 2,000 arrow points have been picked up at the prehistoric Indian villages within a few miles of the Great White Sands. Scarcely a Sunday passes but groups of recreationalists dot the open valleys of this section, 'hunting arrow points.' One afternoon recently a group of four picked up 65 perfect arrow points within a radius of two hundred feet. At the same time they found scores of broken points. One of these points was a spear head six inches long. Others varied from the rough, jagged, vicious looking points to delicate works of art no more than half an inch long. Among these findings there are at least five parts of Folson points. We have not yet screwed our courage to the point that we are claiming 30,000 years of habitation in the Great White Sands, but we have one Folson point that is a sure enough twin of the Folsom which Dr. Howard of the Pennsylvania Museum found just over the lower line of this county, in position with the bones of the Muskox, California Condor, Sloth and seven extinct horses and other such animals. All these recent Folson points found have been in the vicinity of the White Sands. The pottery found in the Sand is similar to the pottery found in the prehistoric Indian pueblos of this valley. I am wondering if the exploration party should tie the Indian ruins surrounding the Sands, the petroglyphs and pictographs, the pottery and arrow points and artifacts which abound around the Monument, into the report on the Monument itself. We have already accumulated something like 100 pictures of the petroglyphs of this valley. They are an interesting lot. One picture shows two doves holding a staff between them, on top of the staff is a sort of stair step. Another dove is carrying a twig or branch. Squirrels, polecats, foxes, snakes, lizards and most of the larger animals come in for their share of the picture making. There is one picture of a dinosaur, except that this dinosaur has horns. Will all these ruins some day shed light upon or become a part of the study of the Indian ruins in the Sands themselves?

"Work was progressing nicely on the C.W.A. project until we had to shut down for want of other than labor funds. The greatest hardship came to the team crew where each man was camped out 25 miles from town trying to feed a team of four up and no funds.

"Yours very truly,
Tom Charles, Custodian."

I think these mirages Tom talks about will probably account for the red lakes he has told us of having seen over there in that district.

I never saw a red lake in a mirage, but it will make a pretty reasonable explanation of the occurence and I never did believe that explanation that they were just common lakes which were blushing with pride at the stories Tom was telling about them, for if that were the case the sand-hills would be red too.

I don't know about this dinosaur though. I am willing to believe the horns if you will believe the rest of him and maybe between us we can absorb the story, I'd like to help Tom out all I can, but a dinosaur and horns,---it would be sort of straining our official relations to swallow the whole thing.

The lack of other than labor funds for over a week on the start of the new C.W.A. program hit us hardest on our fifteen jobs at the White Sands for we are hauling plating for our new road and our hundred men were hung up because we didn't have the transportation money to keep the trucks and fresnos going and without the trucks and fresnos the men simply couldn't work. If we ever have any more programs like this, please remember that with from fifty to a hundred men you can putter aroundon an inefficient basis with a little money for other than labor, but with no money at all you are sunk; you must have some money to buy a sack of cement or replace a broken tool or buy coal for the blacksmith who sharpens the tools, and you can't lay a bunch of stock up on the shelf and not feed them for a week or ten days. You might think we could shut the jobs down for a week or ten days. It may surprise you to know that even that takes a little money, and it was hardly fair to men who, in some cases, were a hundred miles from home. Our men in the field certainly were under a strain for those ten days and it was hard on the general morale.

CASA GRANDE NATIONAL MONUMENT. Hilding F. Palmer, Custodian, Coolidge, Arizona.

"Dear Mr. Pinkley:

"Once again we are happy to report a very decided increase in our visitors. In February, 1933, we had 2217 visitors and this February we had 2,571, an increase of 354 or 16%. This is the third successive month that has shown an increase; for the travel year thus far we have had 10,962 visitors as compared with 9,670 for last year to the same date, an increase of 1,292 or 13%. These increases are very gratifying to us.

"The 2,571 visitors this month came from every state in the Union except South Carolina and Delaware. Washington D. C., Mexico, Canada, Norway, France, The Bahamas, and Alaska were also represented.

"The visitors came in 753 cars.

"52% of our visitors were from out of the state, which is a higher average for out of state visitors than usual. The entire 2,571 were contacted and personally conducted through the ruins on 255 trips and 239 lectures were delivered in the museum. In addition to these 2,571 visitors who received service there were 233 who drovein and drove out without getting out of their cars, making the total number of entries to the Monument 2;804.

"The weather has been unusual; there were only 17 clear days,

6 partly cloudy and five cloudy days; this is an unusually low percentage of clear days for Arizona; however there was only one day of precipitation on the 24th when 1.82 inches of rain fell. The maximum temperature for the month was 84 degrees on the 13th, the minimum 30 degrees on the 10 and 11th; the mean maximum for the month was 75.7 degrees, the mean minimum was 38.3 degrees, and the mean for the month was 57 degrees. From that weather report you can readily see that it is a privilege to live in southern Arizona in the winter.

"There has been a little work on Public Works force accounts during the month and all four projects are completed. Approved working drawings for the new residence were received on February 15th and the bids were immediately gotten out and are to be opened on Saturday, March 3rd at two o'clock. Construction will start immediately after the contract is approved by the Secretary. When this residence is completed our Public Works Program under the present allotments will be finished.

"The Civil Works Program has gone along as well as could be expected with the limitations which have been placed upon it. We are accomplishing some very important things even with the disadvantages under which we are working. All work is being concentrated on the protection of ruins project. After considering the matter from all angles and, on recommendation of the Archaeologist in charge, work was discontinued on the archaeological reconnaissance. His written recommendation is attached and I think he is right. His letter follows:

> 'It would seem to me that further excavation of the sites I have been working at Casa Grande would add little, if anything, to scientific knowledge at present. The sites were not completely excavated but the present amount of excavation has revealed several specimens of each type and all the information that was anticipated after carefully studying the surface indication. Further excavation would undoubtedly reveal more of the same, but I should be greatly surprised if anything new or different should come to light. Also, the sites I was working were occupied more or less contemporaneously with Roosevelt 9:6, The Crew Site, Sacaton 9:1 and Sacaton 9:2, about all of which we have intimate knowledge. In one particular do the sites I excavated at Casa Grande differ from those mentioned above, that is in the lack of a compound wall in the late period and further here would not be expected to show the reason for this lack.
>
> 'It was a great pleasure to do this job and I want to express my appreciation for the cooperation which I received from you and the other members of the Park Service.
>
> Very truly yours,
> Russell Hastings.'

"Mr. Hastings informs me that there is no question but what the site was occupied in Colonial times, which is the oldest period of the culture in this valley and it pleases me very much to know that we have one of these early sites on the Monument area.

"Workmen are now backfilling the site and putting it in its original condition. The work has been decidedly worth while and Mr. Hastings is to be complimented on his able handling of the job. It is sincerely hoped that there will be another opportunity for him to return to the Monument for further work at some future period.

"In all probability Mr. Hastings' final complete report, on which he is now working, will be published by the Gila Pueblo. In case they do not think the information valuable enough to warrant a separate published report we will mimeograph it and send it to all scientists who are interested.

"Since February 15th the ruins protection has gone on as planned. The 15 hour week handicaps us considerable. It seems we no more than get started when it is time to lay off until the following week, but we are getting some very necessary grading done and curtain walls placed. I am hoping that before the program ends I will be able to completely finish the grading of Compound A and get curtain walls on both sides of the south and west outside walls.

"The engineer has worked the entire month on checking the sewer and water lines and drawing a large scale map of them so that at any future period anyone can locate any pipe in a very few minutes. Mr. Wells, the engineer, is a victim of the 'taper' this week so the locating of the underground conduit lines will have to go over to some future time.

"I am extremely sorry to lose Mr. Wells; he has done exceptionally good work, his engineering is accurate, his plans and drawings are neat and precise, and, although he has only been paid for 15 hours of work per week since January 18th, he has averaged about 40 hours every week. His report on his operations for the month ~~of~~ is here included:

> 'The end of February is at hand which signifies the period of another monthly report due, and it is with deep regret that I find this is to be my last. It has indeed been a great pleasure to have been associated with you and the rest of the staff at the Monument these last three month and I shall miss you when I leave.
>
> 'In closing the engineering work which has been carried on under the C.W.A. I wish to advise the work done the past month consisted of locating all service and water lines within the residential quadrangle and completing the survey work at the Archaeological site No.2.
>
> 'All maps and drawings have been completed. Maps completed during the month consisted of: one map, scale, 4' equals 1", of Excavation No.1, and one map, scale 5' equals 1", of Excavation No.2., one map showing both excavations, scale, 20' equals 1", and this being tied to the original survey from Stations No. E3, and No.OE4. The large Utility map has been completed and is now ready for the printer.
>
> 'Assuring you again of the regret I feel in leaving the Service, and thanking yourself and Mr. Pinkley for the many considerations and courtesies shown me while here, I wish you both the best of success and happiness.
>
> Sincerely, C.F.Wells.'

"In spite of the difficulties under which we have been working, we have accomplished much and hope to accomplish more before the end of the program.

"Assistant Architect Langley paid one of his welcome visits to the Monument of February 26th. He had no criticism to make, and of course had no compliments to pay.

"All clerical and accounting work is up to the minute.

Hilding F. Palmer, Custodian."

Here is a cross section of three or four days of the life of an engineer under field conditions and it gives a little different angle on some of the monuments whose reports I trust you have read above. It is Walt Attwell speaking, and, here he is:

"Dear Boss:

"We made Montezuma Castle on schedule time and it rained the whole trip. I slipped all over the road and arrived there shortly after noon. That afternoon we looked over the road which is under construction and I suggested that Jack complete only what he had opened up and place the culverts as none were in at this time.

"Saturday, Earl Jackson and I with Stewart's crew went to Clear Creek Ruin. We started the engineers out from a section corner for the ruins and while they were tying the ruins into the section corner Earl and I looked up the Forest Ranger and the Dam surveyors. That day I made a complete lay out showing all patented lands, drainage, highwater line of the proposed reservoir, and the ruins. It was raining hard and I feel that my pictures will not be very good.

"Sunday morning I spent with engineer Stewart and Mr. Jackson on their engineering problem, visiting the intake site with property owner Hare. That afternoon I inspected the prehistoric excavation at the Castle. While we were there Earl dug out the burial of a woman. Everything was in place except the lower jaw, which was wide open and detached,-- of course this was not how he identified the skeleton as being that of a woman.

"I was disappointed with the rodent control operators in this district. This expert with about ten assistants visited the Castle to put out poison. Custodian Jackson refused him permission to place poison on the Monument. Ranger Hare also refused permission to place it on his farm nearby. The men left to return a few days later when they were seen leaving the monument at breakfast time. Since then most of the Monument's pet quail have disappeared and Hare's cats have all died.

"Sunday night I drove to Flagstaff and met Dr. Colton of the Northern Arizona Museum and Custodian of Wupatki National Monument. Monday he drove me to Sunset Crater where I inspected the roads and trails, Ice caves, and the volcanic push-ups. The black coloring of the ash-dunes is a contrast to the white color of the White Sands. You can get the monuments down in black and white at these two places.

"We arrived at Wupatki about noon, ate with the boys and looked over their diggings. This represented a lot of good work with a small crew. The most pessimistic tax payer could not help feeling that it was money

well spent: Dr. Colton need not offer any apology for his efforts. The restoration has been carefully done but there is need for more in the immediate future or the ruin will suffer rapid deterioration. The original walls in many places bridged cracks in the rocks on pine poles. One span ten feet wide carries several stories on wood stringers probably 800 years old. These poles have served their time against the weather but cannot continue many years longer. The topographic party has tied hundreds of ruins on the map and have shown ten foot contours on six-quarter sections. This country is easy to contour, their worst difficulty being the wind.

"I took time enough to examine one seepage crack which was about three feet wide, 20 feet long, and the first floor down was 180 feet. This crack may be much deeper when one explores below the 180 foot floor. This 'bottomless' pit is only 100 yards from Ruin J. which has housed hundreds of people. It is very probable that valuable finds will be made when this hole is explored, especially as it is so near these large ruins.

From there we drove to Citadel Ruins and arrived just in time to see a burial uncovered. The crew was making a parking area when several storage pits were uncovered. Most of them contained burials but the one most interesting was of a man in perfect shape with a bow or wand in his left arm. This bow was six feet long and had been painted red and blue. He had a perfect bracelet on his left arm.

"After asking the customary dude questions, I looked over the road repair work and the proposed trails. Dr. Colton is preparing a map showing the required trails to the most interesting places. This Monument, like most of the Southwestern Monuments, has so many interesting features that it will be hard to tell which to eliminate.

"I was strongly impressed with the need of a permanent man at these ruins. Pot-hunters have already done their share and it will be hard to prevent further vandalism after the present crews leave.

"I have phoned Mr. Hayden, the archaeologist at Navajo National Monument, and am leaving for that place in the morning.

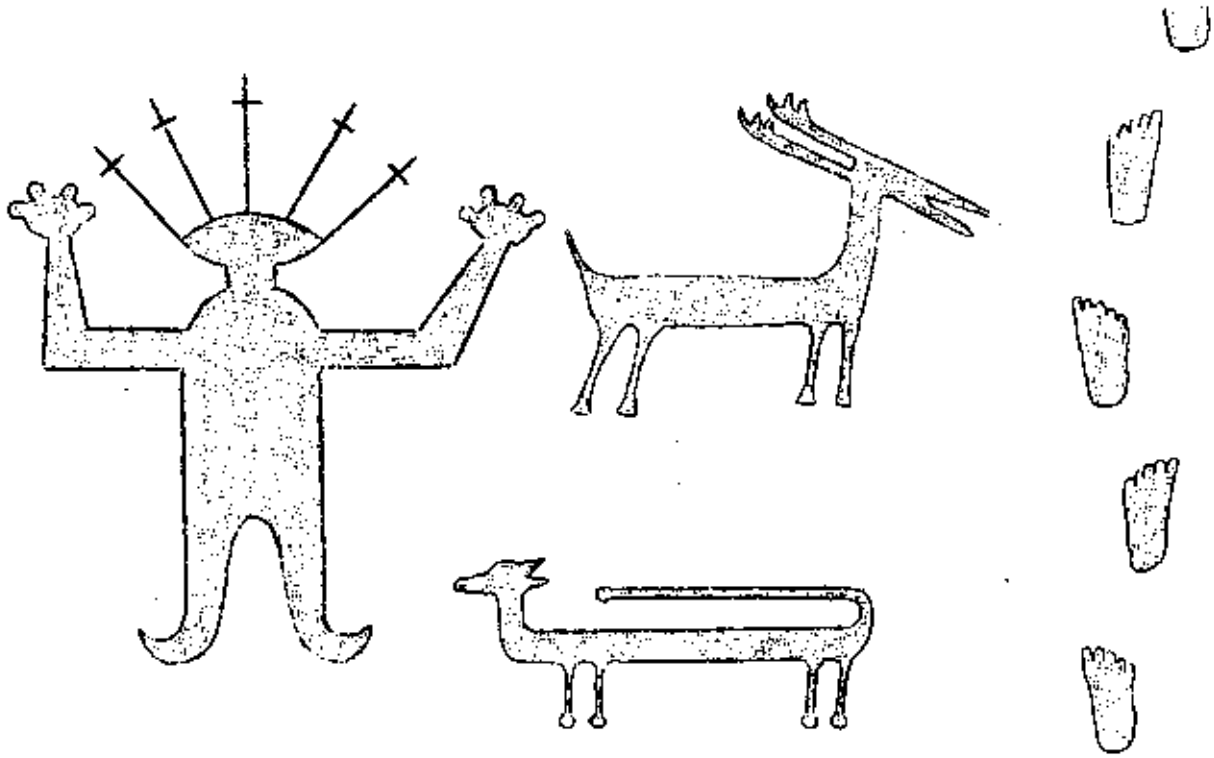
Sincerely,
Walter."

And now we bring this part of the report to a close. I trust you will see in the cross sectional views of the Southwestern Monuments which you get in these reports from the men who are in charge, that we have had a pretty busy month and have done the best we could under the circumstances. The weather has been in our favor again and we have been able to run jobs where we could not have run them at the same time of the year in the past twenty or more years. I think the travel figures show that we are on the way back to normal numbers of visitors and in this regard our figures may be taken as an index of the visitor's curve at the parks for the coming summer.

While we have had a lot of troubles during the month, it has also given us a good deal of pleasure and we are still able to look forward to March as the ideal month we have been waiting for when nothing but good things happen.

Frank Pinkley,
Superintendent.

UNITED STATES
DEPARTMENT OF THE INTERIOR
Office of National Parks, Buildings, and Reservations



PETRIFIED FOREST NATIONAL MONUMENT
Holbrook, Arizona

March 1, 1934

The Director,
Office of National Parks,
Buildings, and Reservations,
Washington, D. C.

Dear Mr. Director:

Another month has passed and the report of activities in the Petrified Forest National Monument for February, 1934, is respectfully submitted.

GENERAL:

Work has been continued on the various CWA jobs in this monument under Federal Project F-68, U. S. No. 7, as fast as possible, considering the restrictions imposed upon us in the matter of hours for the workers and the funds available for materials and supplies. The majority of our men are allowed to work only fifteen hours weekly. Some (from Winslow) are allowed to work twenty-four hours and some (in camp) are working thirty hours weekly. This means

that we must do a great deal of shifting around of crews and has made it almost impossible to have proper straw-boss supervision as it has been extremely difficult to correlate the skilled and semi-skilled labor with the hours for unskilled labor. Work has been concentrated as much as possible on the two most important jobs at this time, the First Forest-Eagles Nest Rock road and the cattle proof drift fence around forty square miles of the monument. Work has also proceeded on the Campground Development, the Blue Forest Trail, and the trail to Pictographs one mile from headquarters.

Under the archaeological reconnaissance the monument has been thoroughly covered by Dr. Mera and Mr. Cosgrove and all ruins found have been spotted on the topographical map. Pot sherds have been taken from all sites and sent to the Laboratory of Anthropology at Santa Fe, New Mexico, where Dr. Mera will work on them for several months to come, classifying them and correlating them as to sites and occupational horizons. When his report is published much new and valuable data will be disclosed. The Agate House restoration has been completed and this makes a very effective exhibit. One room was restored completely as to walls and roof with an entrance in the roof and a notched pole or ladder in place showing the way in which these people entered and left their dwelling. An opening was left in the side of this room, through which people may look and see the original floor of this building, with the fire pit, metate, and several other artifacts in place. Of the other rooms the largest one was left with the walls about three feet high and the other rooms were outlined with the walls left a little lower, so that all in all it makes a very balanced picture. Dr. Mera places the age of the occupation of this building at about 1000 A. D. Among the sites discovered and spotted throughout the monument, the occupational horizons range from the pit house B. M. 3-Pueblo 1, at about 500 A. D., on up through the Pueblo 1, 2, and 3, Pueblo 3 being dated a few hundred years previous to the Spanish occupation. Many of these pit house sites show a brown ware Hohokam type of pottery which, so far as Dr. Mera knows, and he is an authority on the subject, has not been discovered, or at least mentioned by other archaeologists. At the present time one of the rooms in the Rio Puerco Indian Ruins is being excavated and the walls will be left standing about two or three feet high so that people can have some knowledge of the masonry used in this site. Several shallow trenches will also be dug in order to secure knowledge of the different occupations of this site.

WEATHER:

The weather conditions in this monument continued ideal up to the middle of the month, when the high winds began to blow and on the 23d and 24th we had about two inches of precipitation in the form of rain and wet snow, which had practically all disappeared by the end of the month. A table of the weather statistics follows:

High temperature for the month was 69 degrees on the 3d, low was 18 degrees above zero on the 11th. Mean maximum was 55 degrees, mean minimum 23 degrees. Precipitation for the month totaled 1.22 inches. There were 18 clear days, 6 partly cloudy, and 4 cloudy days.

ADMINISTRATIVE:

Our office work has been kept fairly well up to date on all matters, including CWA. We are having a great many complaints from vendors from whom we have purchased materials from the beginning of the CWA project, and it is hard to explain to them why they have not received checks for materials which have been vouchered in the proper manner weeks, and in some cases months, ago. We have also been in a state of uncertainty on account of not receiving any set-up for materials, supplies or truck hire for the period commencing February 9. Of course in order to keep the project going at all, trucks must be hired and a certain amount of supplies purchased. We do not like to make commitments without proper authority.

The monument has been inspected from time to time by the Superintendent and things have been going along in fairly good shape. Assistant Engineer C. M. Bell has been in charge of all actual work going on, with the exception of the archaeological reconnaissance, and Mr. H. J. Cremer has been in charge of landscape work around headquarters.

Assistant Architect Harry Langley was in the monument from February 13th to 17th, and when he left he took Mr. Cremer with him to Grand Canyon, Mr. Cremer returning on the 23d.

PUBLIC WORKS PROJECTS:

The only Public Works under way by force account is No. F. P. 129.14, Water and Sewer Development. Work has been continued on the test well at headquarters as fast as possible since the first of February, allowing for several shut-downs for various reasons. In last month's report I stated that an attempt had been made to shoot off the shoe at the bottom of 675 feet of casing. In doing this the dynamite was lowered with 1" pipe and the result was that three sections of this 1" pipe was lost in the hole. I got in touch with Mr. Ernest Boardman, from whom the well rig is rented, and his superintendent was discharged and one of the well drillers

left for another job. Since that time Mr. Boardman has been in personal charge and everything has gone along as well as could be expected, considering the difficulties encountered.

First a fishing tool was rigged and the 1" pipe fished out without a hitch. Then I secured a jar-up trip spear from Los Angeles and the two 75-ton jacks were again borrowed from the Indian Service. Things again were handled in a first-class manner and after steady jarring and pulling with the jacks for four days, the "frozen" casing was pulled intact, with the exception of the shoe.

The last week has been spent in drilling out the shoe. A "mud hog" has been secured and the hole will be drilled to a solid base and one more trial made to shut off the salt water. According to the plans now, and proceeding on the best advice available, we are confident the shut-off will be made. Then we will drill confidently, expecting to secure a supply of potable water in the Coconino sandstone.

LABOR SITUATION:

The labor situation in this locality remains about the same, but there are still a great number of unemployed and it is expected that with the dropping of the CWA workers from the monument and from the two counties adjoining, many of these will go back on the relief rolls immediately.

BUREAU OF PUBLIC ROADS:

Construction work on the overpass at the Santa Fe Railroad north of the Rio Puerco has not been resumed, as it is not advisable to start the concrete slab for the roadway until all danger of freezing weather is over. Of the seven bridges over dips which are under construction through the monument, the four on the north and south road through the monument are completed with the exception of hand rails, and the approaches have been graded up to them by Everly and Allison, who have the contract for this grading. This firm has practically completed the grading and drainage of the mile of road north of the Santa Fe Railroad and are fast filling in the grade on the north approach to the overpass at this railroad. They have moved one grading camp and are now ready to start in on the grading of the four miles of U. S. 260, which is within the monument. Under Everly and Allison's contract for placing nine inches of crushed gravel on approximately twenty-five miles of road to the monument, they now have a road graded into the gravel pit in the Blue Forest and are busy getting their equipment ready for this work.

Leo Frost was awarded the contract for grading approximately

five miles of the monument road to connect with U. S. Highway No. 66, and work is well under way.

MAPS AND SURVEYS:

From time to time we see members of the party who are making a topographical survey of the monument and I understand work is progressing favorably on that project.

RANGER AND MUSEUM SERVICE:

With four men on the ranger force here, as much protection as possible is given to the natural features of the monument and excellent service is being given to the public, considering this small force.

ANIMALS:

Bands of antelope from a dozen up to twenty or more continue to be seen in the monument and on the east, south, and west sides. There are probably forty or fifty of these animals ranging just outside the monument and at times within the monument.

TRAVEL:

Our travel is still continuing in excess of last year, partly due to the business recovery throughout the country and partly to the fine weather which has been experienced throughout the winter. The travel increase this month over the corresponding month of last year is 2,457, or 46.6%.

For the month, Petrified Forest section,	cars,	1,323,	people	3,929
Previously reported	"	7,738,	"	20,257
Total to date	"	9,061,	"	24,186
For the month, Painted Desert section .	"	939,	"	3,827
Previously reported	"	8,707,	"	32,449
Total to date	"	9,646,	"	36,276
Grand total for the month	"	2,262,	"	7,756
Grand total to date	"	18,707,	"	60,462
Grand total same month last year . . .	"	1,578,	"	5,299

All the states except Delaware, New Hampshire, Virginia, and Vermont are represented in the travel for the month. People from England, Canada, Bahama Islands, Switzerland, Mexico, and France, registered at the Museum during February.

SPECIAL VISITORS:

Mr. R. C. Pelton, State CWA Engineer and Mr. Thos. B. Rice, Engineer of Division No. 2 visited the Forest on February 5th. Mr. Ira J. Stinson, Resident Engineer formerly of Carlsbad Caverns, and Mrs. Stinson, were here February 11th, enroute to Glacier National Park. Supt. Pinkley arrived on the evening of the 12th, and departed on the 14th in the new Ford car for Engineer Attwell. Engineer J. B. Hamilton and Mrs. Hamilton, of San Francisco, were here on February 14th. Mr. F. D. Glidder, archaeologist, visited the monument February 18th, and Engineer H. R. Little of El Morro National Monument visited us the same date. Mr. and Mrs. Chuck Richey were here February 20th and again on the 24th.

ACCIDENTS:

No accidents under the CWA or Public Works have been reported in the monument, except that one man in the employ of Leo Frost, who has been awarded the contract for grading approximately five miles north of the Rio Puerco, was killed while unloading corrugated metal culvert piping at Adamana. It seems that there was a carload of this corrugated metal pipe and when the binders on top of the load were released the pipes spread and rolled down off the car, knocking this young man down and crushing his head. His name was Stevens and he was from Vernon, Arizona. He was killed on his first day at work.

MISCELLANEOUS:

You will note a continuance of the pictograph series, and these illustrated were taken from the Pictograph Area a mile from headquarters.

Very truly yours,

Chas. J. Smith,
Superintendent.

P. S. The following photographs are enclosed as part of this report:
Agate House before any excavation; Agate House - Getting ready to start; Agate House - Removing blocks of petrified wood; Starting excavation - Dr. H. P. Mera in foreground; Adobe floor of room #3 showing original wall; Slab-lined firepit against south wall of room #2; Double wall of room #3; Adobe floor level of room #7 showing bin, metate, fire pit and stone slabs; Restoring walls east wing of Agate House; Floor of room #7 showing firepit, seat, metate, etc; Southwest corner of room #7 showing small storeroom adjoining; Workmen rebuilding walls; Agate House, room #2 on right, room #7 on left.

SUPPLEMENT TO THE

FEBRUARY MONTHLY REPORT

OF

THE SOUTHWESTERN MONUMENTS

****

Shop talk, folks, and things in general.

THE END OF A TUNNEL.

A letter out of the Washington Office early in the month has the following to say about the now famous Montezuma Castle Tunnel:

"At a staff meeting held on February 1, Mr. Pinkley's suggestion of a tunnel approach to Montezuma Castle was discussed. Mr. Albright was present as were several who have visited the monument. It was unanimously agreed that such an artificial entry to this cliff dwelling would take away the feeling of difficult approach and would be about as inviting as the tunnels through the Hetch Hetchy Dam. All concurred in the idea that except for an approach tunnel that might eliminate the first lap, thus bringing approach over an old Indian trail, it would be unfortunate to dispense with the present means of approach.

"Mr. Vint and Mr. Rose have suggested that suitable small models could be used to illustrate the plan of the dwelling making it unnecessary for the visitor to go into every room. If this were done at the foot of the cliff the visitor could be given a clearer picture of the entire structure than could be obtained by going through the whole building. This might reduce the amount of travel actually through the Castle and yet the visitor could go away with a full understanding of its construction and arrangement. It was quite evident during the discussion that there was no one willing to support the idea of a tunnel approach such as was indicated in the preliminary plan submitted."

And so the tunnel idea is out: we can build a little tunnel up to the first ledge, if we feel tunnel-minded, but one a little longer, reaching up to the Castle is taboo. The psychology that has shown up in these tunnel arguments has afforded us a lot of fun. Please note that the idea is condemned, "because such an artificial entry to this cliff dwelling would take away the feeling of difficult approach." No one has talked in favor of the tunnel from the artistic standpoint or the aesthetic standpoint. The argument we intended to raise and have settled is: Shall we continue to put visitors through the Castle and wear it out in the next fifty years or shall we let them look into it from outside and preserve it indefinitely? The decision is that, because of the aesthetic values, we will use models and keep some of the people out and thus lengthen the life of the ruin to a hundred years. Thus we will destroy the ruin at the end of a century, but in the meantime we will have saved this lovely feeling of difficult approach, which will no doubt be a great satisfaction to the people who would like to visit the ruin in the succeeding century!

A.

Homer Farr is looking for the man who stole a thousand feet off his volcano; thus far he has been unable to find him.

Homer has always maintained that his cinder pike is something over nine thousand feet high. Walt had a surveying crew doing some work at Capulin and Homer asked them to run a line of levels to the top of the Mountain for him. Walt tried to persuade him to let the Mountain along and go ahead calling it nine thousand feet, but Homer had great hopes of finding it higher than that and said he was willing to take a chance, so the boys ran the levels and found the following altitudes:

Town of Capulin	6,868
Entrance Road	7,423
Parking Area	7,922
Summit	8,215

If you, therefore, see a thousand feet of Volcano wandering around in your neighborhood, wire Homer and he will come after it.

Tom Charles, at least, is exhonerated; he may have some Folsom Points down there, but his sands are white so he must have got them from some other place than the black cone of Capulin.

By the way, Tom Charles said, along about the middle of the month, in a letter on general subjects: "Tell Walt that I needed him here last Sunday. I wanted him to sit beside me and tell me whether or not there was a hill just in front of me over the next rise in the sand. Not having him, I jumped off of one about 18 feet high. The water bottle on the back seat hit me in the back of the neck; the apples back there hit the windshield, and so did Mrs. Charles. I am now the Champion High Diver of the Great White Sands. It is another experience, anyway, and no one had to go to the hospital, not even the Chevie."

Here is an extract from a report from Laurance Cone which came in from White Sands too late to use last month. It is put in here at least partly for the benefit of Dyke Williams, who is the United Press man over in Phoenix and who wrote during the month: "The January report was interesting apart from their news content, too, I found. So, thanks to you and Mr. Miller, I shall look forward to a February copy. And here's hoping you unearth some dragon's wings or pterodactyls. I hope we learn some more, too, about that alter described by Russell Hastings, particularly if there should come out a theory that it was used for sacrifices of humans -- you know how bloodthirsty the press is!"

Well, here's Cone speaking and he has an altar that comes nearer what Dyke is looking for: "I have been able to go to several places that you will be glad to know are in and about the White Sands. It was nearly a week ago that I was able to visit the pictographs of Three Rivers. They were the most interesting thing that I have seen so far in this marvelous country. There are stones topping the mounds that are covered with carvings of wild animals and conventional designs -- the Swastika and the endless design. On the top of one of the far hills there are stones set up to form the background for what looks to me to be an altar as there are definite steps going up to the grassy platform before these hugh rocks. To one side and a little bit above, there is

a six or eight foot horizontal rock that has evidently been used for a sacrificial stone and again behind this are tall stones covered entirely with conventional designs and these too are stones that rise above the altar background and shoot some ten feet into the air. I don't know what this means but there is some fine material for stories behind it. Another thing that makes me think that these are altars is that they face the setting sun.

"Yesterday I drove out to the site of an old Indian village about ten miles from the northwest end of the Sands and found some extremely interesting material. There were three burials, or the remains of them. One had been washed away all except the skull which was resting on a large piece of dirt which had broken away from the bank. We looked very carefully about in the soil near it for the rest of the bones, but there was nothing on the surface and I thought that should anyone care to go back to the same site they could do the digging in the approved manner. Near this skull there were two other bodies which had been buried near the surface and the water had washed the soil from about them and they lay exposed to the sun. The skull that we located was complete though the top was crumbling due to the time it had been exposed to the air and the sun. There was another and smaller skeleton about one hundred and fifty feet from the skull, which was resting on its side and had been destroyed except for the back bone, the shoulder, and the buried side of the skull. There was also evidence of the arm and leg but the action of the water and weather had almost done away with them. This one we did nothing with. All about this burial ground there were many bits of pottery and well worked stones but an almost complete lack of flint and of arrow points. Some of the bits of pottery were new to me and so I cannot say much about them at this time."

There you are, Dyke: we strive to please and you are welcome to the use of the altar to back up any story you want to put on the wires; but don't quote us as believing in human sacrifices for you will ruin our standing with the Southwestern bone diggers if you do and we have to keep on their good side for, sooner or later, we deal with all of them in our work.

Here is a mighty interesting little extract from one of Dr. Bryant's letters in which he was discussing what we were saying in the Report for December, on page J, about handling visitors through our museums:

"A year ago we attempted to place one of our men in a fellowship at Yale in order to train him up to undertake the very experiments you have indicated on page J. Some idea of the interesting information that comes from such studies can be obtained from a pamphlet on this subject published by the American Museums Association. This work details the results of many experiments in different museums where checks were made of the interest of the public in labels and in different types of exhibits. It is interesting to notethat any label that contains a scientific name is read less than one which omits it. We realize fully that we need to have similar work done in our museums and if there is any one in our staff interested in this work we will do anything we can to promote it."

C.

And, while we are talking about the flow of visitors through museums, we have turned up a fairly hard problem at Casa Grande. Through recent additions we have greatly expanded the red-on-buff phase of our museum and have found ourselves in the peculiar position of having so much material to talk about that we cannot give a satisfactory talk on it. We are therefore going to have to tear up our former arrangement in the display cases and start again. I might point out here that I was not talking at random when I was warning Johnwill Faris against building his proposed artistic interiored museum with niches, recesses, and special arrangements to fit his collection as it now stands. These growing pains of the Casa Grande were in my mind and a room with specialized arrangements to fit our collection two months ago would be a total loss to us now.

Heretofore, at Casa Grande, we tried to show the visitor on his guided trip through the museum the red-on-buff phase of pottery first, then the Casa Grande polychrome, then the Gila polychrome, then the trade ware, and then the stone implements. These were all in the same room. We now find, with our increased red-on-buff collection that we must throw much more emphasis on this period and can break this pottery down into its three sub-periods, the Colonial, Sedentary, and Classic, having enough specimens now on our shelves to give the visitor a pretty good idea of each period. Since this will take extra time, and since our total time in the museum is pretty close to the limit that the average visitor can allow us, we will try spreading the stone artifacts through the cases showing the various periods of pottery and use the time we have heretofore spend over the stone artifacts in the discussion of this additional pottery information, simply mentioning the stone axes etc. incidentally. By this saving and by taking a little time off the modern Indian exhibits, we will use a little more time and try to impart a lot more information. This method is all experimental and will probably have to be changed a couple of times before we reach the proper solution.

Here are some extracts from J. B. Hamilton's monthly report which reached us too late to make the body of this report where it belongs:

"I have continued this month, as before, to visit Aztec, Canyon de Chelly, Chaco Canyon and El Morro National Monuments to consult with the Custodians regarding the carrying out of the Civil Works and Public Works programs going on in those places. I was at my headquarters at Aztec five times, Chaco Canyon three times, Canyon de Chelly once, El Morro twice and Mesa Verde four times. These visits have required 2,135 miles of travel.

"Much has been accomplished under the Civil Works Program in spite of all the uncertainties as to the amount of money that might be expected from week to week -- from day to day it seemed at times. It makes one squirm with impatience to realize how much more could have been accomplished with the same amount of money if far seeing planning and organization could have been done.

"I believe accomplishment has been good in the monuments and park visited in contrast to many county and state jobs. I gathered this impression especially from a Colorado inspector of C.W.A. projects who visited Mesa Verde while I was there.

Aztec Ruins. "Work was limited to fifteen hours per week for all but the supervisory personnel at Aztec National Monument. The supervisors worked as long as there was anything to do; even the office force helped to pour concrete when a pour could not be finished by the regular crew, which had to lay off at noon, Wednesday of each week.

"Work was concentrated on the parking area which was completed except for the surface treatment of the surrounding wall and the paving and walks. Under contract paid by Other than Labor funds some four inches of crushed gravel was placed all over the area except the walks.

"The archaeological staff continued with their work of cataloging the museum material and mending broken pottery.

"The fencing material arrived and is being placed.

"Under Public Works some 250 feet of tile has been laid for the drain about the roofed Kiva. Work has started at the lower end and extends toward the ruin. Much water is being encountered and the trench requires expensive sheeting.

Canyon de Chelly. The detail map about Thunderbird ranch has been completed and is being traced. Good progress has been made on the mapping of the Canyons on the four inch to the mile scale.

Chaco Canyon. "The fill below Pueblo del Arroyo has been protected by a ridge of rock laid along its toe so that it is not likely to wash out for a few years at least. Mesh was not purchased to bind this rock so it is almost certain that it will gradually be undermined and lost; then the fill will go.

"The boundary signs have arrived and are being set.

"The area south of the arroyo from opposite Kin-Klet-So to the bridge and extending to the south cliff from the arroyo has been mapped in detail. So also has the area around Chetro Ketl. These maps should be useful for future planning.

El Morro." Fine work has been done at El Morro National Monument. The trail is nearly completed; as is the erosion control work. The fence has arrived and is being placed on the accurately located boundary.

"The archaeologists are gathering a lot of data regarding ruins in the vicinity. A good accurate map of the monument is nearing completion.

J. B. Hamilton, Associate Engineer."

And here is a little supplementary report from Hosteen John Wetherill which comes in with the morning mail:

"Dear Frank:

When I arrived at camp last Friday, I found that Hayden knew his parrot. He took a great deal of interest in the backbone of the parrot that he and his helpers took to be the head of a wild goose. We have been finding quite a few interesting specimens this last week. One that the whole party was very much interested in was a large jar of about six gallons capacity having the thumb print designs. It was the second large jar that we found embedded in the floor. They are still embedded just where they were found. One of the boys found

a boquet holder; at least that is what it looks like. Sam Guernsey of the Peabody Museum, while working here in the ruins in 1915 found one, but he knows about as much about it as I do.

"We have found many bone and wooden awls, some cotton cloth and pieces of baskets. We have great piles of broken pottery, and several bushels of corn cobs, without the corn on them; both beans and corn seem to have been plentiful, scattered through the rubbish. Beans reminds me of the teacher who asked her pupils to give sentences with beans in them. One little boy said; 'My father raises beans;' a little girl said; 'My mother cooks beans,' and another little girl said; 'We are human beans.' If this is not too prehistoric you may tell it. I have been working in the ruins so long that I am apt to get modern and ancient history mixed.

"We have had two days storm and I put all the men in the ruin. They made a big showing. The old cliff dweller would have thought his house had been preempted by a hard looking outfit if he had seen them working in a cloud of dust.

"Two of my men went to other jobs some time ago. There is a chance for one of my men; otherwise the men cannot get jobs in the county unless there is work on some other project.

"In regard to economizing on office material, if you do not return so many of our vouchers and ask for so many reports, we would save a lot.

Yours truly,
John Wetherill."

Homer has the following interesting notes in something he sent us about the middle of the month about Capulin Mountain.

"The past week has found us working on the two trails, one around the rim of the crater and the other to the bottom of the crater. It is quite a novelty building a trail into the crater of an extinct volcano. We find most of the lava around the rim or top of the crater very soft and all the rock in the bottom extremely hard and very heavy. We have had about 250 feet of large, hard, heavy boulders weighing many tons and all odd shapes to build a trail through. When the trail is finished it will be odd, weird and rather beautiful.

"One freak we have noticed is that when the wind is from the north the south rim is very windy and the north rim is rather quiet; the bottom of the crater being extremely windy when the wind is from either direction."

Laurance Cone, writing from White Sands at the end of the month says:

"I don't know whether it will prove of any special importance or not but today when we were out on the lake Lucero, which is on the southwest corner of the Monument we came across a good portion of a human skull. The face and the jaw were missing but the entire top of the head was complete and in good condition. This may not be of importance but surely is of interest for it happens to be the first skull that has been picked up on the Monument. I am going to wait until Mr. Attwell

comes and he may be able to tell me something about the age, and perhaps something of the probable history.

"The first parking area is getting under waynow finally after the necessary wait for the authorization and we are anxiously looking forward to seeing the first building started on the White Sands. The two Hogans and the Kiosk will be started soon too and then the replanting of the area will start."

When the C.W.A. work first started and we found our regular $100 exeption on open market purchases would not be allowed, but that we would have to go through the new process of acumulating thirteen pages of forms and blanks to cover minor purchases, we were rather thunderstruck. However we tightened our belts and started to work and the Custodians will bear us out when we say that whole flocks of vouchers were returned for proper completion. Meanwhile we kept fighting for our regular $100 exemption and finally got it through. This was a big relief to us and allowed us to speed up the paper work. Just the other day we got the order for a $300 exemption which we take to be an admission that the original thirteen page scheme had broken down as we suspected it would. If we could have had that ruling at the beginning of the program, how much faster the paper work would have moved!

As things now stand, and we are sure it will continue with the decreasing pressure, the field men can tell all persons who inquire as to when their checks will arrive that this office is in the clear but that the vouchers are banked up in the state offices awaiting audit before the checks can be sent out from Phoenix or Albuquerque.

Well, I guess this just about runs us out of raw material and it is time to close this report anyway or we will never catch up on the regular routine of office work which has to be pushed aside when the monthly report is on the pan.

With all the grief and things to woof over, we have had a lot of fun and it could have been a whole lot worse!

Cordially,

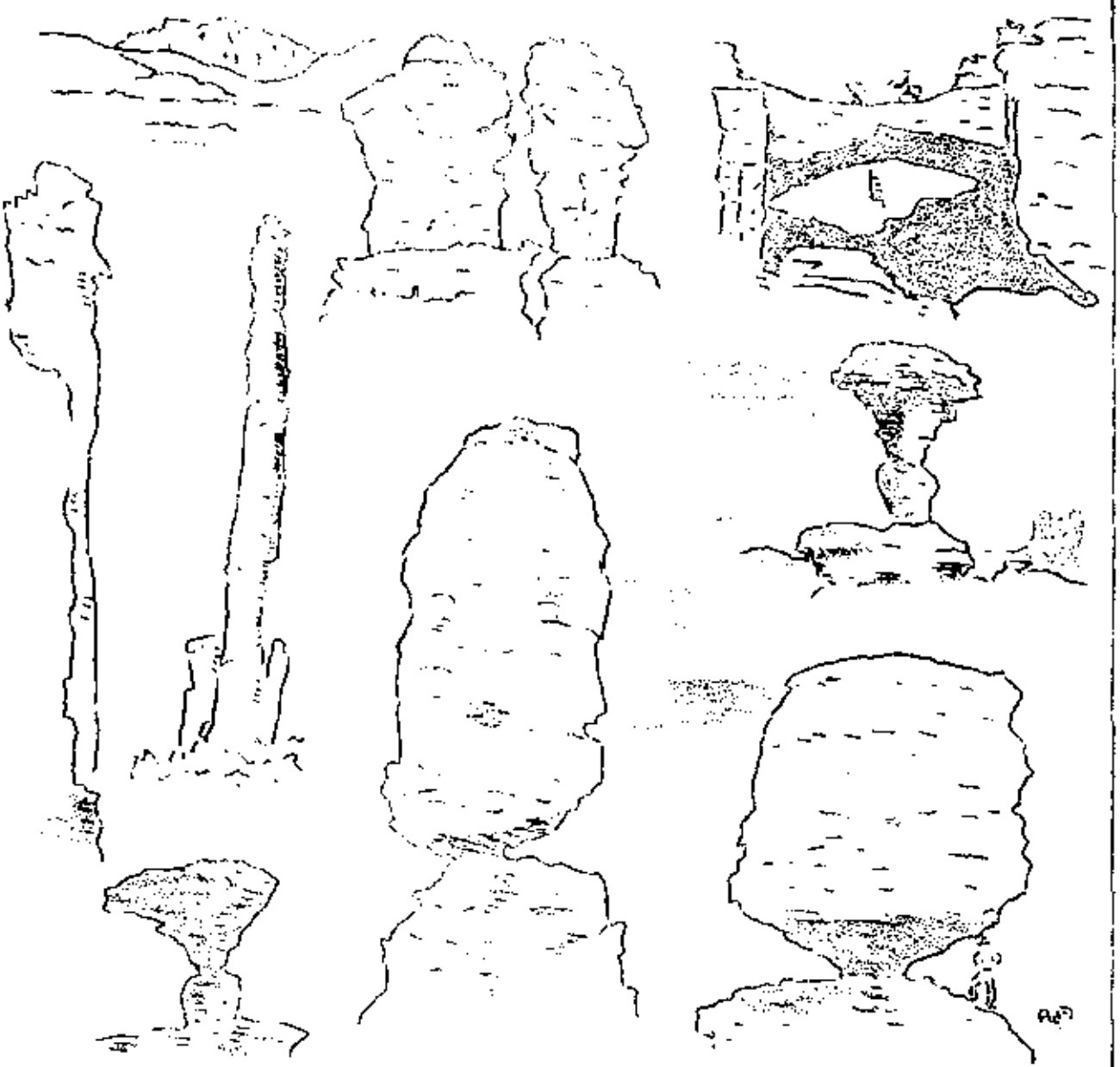
The Bosses

The

Southwestern Monuments

Monthly Report

MARCH 1934



— SCENES FROM ONE OF OUR NEW MONUMENTS —

CHIRICAHUA — NATIONAL — MONUMENT

I N D E X.

SOUTHWESTERN MONUMENTS
MONTHLY REPORT
MARCH, 1934.

Introduction----1

Arches---------- 2-6
Aztec---------- 37-39
Bandelier---------- 23-25
Canyon de Chelly---- 26-30
Capulin Mountain---- 13-14
Casa Grande--------- 21-22
Chaco Canyon-------- 31-33
El Morro---------- 33-37
Gran Quivira-------- 27
Montezuma Castle------7-13
Montezuma Finds------- 42
Natural Bridges------- 28
Navajo---------- 2 -6
Pipe Spring---------- 26
Petrified Forest------ 43-49
Tumacacori---------- 25
White Sands---------- 19-20
Wupatki---------- 16-19

Engineer's Report------43-49
Close----------41.

THE SUPPLEMENT.

Archaeological Excavations at Casa Grande----A-E
Building up the Mesa Verde Museum, with some remarks----------F-O
Costs per visitor---------- P
Hoe In The World Do You Government Men Spend Your Time?----------Q-R
C.W.A. Mules, etc.---------- S
Office Order 265---------- T-U

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
SOUTHWESTERN MONUMENTS

Coolidge Arizona, April 1, 1934.

The Director,
National Park Service,
Department of the Interior,
Washington, D. C.

Dear Mr. Director:

Another month has rolled around and we sit ourselves down to report on the work which we have been carrying on.

First, we congratulate ourselves and thank you very much indeed for the welcome change back to our old name of the National Park Service. I couldn't, in a hundred years have gone sentimental over the Office of National Parks, Buildings and Reservations; it just never did or could or would 'come trippingly on the tongue' as the late Mr. Hamlet phrases it. It is good to get back to the old name and feel like we belong to the 'Service' again.

Business has been good pretty well all over the district during the month of March, and the outlook is for a good run of traffic for the spring and summer months.

The weather remained abnormally good, from the standpoint of our work, over the district, but the ranges are getting too dry to suit the cattle men, and, unless we have a lot of precipitation between now and summer the two big irrigation projects in the southern part of the State will be pretty short of water before the summer is over. Our jobs have not averaged half a dozen days loss due to weather for the whole winter. We have been able to plow and handle ground which would have ordinarily been frozen four feet deep all winter. We have worked dirt all the way from five up to eight thousand feet

Our big job during March was to taper the work down at the rate of eleven per cent per week with the exception of the archaeological jobs and get things closed up. It is confusing to work two and a half short days per week and with a tapering crew of men and I think some of our Custodians have misgauged the amount of work that could be done under such circumstances and are ending out with incomplete projects. They have a reasonable excuse, also, in the fact that the first two weeks of the program we had our full force of men and no money to run them.

The monthly reports from the various parks is as follow:

NAVAJO NATIONAL MONUMENT. John Wetherill, Custodian, Kayenta, Arizona.

I want to start the report out this month with a bit of history which should certainly be a matter of permanent record. It deals with the early days of Keet Zeel and it is John Wetherill himself talking.

"The first knowledge we have of Keet Zeel was given by Richard Wetherill, Alfred Wetherill and C.C. Mason while they were on an expedition for the American Museum of New York.

"They were in here in December, 1894. They had left Bluff City, Utah, with a party of five men, worked up the Chinlee Creek to what is now Kayenta Creek, and up the Laguna Canyon, now called Tsegie, and up Keet Zeel Canyon to Keet Zeel ruins. On the way they visited many ruins, including what is called Poncho House and Swallows Nest. They just made a hurried reconnaissance trip. At that time they did no excavation, or work, as other men had been left at Ruin Point, near Kayenta Spring to work out the mounds. From here they visited Piute Canyon and Navajo Canyon with all its different branches.

"In the fall of 1896, Richard Wetherill, heading the Whitman and Bowlen Expedition, left Mancos, Colorado. Whitman was a young man of 19 years, and Bowlen was his tutor. Whitman's mother put up the money for the expedition. The party came through Bluff City, Utah, to Grand Gulch, where the first Basket Makers were found in 1892. They then followed up the Chinlee to the mouth of the Kayenta, visiting and working in many ruins, excavating, photographing and mapping in the larger ones. From the mouth of the Kayenta, they worked the mounds to the Marsh Pass at the mouth of the Tsegie. They worked the Tsegie and most of its branches to the head of the Canyon. In this expedition they visited Keet Zeel, but did little work there as they had all the material they wanted.

"In 1908 Charlie Spencer visited the ruins with a party of prospectors and mining men. A few days afterward I took Edgar L. Hewett in. He was one of Dean Cummings' party, who at the time were working in the Tsegie, and were out from the University of Utah. In 1909 W. L. Douglas, a surveyor from the General Land Office in Washington, looked over the ruins and decided they should be made a National Monument. Dean Cummings visited them in the fall of 1908. J. Walter Fewkes visited them after Douglas was here, and built a wagon road up the Canyon as far as the High Falls so that he could get his wife to Keet Zeel. He reached a point about two and a half miles below Keet Zeel. He came in again in the early part of 1910.

"In June of 1910, Dr. T. Mitchell Prudon, of Columbia College, New York, made his first trip to Keet Zeel. My brother Clayton and I were with him. We drove a light four horse outfit as far as the mouth of Doguashie Canyon, about five and a half miles below Keet Zeel, and changed to horses and packs. From then on Keet Zeel was visited by a few parties each year until the present time. The wagon road Dr. Fewkes built lasted until about two weeks after Dr. Pruden was here.

"The erosion has been so great that it has been impossible to keep a road. The creek bed has so much quicksand that it is impossible to

follow it very far. We have had to change our trail after every big rain.

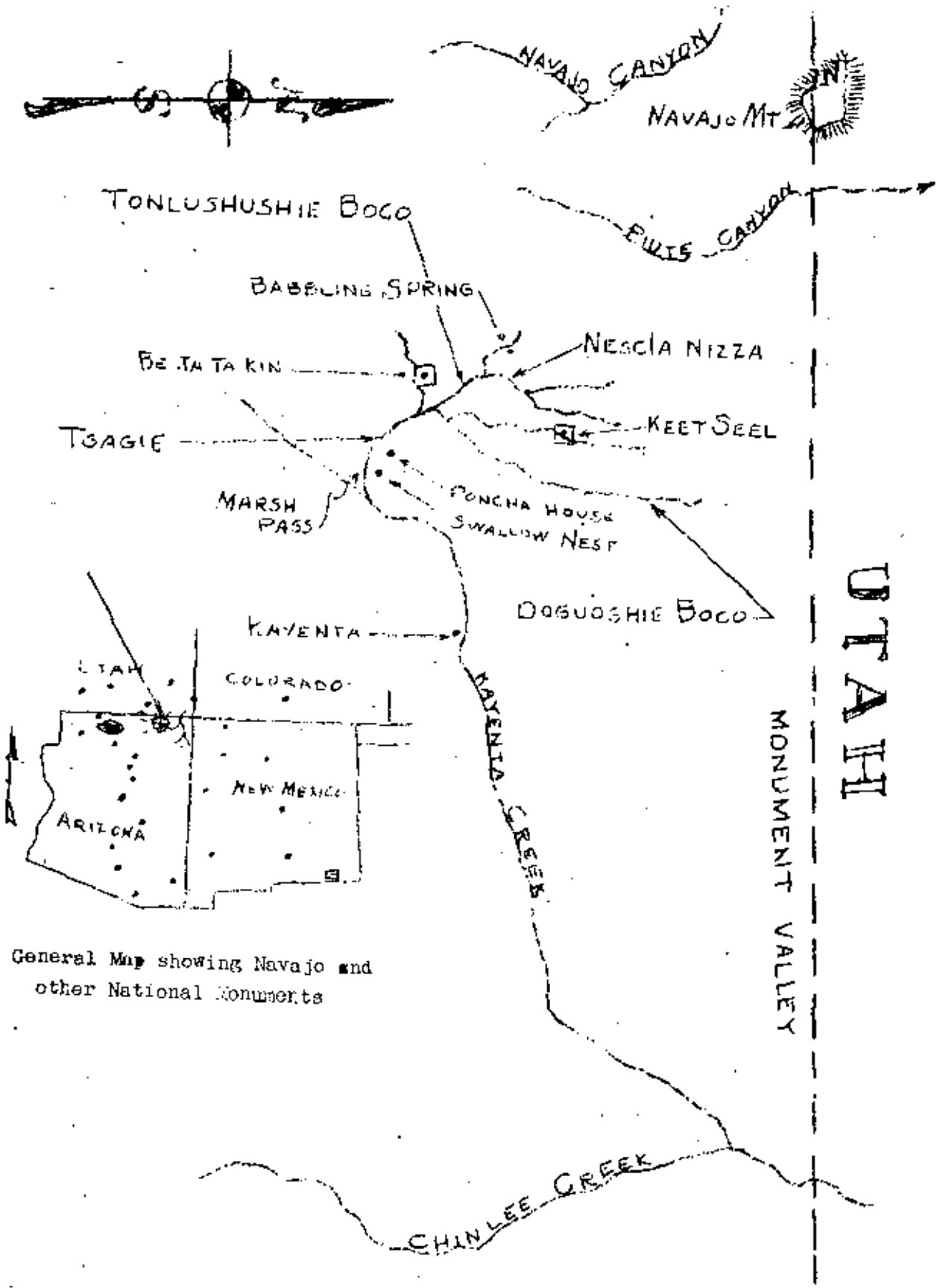
"Keet Zeel is located near the head of Keet Zeel Canyon. The Canyon runs southwest for six or seven miles; from there to the mouth of Tonlushushic Boco (Bubbling Springs Canyon), a distance of three miles, it bears to the south. From Tonlushushic to the Marsh Pass, it runs Southeast. From Marsh Pass it runs east to Chinle Creek, a distance of forty-five miles, and is known as Kayenta Creek. The Indians call the Canyon and all its branches the Tsegie, called so on account of the high cliffs and rock covered talus slopes.

"For many years the Creek was called Laguna Creek, and the Canyon was known as Laguna Canyon. This information was told me by Dr. T. Mitchell Prudon. He also said that the name was first used by Kit Carson in the '60s while he was fighting the Navajos. At that time, where the creek now runs there were many lakes. Now in their place there is an arroyo from twenty to seventy-five feet deep. According to J. J. Wade, who was the head of a party of emigrants coming through from Ward City, Nevada, in April, 1880, the lakes were still here. The Navajos tell us that about 1884 the first lake went out of the Canyon. They say that an old man living at Tse-a-wey about twenty-five miles east of the mouth had told the people that the lakes were going to wash out. He had stock in the Canyon and came up to look after them. While he was up here a cloud burst came and washed the large lake near the Pass out. It did considerable damage to the crops below. The Indians held a council and tried the old man as a witch. The penalty was death. They tied ropes to his arms and legs; and four men and horses did the rest. The ropes and fragments were left when the penalty was executed.

"From then on many lakes were washed out, one after another, until in 1900 they were all gone, and a deep arroyo left in their place. The names of the different branches of the Tsegie are, Be-ta-ta-kin Canyon. To the west, Tonlushushic. The long fork of the Tonlushushic is known as Nexela Nizza Canyon. About three quarters of a mile above Tonlushushic, Do-ghoshic Boco (Greasewood Canyon) comes in from the east. In Fenkes report he calls it East Canyon. Keet Zeel is to the left, and is about nine miles long. All these Canyons have many cliff houses in them, some quite large and very interesting.

"We have had a 400% increase for the month of February. I think that you will not find a greater per cent of increase in any of the parks or monuments. In the 25 years that I have been Custodian we have never had a visitor before in the months of January or February, or March.

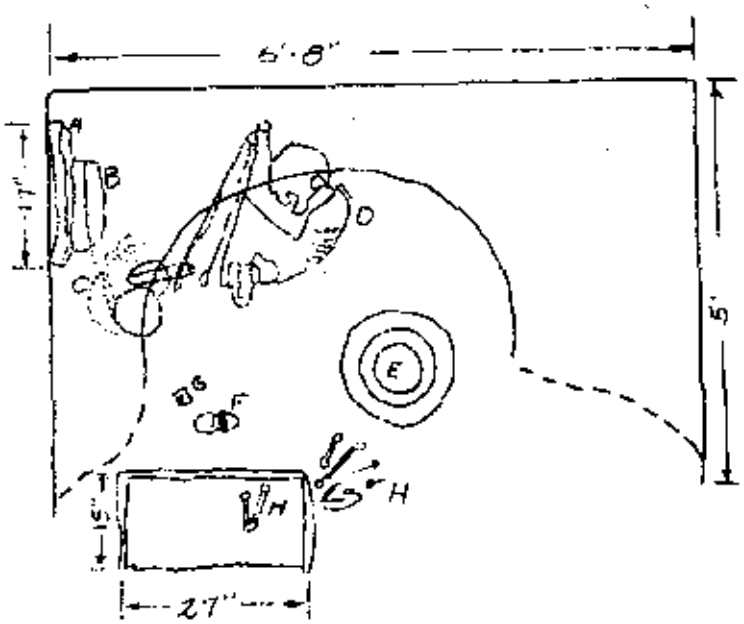
"The camp at Marsh Pass is on top of the Navajo Sandstone, in the Jurassic period. Within one and a half miles the Navajo rises to 1,200 ft. Within one mile of camp, following up the Tsegie, we pass through the Navajo, Kayenta and the Wingate Sandstones and enter the Chinles in Triassic period. In the next five miles we pass out of the Chinles after having passed through over 300 feet of it. In going up the Canyon about six and a half miles, we have passed through a Dome and again enter the Wingate Sandstone, three and a half miles further we are again in the Navajo, where Keet Zeel is located. The Wingate and Navajo are both cross-bedded sandstones laid by the wind. Between them is the Kayenta Sandstone, laid by water. The Kayenta



General Map showing Navajo and other National Monuments



One of the Jars,Black on White, from this burial,5" diameter 5" height



A Fine metate
B Rocker Type Mano
C Nest of Pots
D Aged Person's Skeleton
E Large plain gray pot 15" diam.
F Stone Hammer
G Pendant of Red Stone
G Turkey Bones

formation has been known as the Todilto until the geologists got together about five years ago and changed the name to Kayenta. The cave in which Kuet Zuel is located was caused by the end of a large sand dune breaking out of the more solid formation around it. The cave is still breaking off following the lines of the sand dune."

"Since writing last months' report the work has been going on rapidly at Kuet Zuel. We will not be able to finish the job although we will have gone a long way toward completing it. We have almost finished the work in the ruin building. There will be many days work for ten men before we finish the work under the cliff. There will be a few days work taking the notes of the house and the replacing of walls before we leave.

"We have uncovered two rooms in the rubbish heap and found the remains of two of the former inhabitants and parts of three more that had been disturbed and the bones scattered. One of the skeletons was found last Saturday by Julian Hayden, under the floor of one of the rooms. (See figure above.) In putting in the room some of the bones had been broken and scattered. There was a large, unpainted jar near the skeleton also under the floor. On the floor, near the body there was a fire-pit and just above the body was a ////////////

metate and two manos. Everything was cleaned ready to photograph Monday morning. Monday Julian removed the material from under the room, and worked back under the wall a few inches from where the head of the skeleton laid and found five pots entire. The skeleton was twisted so that the knees were above the head.

We have had three lady visitors this month. One was a young German lady who tried the second time before she reached the camp. The first time she tried to ride Jimmy, the white mule. She reached a point about one and a half miles from Marsh Pass Camp when Jimmy decided that he had gone far enough and returned to the ~~camp~~ camp in the Pass. She tried again two days later and came on foot down the trail at Be-ta-ta-kin. She reached the Turkey Cave Camp at dark after one of the boys met her with a saddle animal.

"The other two ladies were Miss Brown, County School Superintendent, and Mrs. Howard, an investigator of the C.W.A. They stayed over one day and two nights and did not want to leave when they did. They came in by way of Be-ta-ta-kin where we met them with horses. They made Turkey Creek Camp early in the evening. They were too tired to do anything but rest and sleep the first night. The day following they visited the ruins. They were very enthusiastic for all that they were so sore that they could hardly climb the sixty foot ladder to the ruin. The second evening was spent in the office tent telling experiences and having music and singing. Mr. Kortchner gave us all the old tunes he knew on his violin, Miss Brown whistled and Mrs. Howard sang. Everybody enjoyed the evening.

"Last Monday our Archaeologist, Mr. Hayden, left camp about one o'clock for Kayenta. He refused to ride a horse and walked the 25 miles into Kayenta. He reached Kayenta about 9:30. He said if it had been a hundred yards further he would not have made it. The next morning he acted as if his legs wouldn't bend. His joints squeaked when he moved. Julian Hayden was put in as archaeologist in his father's place and the elder Hayden leaving did not slow up the work.

"Mr. Attwell, of the Engineering Division, has been with us. He may have told you what he thought about our project. I told him all I could of the work here. He seemed satisfied with what has been done and made estimates on future work which went beyond what I had put in.

"An Indian came into camp a while back and told me that his three years old child had been standing by the fire when his shirt-tail caught on fire and burned him pretty badly. I went to see him and found the boy in bad shape. I sent him in to the hospital with my trail foreman, Preston Custen, and he is getting along all right now.

"The most of the boys are anxious to get home. Mr. Carmack has a car in the pass and he will take in all the boys who leave Friday. We will have but five of the unskilled left next week. Two of the men have had an increase in their families lately. Mr. Perkins first child arrived about three weeks ago, a boy of 9½ pounds. Mr. Bowens son of about 9 pounds came last week.

John Wetherill"

MONTEZUMA CASTLE NATIONAL MONUMENT. Martin L. Jackson, Custodian.
Camp Verde, Arizona.

"Dear Pink:

"We find that we have had 1,036 for the month by actual count. We also find that we only have 342 names on the register. This makes fifteen months now that we found, by checking the names on the register against the number of actual visitors, that only one third of the visitors climb the ladders. You know that it has always been my contention that about one third the visitors climbed the ladders--but you would not let me get away with it. However I will not say any more on the subject because you have too many other things to remind me of that did not work out as I thought they would.

"The weather for the past month has been unusually nice for March with very little wind. All roads leading to the Monument have been open at all times and I believe this to be the first winter since I have been here that the roads to Flagstaff have not been blocked for some time at least. Stockmen are complaining about the shortage of water and grass. Some of the nearby towns are also beginning to feel a shortage of water.

"Our C.W.A. project is nearing an end and while quite a lot has been accomplished, we have not been able to finish all that we had hoped to do owing to the reduction in hours. Now the best that we can hope for is that we will be remembered by the P.W.A., the E.R.A., the C.W.A., or any other A., and allowed enough funds to finish our work.

"J. V. Lloyd, Assistant Superintendent of the Grand Canyon National Park; and Bert Harwell, Park Naturalist from Yosemite National Park, were visitors during the month. They are very fine folks and we want them to come again.

"Engineers Stewart and Lyke, part of Walt Attwell's crew, were with us during the first part of the month. They gave us some able assistance on the work being done here.

"Forest Ranger Lynn dropped in for a few minutes the past month and told me that Forest Superintendent, E. G. Miller and himself had both signed the necessary papers for the addition to the Monument. I feel sure that Walt Attwell will be pleased to hear this as he has been working to have this land included in the boundaries for some time. Thanks, Walt. I am almost convinced that you can do things other than move dirt or tear up something.

"The following is a note I received from one of the Apache boys who has been working here on the C.W.A.:

> Please Jackson.
> Give me an excuse for today I am wanted on the main ditch to work today. I have no one to send in my place to go up there. I am not getting out of the job I work Wednesday then that's is the ditch work is finished. Please sir I must work Wed. Thur. & Friday.
> Otto Nocosque.

"Otto is one of our best workers and we managed to keep his job open for him.

Jackson."

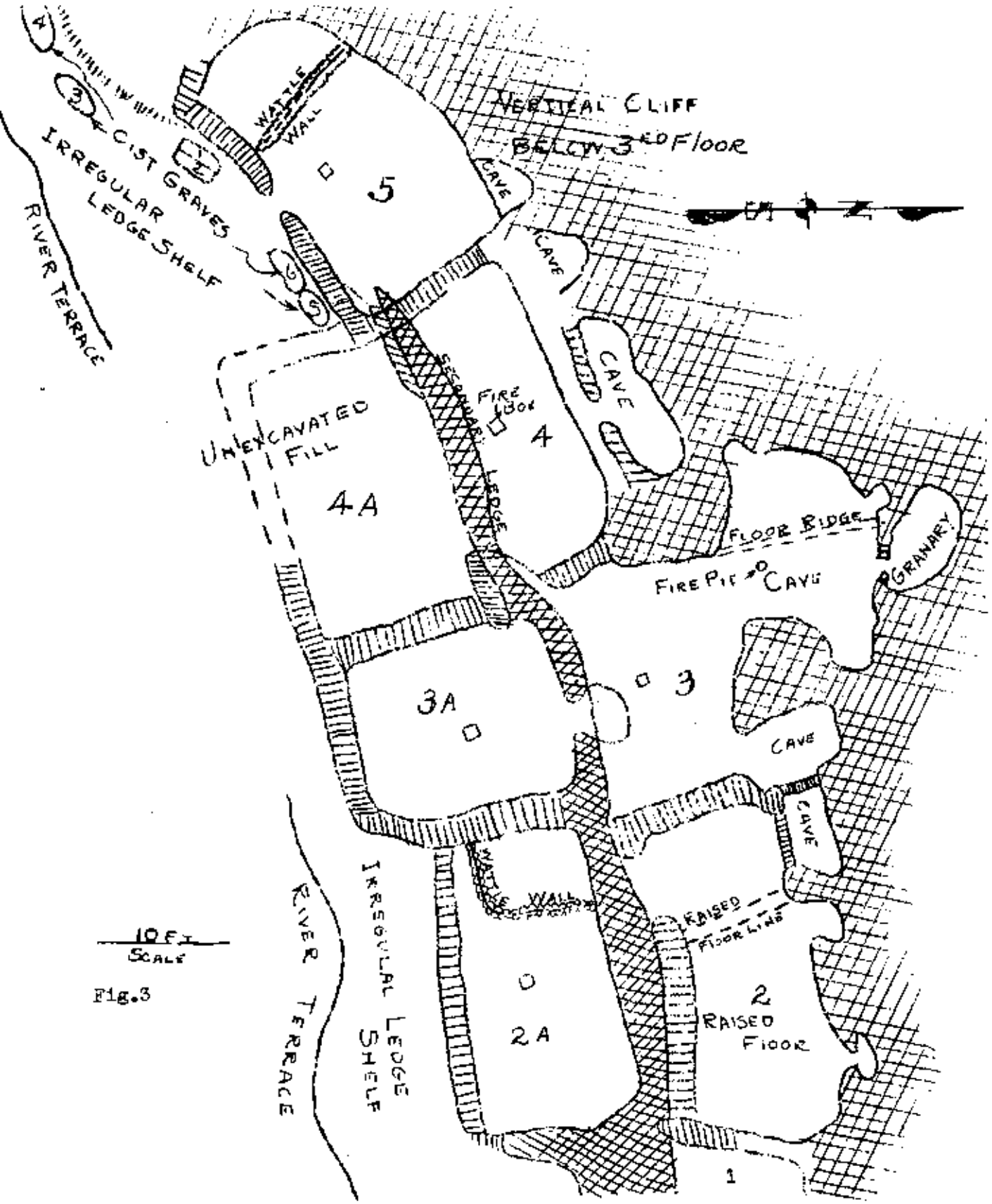


Fig.3

PORTION OF CLIFF RUINS EXCAVATED AND CLEANED UNDER C.W.A. SINCE DEC. 15, 1933

MONTEZUMA CASTLE, THIRD PRELIMINARY ARCHEOLOGICAL REPORT. Earl Jackson.

"Excavation work here this past month has proved highly satisfactory from a qualitative, but rather slow from a quantitative point of view. Our small crew has made progress in fill removal from Section A (the large cliff ruin) to the extent that one additional large room has been cleaned out, another has most of the fallen material removed from the floor, a forty foot frontage of the ledge at the west end of the structure is exposed (See Plan on Page 8), on which has been located and practically excavated a small cemetery. The material for the restoration of Room 5, obtained after considerable difficulty and roaming about, is all on hand, and the wall has been built up and the stringers put in position. We believe we are going to have a restoration here to be proud of.

"The room #a (Page 10) revealed several features of interest. It measures almost square, and is situated in the center front of the two lower tiers or base rooms. The charred ceiling fragments on the floors told us the room had either a balcony or a second story above, for on top of the burned timbers and six inch thickness of clay roof were sections of broken pottery and one full round groove stone pick. The floor of 3a is entirely cavate, with the exception of the south or front end, which is built on fill for two feet.

"The customary firebox was located, contrary to form in this ruin, slightly back of the center of the room. Four feet south of the firebox was a hole in the floor caused by a cracked ledge which contained the sherds of a large plain olla. In the northeast corner was another olla, measuring 16 inches in diameter, plain and hemispherical in form, broad mouthed and flare rimmed, with practically no neck. This piece was shattered, but complete and in position. Two metates were found, one in position, propped at an angle as it had been left after using. Along the central west wall was found a large section of charred and rotten basketry or matting of a twinned weave strikingly similar to that of the modern Papago granary baskets, made of a grass rod foundation and bound with yucca fiber, each binding strip piercing the adjacent bundle and holding some of the grass stems, making a weave as firmly held together considering the coarse texture, as an Apache basket. A storage well opening into the cliff face at the north end of the room revealed nothing but trash which had drifted in and one crude, 3/4 groove diorite or gabbro axe.

"The feature of 3a which caused the most puzzlement was the presence, about three feet from the east wall, in the northeast part of the room, of the skeleton of an elderly adult, believed male. The body was oreinted north and south, with the head to the south, lying prone and extended, with the skull twisted sharply to the left. The left arm was missing, but because of the badly decayed condition of the bones may have so decomposed as to be unrecognizable. No burial artifacts were found. The bones were underneath a several inch thickness of scattered ceiling fragments, but directly under them, in contact with the floor, were a few fragments of the same charred material.

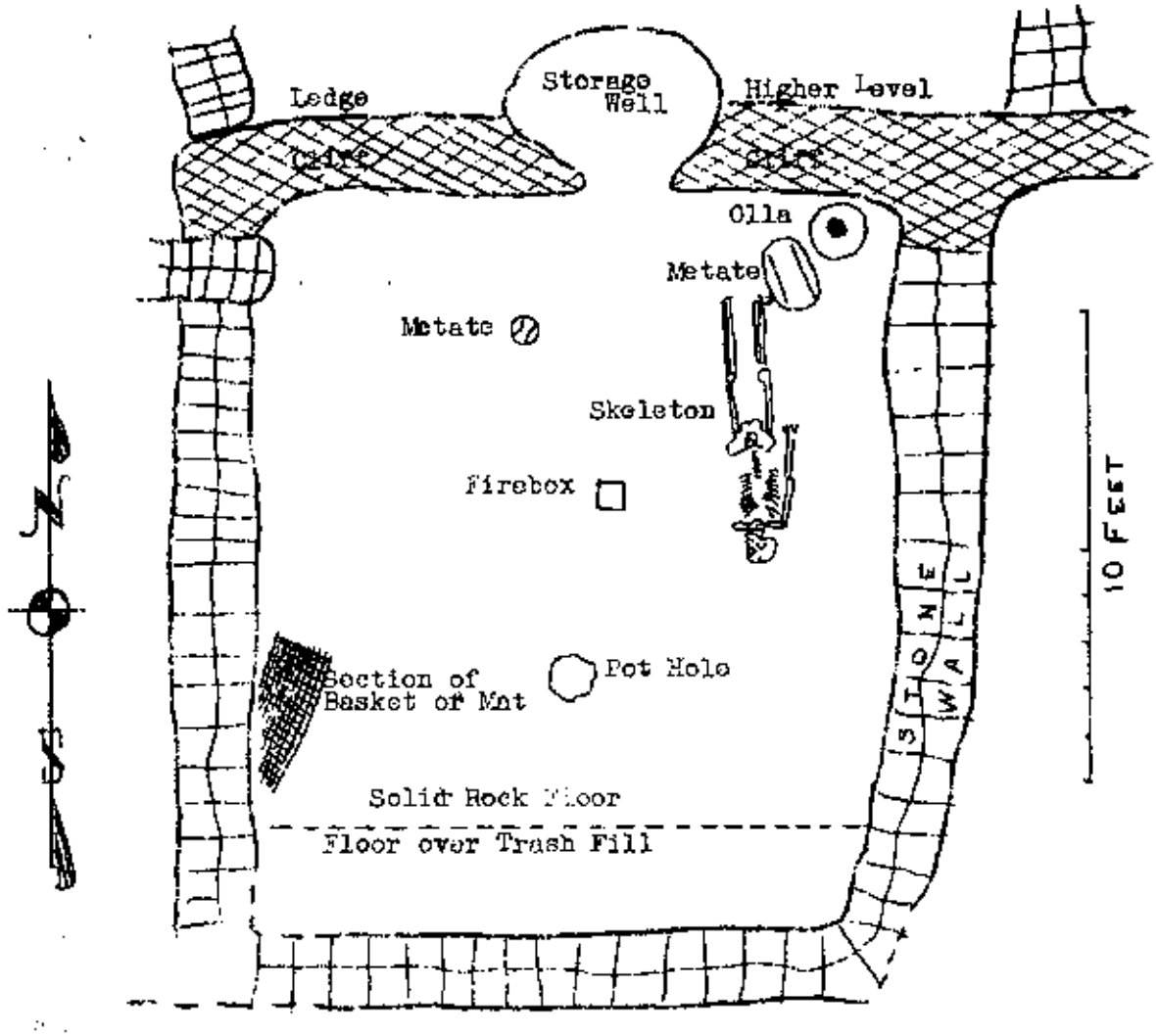


Fig.4. FLOOR PLAN ROOM 3A.

"Whether this body was buried on the floor after the ceiling fell, or was lying on the floor at the time of the fire, or was buried under the floor of the second story, we cannot determine. Each of these theories has something wrong with it, but at any rate we know the body was there!

"To the west of the room just described, on the shelving ledge running in front of and west of Room 5 (described in our first preliminary report), we have located six cyst graves, of which five have been excavated. Of the five only four had been used for inhumation, for the fifth was a shallow one and probably undesirable. From the four graves which were used, 15 burials have been removed! Of the 15, only four bodies were in normal position and complete as they had been originally placed.

"To describe a typical cyst grave as observed here: In a native

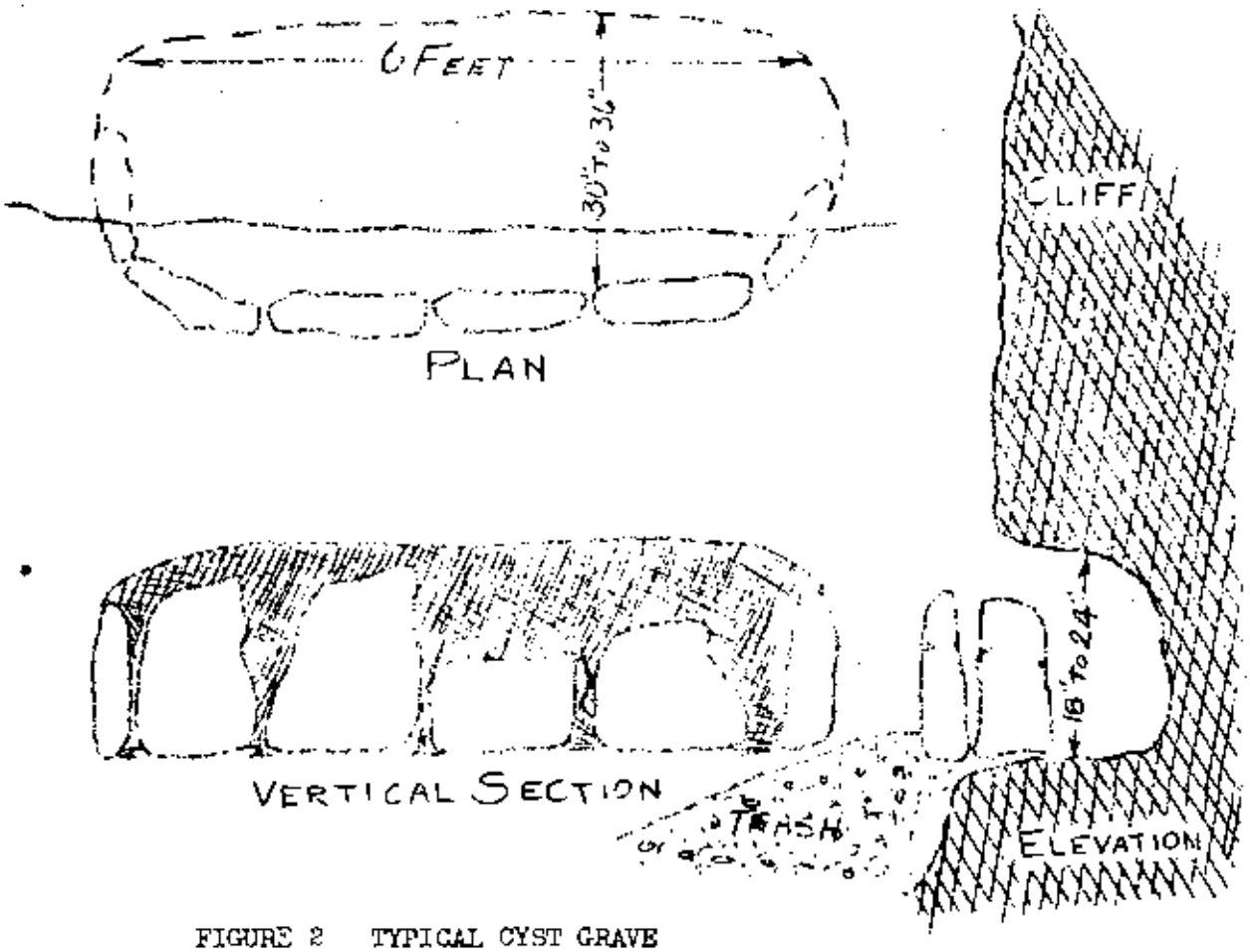


FIGURE 2 TYPICAL CYST GRAVE

clay stratum underneath a limestone ledge shelf was dug a chamber a foot and a half to two feet in height, by two and a half to three feet in breadth, by six feet in length. Such a chamber was enclosed by native material on three sides; on the south or open side was a row of large vertical limestone slabs (see Fig. 2, above) which to most practical purposes closed the vault. All are single graves save Nos. 1 & 2; here two graves were made in one by the simple addition of another row of slabs along the central length of the cyst, inside.

"Cyst graves 1 & 2 contained one undisturbed burial of an elderly female, in the midst of the scattered remains of four other burials. The body was extended with the head to the east. No artifacts save what is believed to be a batten stick, which laid along the right leg with the upper end in the right hand. Throughout the fill of the grave were found a great number of tiny shell and stone beads, disc shaped, some less than an eighth of an inch in diameter. Several turquoise pendants were also found. All of this jewelry belonged to those bodies which had been disturbed. All of the skulls from these graves were in poor condition, but one was found which was undeformed, being the only skull found

on this job which did not show occipital deformity.

"Cyst Grave 3: Not used.

"Cyst Grave 4: Contained the undisturbed skeletons of two old men, both buried at the same time, one directly on top of the other, both prone and extended, with heads to the west: three other disturbed skeletons were also in this cyst. No artifacts whatever were found.

"Cyst Grave 5: Contained the undisturbed body of an elderly female, prone, with head to the east, and the scattered bones of three adults and one child. This cyst is not yet completely cleaned. Beads, similar to those in Cysts 1 & 2, were scattered.

"Cyst Grave 6: Not excavated, but on top of the fill, and inside the outline of slabs which mark the grave, was found the only earthen vessel which was brought to light. It is a tiny olla, broad mouthed, flare rimmed, of flattened hemispherical shape, with a vertical loop handle. Decoration is in black on a white paste, on the upper half of the body. The piece is thin and excellently fired, and according to the pottery guide of the Northern Arizona Museum belongs to the classification known as Tusayan Black on White.

"In addition to the Cyst burials, in front of Cyst Graves 1 & 2 were found the fragmentary remains of two other skeletons, the bones badly mixed and the skulls gone. On the left fore arm of one of these were yet in position two large clamshell bracelets. These bodies were not in a grave, but were covered with hard packed soil to a depth of six inches, and this may represent the occupational level of the ledge. From all appearances these bones were simply thrown aside from some disturbed burial.

"None of the burials described could have been disturbed by modern man, because of the great depth of fill which we removed above them. The fact that so many of the bones were disturbed means simply, to us, that the occupants of this cliff dwelling were hampered by the lack of sufficient suitable ledge burial places near to their homes, and consequently dug into old graves to make new ones, scattering the bones as they did so, and that through a period of years these processes were repeated as many as four times, so that always the latest burial made is undisturbed, and all preceding it are scattered. The scarcity of burial artifacts, especially pottery is quite obvious. It would indicate either indifference poverty, or less intense religious conviction of necessity of personal appurtances in the hereafter. At the best, our choice of these theories can be only conjectural.

"One other grave should be described separately, as it was not found in this ruin, but over a hundred yards east, in the trash fill of the slope in front of Montezuma Castle. This was the skeleton of an aged female, found four feet beneath the surface, and six inches above the floor of a pit house. The body was oriented east and west, prone, with the legs crossed at the ankles. No artifacts whatever were found. The skull was in excellent condition, showing the typical artificial occipital deformation.

"No further excavation can be done on the Castle slope under this

project, but I can certainly urge the importance of intensive working of this section in the eventuality that future work might be done on this Monument. We firmly believe that here will be found the long sought cemetery of the builders of the Castle, and we know that there are structures at the lower stage of this slope which would be worth excavating. Our test work here, in trenches, has uncovered great quantities of pottery sherds, signs of other human burials, and sections of stone walls several feet beneath the surface, in addition to the one large pit-house previously mentioned.

"Guess I had better sign off this report, or you will think I am trying to write a book. Am wondering whether to try to make the final detailed report on this job in one huge volume or in two small, say 500 page foldos. Anyway, the rest of the ghouls and myself are going to try to be super-men and finish the excavation of this ruin in the next two weeks.

Earl Jackson."

Which strikes me as being a pretty good report. Don't you think so, Chief ? I wish the Public Works folks would come on through with the money for that museum at the Castle. We have a fine collection right now that would go a long way toward filling it.

CAPULIN MOUNTAIN NATIONAL MONUMENT. Homer J. Farr, Custodian, Capulin, New Mexico.

"Dear Mr. Pinkley:

"I have the following report to make as to the activities of the Capulin Mountain National Monument for the month of March.

"The weather has been both bad and good all this month with about one foot of snow and six feet of wind. However we have been able to work right along all the C.W.A. law would allow us and for the most part the bad weather has been coming during the last part of the week and we have been working the first.

"I am glad to report that we have accomplished a great deal this month although we have been handicapped for the want of men. We have had good workers and done plenty of work. We have gravelled two thirds of all the road below the cabin out to our boundary line and have almost completed our cut-off which eliminates 300 feet of road and leaves our entire road within our boundary limits. We have completed over one half mile of roads from the main road to the various camp grounds, four in number, and have selected sites and cleared the rocks from the grounds and are now erecting out-door fireplaces so located as to reduce the fire hazzard usually accompaning the ordinary fire upon open ground.

"Stone heads for the many culverts are now being laid with stone cut to fit and laid in concrete. All heads are laid in a manner having the proper slope at each end so that in the future some possibly careless grader operator will not be able to hang up on them with possible grief to himself and damage to the culvert head.

"The accidental finding of a broken metate as we were excavating for

the new cut-off led to the discovery by the Custodian of a very odd and beautiful cavern which was an ancient habitation for the red men in years gone by. This is proven by the many sherds or pieces of broken pottery and the arrow points and parts of buffalo skulls and deer bones present in the cavern.

"The broken metate was found about three feet under ground about one hundred yards from the cavern. This cavern is only about two hundred yards from the entrance to the Monument and we return thanks for it all being on the Monument. It has a ten foot ceiling and is about 40 feet long and 20 feet wide.

"We have had only about four hundred and fifty visitors this past month. We would have been able to report more but the old weather man has not behaved himself as good as he could. After all we are very lucky to have had a fair amount of moisture.

"All our men here are remaining very loyal and we have a wonderful bunch of good workers. I hear no grumbling from those I have had to lay off although I must add here that most of them are sorely in need of more aid. Working only fifteen hours a week does not enable them to more than buy the necessaries of life and when they are laid off they have nothing to go on in the future. I am hoping this community will be able in some manner to re-employ these men again soon under Public Works, for two crop failures and long winters are hard to pull through.

Homer J. Farr."

ARCHES NATIONAL MONUMENT.

Report of the Arches National Monument Scientific Expedition for the month ending March 29, 1934. By Mr. Frank Beckwith, Leader.

"During the month of March, Geologist J. C. Anderson finished his work at the Arches Sector of the Monument; he has given that much detail and is prepared to furnish a plane table map with each major object located; he has correlated the stratigraphy of the region with known and named stratigraphy, and carried it into that area with care; he will give sections and such other information in detail as to that portion of the Monument which is expected in a geologic report.

"He has visited the Yellow Cat area twice and finished that area. The Yellow Cat area will not be gone into in as much detail as the Arches sector but it will be given in sufficient detail to cover it scientifically. The beds there differ from the others in respect that they suffer no tilting, lie horizontally, and embody sandstone layers and Morrison shale. In the Morrison shale he found many deposits of dinosaur bones, and three instances in which bones were embedded, two of which were outside the Monument area. His verbal account of Yellow Cat, upon his return after the first visit, was glowing, enthusiastically expressed, and attached much importance to that area as a dinosaur deposit.

"He visited the Devil's Garden area once, and will return again this following week to complete his work. The stratigraphy given in detail of the Arches will apply to the Devil's Garden area, as they are alike, separated only by a distance of about two miles, and of the same character

of sandstone out-crop. He will visit each major arch in that area, has taken many photos, and will present it fully.

"Ralph P. Anderson, Surveyor, finished the Arches sector during the month, after having spent eight weeks there. He reports that he wishes to put in two days more in that area on work on Salt Creek, within the boundaries. The detail and time spent by him in this area seem hardly justifiable. He visited the Yellow Cat area once. At this writing he is in the Devil's Garden area, using his own car for transportation, since it saves both time and money over the use of pack train. His first week in that area was spent near the middle of Devil's Garden, within easy distance of Fallen Rock Arch. The second week was spent at a point near the southeast tip of the long narrow strip; the third week, which will end on the date of this report, will be spent on the northwest portion of that area.

"Director Beckwith has spent his time this month largely in getting first hand information of the scenic values of the Monument area. On February 15 (the first date set for the termination of the work), neither he, J. C. Anderson, or Ralph P. Anderson were ready to hand in their work; by the first of March Beckwith had finished his work, retaken 5 by 7 photos in the Arches sector, made other exposures on smaller film, revisited many points of scenic value in the Arches sector, and visited the Devil's Garden area twice.

"During the month we were visited by Park Service officials P.P. Patraw, Harry Langley, and George W. Norgard. Packer Turnbow and Foreman Jack VanVoy and J.C. Anderson all assisted Mr. Norgard in getting as much information on the Monument area as the limited time at his disposal would allow. They all took him out on long trips, requiring much riding and overtime, and the country was studied from his angle. His visit put a new line of thought into the expedition which up to that time was thinking in economical terms, with bare necessities of the first year or second year of tourist travel. Mr. Norgard saw it in terms of greater development and what was required to assist that expansion. The expedition feels much benefitted by his change of outlook on the project and now thinks in larger terms, better roads and more expanded development, to get the fullest out of the territory.

"The force has been cut down; the laborers, teamster and cook have been dismissed, and the remaining force consists of Geologist J. C. Anderson and his helper, to be dismissed as soon as possible; Engineer Ralph P. Anderson, with two assistants, also to be dismissed as soon as he has finished field work; the packer, foreman and Director.

"Archaeologically, Director Beckwith has found nothing in the Monument area of any note: around Willow Spring some small pottery sherds, buff material, and one fragment of Black-On-grey-white, painted; some few arrowheads, many 'rejects' or chipped flakes; but in the Monument area no houses nor house remains; no artifacts other than broken and poor metates, with a fair supply of manos found by chance. No doubt but that around the water of Willow Spring, Indians, modern and ancient, visited the spot for summer or winter hunting, but left no cultural evidences. Archaeologically the area yields negative results.

"The work of the expedition is fast approaching its termination. The surveying and mapping should be done now and the remaining time of the

Engineer devoted to working up his notes, drawings, and locating upon his maps the principal places of interest in the area. Geologist J. C. Anderson is nearly through, with what time remains to be devoted to office work. Director Beckwith is spending his energies in a thorough study of the scenic and tourist values of the area, with a view to presentation in terms of tourist appeal.

Wupatki National Monument. Dr. Harold S. Colton, Custodian, Flagstaff, Arizona.

"At Wupatki and Citadel the work progressed satisfactorily with ever diminishing crews. I append the reports of Dale S. King, Foreman and Archaeologist of Project 4; J. W. Brewer Jr., Foreman of Project 10, A. T. Williamson, Archaeologist, Richard F. Van Valkenburgh, Archaeologist, and J.F.C. Hotz, Architect.

"During the month we had visits from Mr. Jesse L. Nusbaum and Harry Langley. I was glad to show the callers the Monuments in this area, that have recently been transferred to the National Park Service, Sun-set Crater National Monument and Walnut Canyon National Monument.

Harold S. Colton."

F 68 C.W.A. Project 54 for March, 1934. by Dale King.

"Wupatki Ruin of the Wupatki National Monument has been described as unique. If this is true, then Tovalanki (The Citadel) Ruin in the same Monument merits at least the same term.

"For Tovalanki is spectacular; it covers the entire top of a circular basalt butte which as a landmark commands the whole peculiar region of black mesas, waterless grass lands, land-locked drainages, shallow canyons, and fissures in the Kaibab limestone; it frowns down on the high gaping sink --- a roughly circular hole approximately 400 feet in diameter with its bottom 90 feet below the foot of Tovalanki Butte, and 170 feet below the cap rock.

"But Tovalanki is untouched. Small Project #4 has confined its activity to excavating and partly restoring Nalakihu (NA358), a ten room sandstone masonry ruin at the talus foot on the northeast side. We have been concocting a hors-d'oeuvre for the main dish which will be prepared for the consumption of visitors when a larger project can tackle the big ruin up on top.

"During the period before February 15, the Foreman and three laborers spent some time on roads, testing the area immediately adjacent to the ruin, excavated four rooms, and reconstructed a large one which will be fitted up as if the 'Kantsanis' had just left for the cornfields. It will be viewed through a window in one of its doors.

"The surveyors, -- Robert Harris, instrument man, and Charlie Steen, archaeologist and rod man,-- traveled the six northeast quarter sections of the locality, and finished a large scale map (10 foot contour intervals), shooting in some 33 previously reported sites, and making 25 sherd collections.

"Since February 15, the surveyors have really shifted into high gear on somewhat more level, but still thickly juniper dotted and rock besprinkled country. They will have finished the three quarter sections by the end of the month---thus completing a twenty outlined job 12 days

ahead of schedule. They have boosted the number of new sites beyond the 150 mark, made 20 more sherd collections, located 10 old sites, and spent several days shooting in the complex of finds at the ruin itself. They discovered two prehistoric springs, and mapped in more than 20 major fissures in the limestone, of which eight show definite evidence of a fault line that branches at a 70 degree angle to the main fault which produced the Citadel Sink and another similar sink about two miles to the southwest.

"The digging quartet, too, rather came into their own. Before February 15 some suspicious vertical slabs had been noticed in an area previously planned as parking space. After February 15 these were excavated and discovered to be a small slab lined cyst grave--- the first six burials of almost as many different types, which are associated with 12 (thus far) corn storage pits, a pigummioven, and a larger twice-remodeled storage pit which almost, but not quite, resembles a pit-house. All are definitely Pueblo III.

"Nalakihu is proving interesting. A roof has been put on another room and the registration room thus affords a sheltered position for the registration book. The entire room will be excavated by April 12, the closing date. Nalakihu is disclosing several marked southern characteristics. The cooking ware is predominately Verde Gray (this in a region where its scarcity is pronounced) and the finding of an olla-shaped storage pit in a room suggests southern influence. The decorated types are the conventional ones of fairly early Pueblo III in the region --- Hoenkopi, Tusayan, and Deadmans Corrugated; Flagstaff and Walnut Black on White; and Tusayan Black on Red and Polychroms. The later Little Colorddo wares do not appear.

"Artifacts are now reaching the 200 mark and have been prepared for shipment. Full field notes have been kept, and reports are being prepared.

"One of the burials (No. 2, a cremation) deserves especial mention because of its general characteristics, and because it occurs rather north of the usual location for the type.

"The old land surface shows at a dept of about 11 inches below the present surface. This soil layer is about five inches deep, underlain by a thick stratum of white clay.

"A sub-rectangular cremation pit (5'4" by 2'4") was excavated into the old land surface down to the white clay. A circular hole, 11 inches in diameter, was dug approximately in the center, and a post hole near each end of each long side. These holes slant at about a 25-degree angle toward the center of the pit. In them were posts which supported some sort of super-structure, perhaps a platform on which the body was incinerated. At each end of the shallow pit was a small shallow hole about 3" in diameter. These might have been the resting places of the butt ends of props.

"Fragments of charred bone were found in bunches throughout the shallow pit and in the center hole. The bones had been re-distributed after burning, for pieces of cranium were found associated with pieces of tibia, ribs, scapula, etc. In the central hole was a Flagstaff Red jar, containing burned human bone and fragments of charred cotton textile. It was covered with an inverted Flagstaff Red bowl and along-

side was a small Walnut Black on White mug. Above these was a Tusayan Black on Red ladle and a Pl. gateff Black on White pitcher, both fragmentary and badly burned. Pieces of both were missing, and apparently they had been put in this position after the cremation --- a theory made more tenable by the human bone in the tightly covered Flagstaff jar.

"In the shallow pit were found a stone 3/4 grooved axe (broken by the fire), three small triangular tang-less obsidian arrowheads, and a charred glycymeris shell bracelet.

Report on Project 10. J. W. Brewer, Jr., Foreman.

"Wupatki is wonderful. We wouldn't trade any part of this Pueblo for the homestead rights on Central Park.

"To be here in the morning and see the sun come up behind the Moqui Buttes, and light up the color chart, called the Painted Desert, is a privilege; and an inspiring one, too.

"But there is no wonder in our minds regarding Mr. Attwell's report of our last month's work, 'This represents a lot of good work with a small crew. The most pessimistic tax-payer could not help feeling that it was money well spent.' We all agree with Mr. Attwell, but when it comes to putting a finger on the incentive we disagree. Williamson and Hotz attribute the driving forces to the invigorating climate, while others of us find a hard work motif supplied by the rapidly diminishing allotment of personnel. Everyone knows that the best workers are being held, so who goes?

"Last month with an average crew of fifteen men, divided into three crews, the individual reports speak for themselves.

"This is the wind-up week for Mr. Van Valkenburgh. We are going to miss Van a lot, but the good work he has done will remain always a credit to his name. Good luck, Van, and we all hope a re-appropriation will bring you back soon.

"The evenings of Mr. Williamson and Mr. Hotz are being occupied with the tying-in, by trail, of out-lying sites and pectographs, poring over the maps, to make the shortest trails include these many points of interest.

"There is some conjecture whether or not we have bitten off a larger portion than can be chewed. Our time is short and our men few, but willing, so if the good weather continues until April 12, we will welcome another visitor from Casa Grande, or else. But let me add, to be here in the evening as the sun slips behind the San Francisco snow-capped peaks and shines on the bottom of low-lying clouds, reflecting the multi-colored sands of the Little Colorado is, I repeat, a privilege."

A.T.Williamson, Archaeologist.

"Two small rooms, 8 and 9 were excavated. They were on the same level with room 4 and, judging by the material recovered, were used for storage.

"Room 3, which had been leveled off six feet above the floor to serve as a plaza for room 4, was also worked out. In one corner was a section of fallen roof and on the floor were fragments of some very large jars.

"The northwest corner of room 35 was blocked up and the room cleared preparatory to reconstruction.

"The remainder of the time was spent in wall reconstruction. The south

and west walls of room 63 were rebuilt and capped with steps leading to rooms 41 and 60. The south and west walls of rooms 60, 62 and 68 were rebuilt to a height sufficient to delineate the rooms and were capped.

"Room 41B was filled and work begun on the west wall of room 41.

J. C. F. Hotz, Architect.

Room 1. During the early part of the month this room was completed. Work included the entire roof construction, repointing of the original portion of the walls with adobe mortar, interior plastering, and capping of the four walls with cement mortar.

Room 2. Work was then shifted to room 2, which has been entirely restored, - old walls repointed with adobe, all walls carried to their original height, the whole roofed and capped with cement mortar.

Room 3. The original walls of this room were repaired and the missing east wall built to a height of two feet and six inches. In order to restore room 2 it was necessary to add the equivalent of three feet in height to the north wall of room 3. Before the east wall was built a drain pipe was set and after it was built the room was back-filled to a depth of two feet.

Room 4. The original portion of the walls of this room have been repointed with adobe.

Miscellaneous. With a Brunton compass, levels were established and directions taken for a cross-section of section 1 and a plan of the same. The drawings were subsequently made.

"During the early part of the month of March the excavation of room 28 was completed. It was found that in addition to a bench above the floor of the last habitation, five floors lay below. Two burials were 'worked out' on the upper floor. The outlining of the north peripheral wall followed the excavation of room 28. Five new rooms were located during this operation. Room 43 was found to have been used as a 'parrot necropolis', five skeletons being recovered. Two of these had definitely laid upon their backs, and reed imprints were found beneath. Of additional interest was a sub-floor ventilator, slab covered, and running outward beneath the rim-rock into a cavate room. The remains of the usual deflector were found in the conventional place.

"The reconstruction of walls in this area began on the sixth of the month and continued throughout. The large crack in the rim-rock back of room 43 was filled with masonry, and a support was placed under a standing wall, that hitherto only archaic pine beams had supported.

"The latter part of my month was occupied in the preparation of field notes, testing unexcavated rooms for cross section data, and 'policing up' the many small items that dangle in jobs of this kind."

WHITE SANDS NATIONAL MONUMENT. Tom Charles, Custodian, Alamogordo, New Mexico.

"This has been a busy month. One Sunday afternoon we had visitors from every state in the Union except Maine, New Hampshire, Vermont, Connecticut, Rhode Island, New Jersey, Delaware, Maryland, Virginia, etc., etc. This visitor business gets our goat. We have to show a good count to get money. When we get money we must show good stewartship to hold the job, so we are trying to hold the job six days in the week and

count visitors on Sunday.

"Last Sunday we had to help an overworked C.W.A. administrator and the re-employment committee find 18 men to replace a dozen who had taken contract jobs as truck drivers. It was not exactly workmen that we were looking for; the requirement was at least six dependents and an urgent need for something to eat. So that took most of the morning and it was 2 p.m. when we got out to the White Sands. From 2:00 to 3:30 we counted 36 cars with 118 people there. One party of doctors and nurses came from Fort Stanton, 100 miles away. There was a visitor from Massachusetts, one from New Orleans, two from Kansas City and others from California, Kansas, Montana and other states. On Saturday before we had 35 students and teachers from the Oklahoma A & M College and the day before that the El Paso Goodwill Trippers, 30 business men, made us a pleasant visit. It certainly seems like all the neighbors are coming in to see the baby.

"This week I have a letter from E. B. Howard, of the University of Pennsylvania Museum, in which he comments on two arrow points which I sent him recently for inspection and identification. Mr. Howard says: "The small pinkish one is certainly a typical Folsom. The other one, though not so finely flaked is a Folsom-like point, of which we have found quite a few along with better chipped ones at Clovis." Dr. Howard has made two of the nation's most remarkable finds in relation to Folsom points; the first near Carlsbad, in connection with bones of the extinct horse, muskOx, etc. and even more remarkable finds at Clovis last summer.

"Dr. Crawford, of the New Mexico State College, has been working on an analysis of the water from red lakes in the Great White Sands. Evidence points to a bacterial growth as cause of the color. It is probable that the culture can be developed in the laboratory. I hope so. There will have to be something definite on these red lakes or I will have to quit talking about them.

"We are looking to Easter Sunday with considerable anticipation. For several years church organizations of adjoining towns have held their sun-rise services on Easter Sunday at the Great White Sands. This year the Alamogordo Chamber of Commerce has notified the various organizations that the plated road will be completed into the sands for a couple of miles by Easter Sunday and that they are all invited to hold their services and their Easter egg hunts in this National playground. No snakes or poisonous insects, no stones or snags. Children tumble and roll anywhere, clothes are cleaned by these alabaster sands, not soiled. It sounds ideal doesn't it ? It is just as ideal as it sounds.

"We have some road news that you will be glad to hear. C. D. Macy, State Highway Engineer, writes me that the Department is closing the gaps on the final survey of the Las Cruces-Alamogordo federal highway past the White Sands, with the idea of completing it as soon as Federal money is available within the State. Since the date of his letter $6,000,000 has been allotted to New Mexico. It would be too bad if we get an oiled highway out through this Monument. It might necessitate additional improvements, added personnel, etc. Am sure sorry to have to call your attention to such prospects, Boss.

"Everything is going nicely in the work program. You would be surprised to see how smoothly the crew is running, how anxious these men are

to hold the $6.00 a week job. I do not believe there is a contract job in the County whose crew is better satisfied, though they may be making more money. As we get into the big hills the work is slowed up considerably. The hills take twice as much clay and the dumping is slower. It is making a pretty satisfactory road, however. We are proud of the fact, too, that we have not had an accident on the job. Of course we credit this to Hub Chase who is Engineer on the job and always on the look-out.

"I admit I had a real shock when that windstorm came from the north last week. Our sand hills build up firmly, sloping gently from the south and breaking sharply, with loose sand, to the north. Each south wind piles the dunes a little higher and pushes the top of the hill a little further north. After a hard south wind these alabaster dunes are beautiful, with outstanding arches and curves looming up in the distance. We welcome the south wind; he is a sort of Sand God bringing up the fresh crystals from the lake bed and sweeping the white hills clean. But last week we had our first north wind since we became a National Monument. It took those high cones of rippled sand and whipped them back into the valleys. It bared layers of gypsum rock, eroding them into unsightly gullies. The soothing influence of the Southwind's handiwork was wrecked by that blustering bully from the north.

"However the later south winds have already helped the white sand crystals to creep back to the hill tops and their old time beauty.

Tom Charles."

CASA GRANDE NATIONAL MONUMENT. Hilding F. Palmer, Custodian, Coolidge, Ariz.

"Dear Mr. Pinkley:

"March gives us the opportunity for the third time to report in succession and increase of visitors. There were 2,785 visitors at Casa Grande during the month as against 2,564 a year ago, an increase of 221 or nearly 9%. 53% of these visitors were from out of state while last year only 41% were from out of state. They came in 810 cars from 42 states, Washington, D. C. Hawaii, and eight foreign countries. Each one of these 2,785 was personally contacted and conducted on a guided tour of the ruins of Compound A and the museum; 301 tours were made through the ruins and 275 through the museum. In addition to these 2,875 visitors who received service, there were 211 who came, turned around and went out again without desiring any service, making a total of 2996 visitors.

"The weather has continued hot and dry. The Phoenix Weather Bureau reports it as the hottest month of March in the record of that station. Our records for this station show the average maximum for the month was 85 degrees and the average minimum was 45 degrees, giving an average temperature for the month of 65 degrees. The maximum temperature was 92 on the 30th and 31st, and the minimum was 38 on the second. There was precipitation on only one day, the 24th, when .22 inches fell. We had one cloudy, two part cloudy and 28 clear days.

"All P.W.A. force account projects are completed and no work was done on any of them the past month. Final reports have been prepared and are only waiting the photographs for submission to Washington.

"C.W.A. operations have been carried on during the entire month. The

cut to 15 hours a week and the tapering off of the men each week has kept us from accomplishing as much work as we would have liked to do. We have concentrated on getting in as much protection to ruins as possible but, owing to the reasons assigned above, the work has gone very slowly. We have gotten the curtain walls on one side of the outside walls of Compound A, on the south end and west wall and on the inside on the south end and about 200 feet on the inside of the west wall. My men all taper off next week and work was ended on the protection job on the 28th. The balance of the time will be spent in cleaning up.

"This C.W.A. program has given us a lot of valuable work even though it has been hard to administer on account of working through other agencies instead of handling the thing ourselves, and we are glad to report that we have accomplished much that we had not hoped to get for many years to come. This community is being hard hit by discontinuance of the work as there are not enough Public Works Projects going to absorb the men we are laying off and farming operations cannot absorb them all.

"Bids were opened on March 3rd. for the construction of a new residence to be built with P.W.A. funds. We had $4,500 available for the project and the lowest of eight bids was $4,872. All bids were rejected and a few eliminations and changes were made in the specifications. New bids were called for which were opened on March 13th. Only one bid for $4243.42 was received and the contract was awarded to Cecil Nowlin, of Coolidge, Arizona. The contract was prepared and sent to Washington and approval was received on March 27th. Work will start on the building on April 2nd, and it will be completed in not more than 90 days.

"I have read the Louis Schellbach III report on Southwestern Museums with a good deal of interest. I believe, however, that Casa Grande should be made the museum center rather than Mesa Verde. With the addition which we have asked for to our museum, we would have the room; we are open twelve months out of the year instead of five; we are on the main highway instead of 127 miles off of one; we have 25,000 visitors a year instead of 16,000; and last but not least some of our best archaeologists believe that the beginning of civilization in the Southwest was in the Gila Valley and that this culture here influenced all the other cultures in agriculture, pottery, etc. In other words, our Ho-ho-kam were about four jumps ahead of every other culture in the Southwest and all the others learned about agriculture and pottery making from them.

"Anyway, I can't see why every museum should not be independent of every other museum. A very small percentage of the visitors to one place visit more than one or two others and the repetition of the story told in a different way by a different man can do nothing more than impress upon the visitor's mind the truth of what he has heard someplace else. Just because a visitor has seen and heard about a bear at Yellowstone is no reason why he should not see and hear and learn about bears in Yosemite; and I never heard of a person who wasn't interested in bears in Yosemite because he had seen a bear in Yellowstone; does not this same argument hold true for prehistoric pottery and other artifacts?

"Visitors who go to Mesa Verde in summer time do not go to Casa Grande before the following winter and by that time they have forgotten many of the details which they learned at Mesa Verde, consequently repetition

brings back to them many things they would have forgotten entirely and the same thing is true of the visitor who comes to Casa Grande in the winter and goes to Mesa Verde the following summer.

"We have many 'repeater' visitors at Casa Grandeand they tell us that they enjoy their second, third and fourth trips as much as the first one. Evidently repetition is not obnoxious to them.

"And so we go into the beginning of another month.

Hilding F. Palmer."

BANDELIER NATIONAL MONUMENT. H.O.Evenstad, Acting Custodian, Box 669, Santa Fe, New Mexico.

"Dear Boss:

"The weather continued fair throughout the month and the number of visitors reached 280. This includes about 50 men from the Santa Fe Chamber of Commerce who visited here on the 9th and attended a banquet at the C.C.C. camp? About 60 of the visitors were of the Courier-car parties, the balance being tourists and Sunday picnicers.

"Associate Engineer, Attwell arrived on the 3rd, and headquartered here until the 15th, making several trips to other Monuments in the meantime. Assistant Landscape Architect, Richey, made an official trip to the Monument on the 5th and remained until the 7th. Chief Clerk Hugh Miller, with Mrs. Miller, visited here from the 9th to the 12th. We were glad to see Hugh and meet the new Mrs. Miller.

"Our main activities during the month were centered on the road work, most of which consisted in widening the road from Station 85 and making cuts and fill through the several deep arroyas on the down grade leading to the bottom of the Canyon. On this we are now using 12 teams with fresnoes in addition to the two tractors with bull-dozers and tumblebugs. Landscaping was continued along the road way where the grading was already completed. During the month we have moved about 7,000 cubic yards of fill, and we expect to have the bulk of this finished by the end of the month.

"Renovation of the Ranger Cabin was started during the month. The necessary material has been purchased , and is ready for use. The renovation includes replacing window frames, outside doors, also installing new floors, and replacing the wooden porch floors with concrete. Kitchen cabinets will be built and bath room fixtures installed, as well as piping water into the house and building a sewer system. In addition to this the old stone stable is being converted into two guest rooms with modern toilet facilities by adding a small bath room. We will need until about the middle of April to complete the renovation.

"Some clean-up work and landscaping was done along the pipe line lay-out, which was completed last month. The archaeological part of the program was taken care of by Paul Reiter, who is appending a separate report on this activity.

"Shortly after one O'clock on March 9, a fire was spotted about two miles down the Canyon from the C.C.C. camp. With about 40 men from the camp reaching the fire at 1:30, we got it under control about 2:30. During the clean-up work C.C.C. leader, Santos Martinez, who had been placed in charge of the clean-up crew, was hit by a falling tree.

One of the boys was sent back to the camp for the doctor and a stretcher and part of the crew was started back to the camp carrying Martinez on an improvised stretcher. He was taken to the camp infirmary and then in an army ambulance to the Indian School Hospital at Santa Fe, where he died during the night. Martinez was one of our Local Experienced men who had had a good deal of experience in fighting fires and was considered one of our best men on fire duty.

"The fire was extinguished after burning an area of about half an acre. It had started in a bad place, where there was an accumulation of dead logs and other debris as well as a heavy growth of underbrush, and the area contained five dead standing trees. One of these, a snag about three feet through and 25 feet high, was the tree that hit Martinez. Some inquiry developed the fact that two boys who had been working here on C.W.A. work had started, about noon, for their homes in Pena Blanca, about 17 miles away. The time of the fire fitted in with about the time they had passed over the trail. I located and questioned these boys the next day and although they denied having started any fire, they admitted having smoked on the way home. I am satisfied that these boys started the fire, though unintentionally, but am of the opinion that a prosecution of their case would do no good. I conferred with the U.S. District Attorney in Santa Fe, and his opinion was that the evidence would be insufficient to secure a conviction. I believe the boys were impressed with the fact that they had been traced at once and I am satisfied that they will be very careful about fires in the future.

"Barring the accident mentioned, the month has on the whole been quite satisfactory. No delay on account of weather and our activities were not seriously hampered, except through unavoidable delays caused by the breakdown of some of the equipment.

"The unusually dry winter has already raised a real fire hazzard. Ordinarily, according to Forest Service officials, the fire season does not begin until May. A program of mutual cooperation on forest fire fighting is being worked out with the Forest Service, with the expectation of having to depend on the C.C.C. camp for furnishing the necessary personnel. The summer camp program will be formulated with the idea in mind to lay out our work so that sufficient men will be readily available to meet any fire emergency.

"According to E.C.W. Supplement No. 32 it is now definitely established that our present C.C.C. camp will continue for another six months.

M.O.Evenstad."

ARCHAEOLOGICAL REPORT. Paul Reiter.

"Dear Mr. Pinkley.

"The first part of the last month was spent finishing work on the painted wall described in the preceeding letter, and in mounting plate glass over the painting. I had bad luck with the first piece of glass; it broke just after the whole job was finished and the glass plastered into place. A second piece of glass was broken by the glass company, and the third piece rests securely -- but quite loosely, believe me,-- in the recess in the cliff.

"I am rather well satisfied with the result. The reflection remains at a minimum, and Mr. Evenstad says that the glass remains unnoticed until one approaches to within twelve feet of the cliff. I

haven't yet had time to finish the photograph of the completed job, but will forward one to you soon -- in addition to the one accompanying my final report.

"Part of the month was spent in checking ruin mapping with the topographical mapping crew. I am only partly finished with this work. Preparation of repair plans for the community house took considerable time, and necessitated the working out of many details. If this project is approved some time must be spent in experimentation.

"Today we began work on the mapping of the detached section of the Monument, twelve miles to the north of Frijoles Canyon. The area of this section is just under eight square miles, slightly more than I at first thought.

"So you see, with this mapping, the experimenting for repair work, the checking over of the topog map of the Canyon, and a detailed report of the whole project, I shall be quite busy until the 10th. You may rest assured that I will trouble you little with details.

Paul Reiter."

TUMACACORI NATIONAL MONUMENT. George L. Boundey, Custodian, Box 2225, Tucson, Arizona.

"Dear Mr. Pinkley:

"Visitors for the month, 1,215.

"We had a night and a day of rain this month and things are green once more and the cattle men are well pleased.

"This was by far the mildest winter of the twelve I have spent in Arizona. Many of the northern birds wintered here instead of going further south as they usually do. The say's Phoebe who has nested in the Sacristy of the Mission for the past eleven years and who has used the same nest every year, had her nest stolen last winter, but we are happy to say she has built a new nest about a tenth the size of the old one, which was of course an accumulation of years.

"Our C.W.A. project will be discontinued here the fifth of April and I am very sorry to say it leaves us with our walls unfinished and several hundred feet of outside walls uncapped and unplastered. Unless funds are available later the rains may do some damage to the unfinished walls. I am glad to say the entire section on the lower part of the Mission walls is now in good repair except for a short strip on one side.

"I noticed by the register that General Dawes was a visitor the past month. I did not recognize him at the time, but our visitors this month have been unusually intelligent and interested.

"Assistant Superintendent Rose and wife, of Casa Grande, and Bert Harwell, the Chief Naturalist of Yosemite National Park, with his daughter, paid us a short visit during the month.

"It wasn't until the last strip of drainage ditch across the patio to the east of the Mission had been dug that we definitely located the plaza level of the old patio of the Padres. We also found the foundation of a room almost in the center of the patio whose walls had had several coats of different colored plaster.

George L. Boundey."

Mr. Boundey told a very good story in another letter during the

month of showing an interested but rather quiet visitor around his Mission and, after explaining the usage and various interesting features of the Sacristy, his visitor pointed with his cane over into one corner and said: "I slept there a couple of nights when I was serving as a lieutenant in the army." The visitor was General John J. Pershing.

PIPE SPRING NATIONAL MONUMENT. Leonard Heaton, Acting Custodian, Moccasin, Arizona.

"Dear Boss:

"Here goes for another monthly report even though it seems that it was only last week that the February report was sent in.

"The travel this month has been as follows:

Arizona Trucks,	35	Persons;	104
Arizona Cars,--------	77	Persons,	251
Utah Trucks,---------	26	"	59
Utah cars,----------	15	"	60
U.S. cars & trucks---	17	"	73
California Trucks,---	11	"	38
California Cars------	6	"	8
New Mexico Cars------	1	"	1
Horse Riders---------		"	24
Totals-----------	188	"	617

"Since the C.W.A. work has stopped here I have also let down on my ambition and it is with an effort that I am trying to get this report to you with some degree of fairness to the Monument.

"We have had two good spring rains the past week and I only regret that I haven't some grass seeds to plant on the ground that we have been working. I have also been finishing up some odds and ends of work that had been left unfinished, as I don't want this place left as it is all summer. I surely hope that we can at least get money to complete the projects that we have been working on.

"I will get you a complete report of the C.W.A. work as soon as I can and aggregate it into the different projects and the work done on each.

"Spring surely has come now as most of the fruit trees are in bloom and shade trees are putting out their leaves. Flowers are blooming and all Nature is bursting out in all its splendor. Our fly catcher and blue birds are back with us and doing house cleaning and I am in hopes we will have a wonderful season for the visitors.

"Mr. Cowell has been out here about once every two weeks to keep the engineering end of the C.W.A. work up and he told me there was only one more day of work for him and he would be all caught up until another program was started.

"I also had Mr. Langley on the 16th for six hours going over the place and making suggestions and getting a better understanding of what he wanted here. In my last month's report I opposed some of the things Mr. Langley proposed; this was because we did not understand each other and now I think we are of the same opinion as to what we will do in the improvement of the grounds about the Fort.

"While Harry was here he spent an hour in fishing and caught five

good sized trout. Since there are only 32 fish in the ponds, Harry wants me to get some more fish so that he can get to fish every time he comes in. I am willing to get them and take care of them if the Park Service will make the arrangements with the Government fish department to deliver them to Cedar City, Utah.

Leonard Heaton."

The line of Landscapers who want to help us out with Landscaping Pipe Spring National Monument, please form on the left and wait your turn to go into conference about future improvements to the fish ponds at Pipe.

GRAN QUIVIRA NATIONAL MONUMENT. W.H. Smith, Custodian, Gran Quivira, New Mexico.

"Dear Boss:

"The time has come again to submit another report. It seems that I scarcely get the last month's report off until it is time to send another. But the great satisfaction is when I receive my copy of the report of the month's operations in the Southwestern Monuments. I scarcely let it go until I have read every article and occasionally when I find an article that is especially interesting to me I re-read it several times.

"I have registered 305 visitors entering the Monument in 58 cars, wagons, horseback parties and otherwise. This is slightly above our last month's number and is more than three times the amount we have had for the same period last year. Weather conditions have been very nice for travel although we have had our usual March high winds. The temperature has been somewhat higher during the month than has been usual for this mountainous region. The green is beginning to peep out as a result of the warm days and the bright sunshine and of course it is welcomed by the stockmen.

"The C.W.A. work here is progressing nicely, but with the termination of the program drawing near and the consequent tapering off in the number of men, it will be impossible to accomplish all we had hoped to get done. I think I can safely say, however, that the approach road will be finished to grade from the west line of the Monument to the parking area, and a substantial cattle guard installed. We will be able to bring the parking area near enough to grade and level enough to permit the parking of vehicles on it, but the trail construction will have to be omitted entirely. I feel that this program has been a great help in that it has furnished work for a good many of the needy of this community, besides the long-needed improvements to our Monument derived from the money spent here. As I walk over the newly constructed road, and visualize its final completion, with full surfacing of caliche, or perhaps an oiled surface,; the parking area fully completed; well constructed trails running to the various and many places of interest, I -- well I must confess that a 'lump' of pride rises up and causes my chest to expand several inches.

W. H. Smith."

Mr. Smith may take some comfort from the fact that practically no one in the Southwest was able to carry out the original program under the C. W. A. just as he set it up at the beginning. He is not the only one who has some work left over until the next time.

NATURAL BRIDGES NATIONAL MONUMENT. Zeke Johnson, Custodian, Blanding, Utah.

"Dear Frank:

"I succeeded in getting $10,000 for the improvement of the first 20 miles of road out to the Forest boundary. I was given the project and the authority to come to Blanding and put 55 men and 20 teams at work and to work 190 hours per man at 30 hours per week. I was just ready to start when I was called up to the Capitol and told to wait a day or two. After two days I was told to come down and call the men out and, instead of spending the money on the present road they would put some engineers on the job and start a highway that would be up to U.S. specifications with the intentions of carrying it through to completion as soon as possible. So here we are, hitting the pipe for the Bridges, but of course the little amount won't go very far, but it is a start and Zeke is happy with the hopes that something will be done to keep the road on its way westward. The weather is ideal and every man on the job seems to think that we will have a highway connecting this country with western Utah.

"I am inclosing some clippings which will tell you of some of my other activities. The trip to Milford was a great success, or at least we all felt that way about it.

"Cars can go to the Bridges now and I may run over in a few days or as soon as I can get a day off and see if the dear old bridges are still standing. I am still expecting to hear that I will have some improvements out at the Monument this spring. There are so many inquiries coming in about the Bridges that I expect a lot of people out there in the near future and must have some help out there is the way of improvements.

Zeke."

CANYON DE CHELLY NATIONAL MONUMENT, W. Verde Watson, Acting Custodian, Chinlee, Arizona.

"We who have actively engaged in the making of a topographic map of the Canyon de Chelly National Monument, are fully convinced that it is a mapping job of the first order, and it seems to me fitting that I should set down here a few of the major points by way of justification of this conviction. To date we have been able to map about 25 square miles of the one hundred and thirty-one included in the Monument. This may seem like a small accomplishment for three months in the field, but I am sincerely of the belief that we have done all that a similar crew could do in the same length of time. In this connection I would like to point out that we are virtually mapping cubic rather than square miles.

"The depth and precipitous character of the canyons, their far flung, branched and sinuous courses, the general rough, inaccessible, and, in many cases, heavily timbered nature of the country as a whole are some of the major reasons why topographic mapping here is anything but easy or rapidly done.

"At its mouth here at Chin Lee, Canyon de Chelly's walls are but a few feet high. At its junction with Del Muerto the rims are 450 feet above the floor of the canyon, and as we work now some ten miles, via the canyons from Cozy McSparron's Dude Ranch, we read 10 to 30 degree angles on our Navajo rodmen who, in some manner or other manage to climb to the dizzy heights to give much needed shots just below rims which stand 700 to 900

feet sheer above us. The secondary rims bench back from sheer walls, and thus add from 100 feet to 300 feet to the actual depth of the canyons. To date our highest walls have been mapped in de Chelly and I want to say here that if one really wants to thoroughly appreciate the depth of the canyon he should spend a windy day shooting triangulation from an overhanging point ten feet square just 900 feet above the river.

"Even higher walls are to be encountered a short distance above our present operations in del Muerto. In fact our present knowledge of the canyon country leads me to believe that the greatest depth will be found a mile or so below Mummy Cave -- at this point I am quite positive that at least 1,000 foot cliffs will be measured.

"Such depths and sheerness of walls mean, of course, that the canyons can be gotten down into only at comparatively few and very special places by way of thousand year old cliff dweller made trails, now in every day use by Navajos and the 'Surveyors.' The Canyons, being choked with ice during the winter and now running a goodly stream of water, have been impossible to travel by truck, so we have been forced to travel as far as possible by trail roads above the rims, walk a mile or two to the rim of the canyon, then climb, each man with a pack on his back, 400 to 800 feet down one of these trails to the bottom of the canyon. And what trails they are! A mighty interesting book could be written about them. In a few places where a huge talus slope reaches up near the top or in a side canyon an occasional 'horse trail' may be found dropping by terrific switch backs into the canyon, but for the most part the trails consist of hand and foot holes cut into the solid sandstone of the walls and supplemented by numerous ladders made of huge cedar poles which are placed in cracks or where the ledges overhang. From the bottom of the trail it is usually not more than two miles up or down the canyon to the site of the day's work. This will be the case if a man is working in the canyon, but if his work is on the north rim of de Chelly or the south rim of del Muerto he is still 400 to 800 feet below his work, anywhere from half a mile to two miles up or down the canyon to another trail out, then a mile or so up or down the rim to his last setup. Some of us really enjoy these trails, others frankly abhor the more precipitous ones, even with a load, on the down trip in the morning, and even climbing the opposite wall is not so bad early in the day. And even when returning after the day's work the descent into the canyon is not so bad, but I have yet to meet the man say that he enjoyed the last climb out and the mile or more walk to the truck, -- the sight of those 800 foot of hand and foot niches (many of them long ago worn out past safe usage) and crude ladders reaching their precarious way upward is disheartening to say the least at the end of a hard day in the field. So much for our daily job of getting into and out of the canyons. But before this trip can be made we must first take a 10 to 15 mile truck ride into the general vicinity of the rim where our trail drops into the canyon.

"A glance at the sketch map (prepared by Mr. Roe, our draftsman and artist as well as topographer) will reveal the sinuous and widely spreading character of the canyon systems which makes necessity of splitting our crews into, at present, three different groups, which, when at work, are separated by several miles of canyons and rough country.

"One group leaves our base, here at McSparron's for a 12 mile truck trip by trail road to a point on the northeast rim of del Muerto. From

here the descent into the canyon and a walk of two miles lands this group in the area being worked. Another group also leaves Cozy's for a similar trip up the south side of de Chelly. This group de trucks about 10 miles up and splits into three parties. Each party must, after the south rim is worked, here, also, make the climb into and out of the canyon, and, after the bottom has been mapped, each party must make two trips down and two up the canyon walls in order to map the north rim of de Chelly. At least three hours of each day is spent by each of these two truck groups in making the round trip to and from work and two thirds of this time will always consit of genuine hard labor getting down and up the walls. The third group mentioned above has been working a little differently from the other two. This group, consisting of two plane table parties, leaves the ranch on saddle horses for about a seven mile ride up the canyon floors. Their work has been in the canyons -- both de Chelly and del Muerto,-- and on the rims made by the wedge of rough country between the two. In this case, too, the trip from floor to rim must be made via one of the trails, and the round trip time from McSparrons is at least four hours. Thus getting to and from work is a major task under the present arrangement, and one which will increase with every mile we proceed up the canyons.

"A rather complex factor which has caused us much trouble so far and will become more and more of a problem as we progress is the inaccessable, rough, and heavily wooded character of the country just back from the canyon rims -- that country between our few trail roads and the rims and that between the canyons themselves. In our present work areas the ground is so cut up with secondary drainage ways and so heavily timbered with cedar and pinyon that no work can be done except by short shot traverses -- triangulation points, even when the country offers them, can seldom be seen from a ground setup in such country. These heavily timbered areas are wholly inaccessable by truck, and thus we have spent and will spend many hours carrying equipment on our backs when mapping them -- often in such areas we have spent but an hour or so a day in actual mapping, the rest of the day being spent just in getting to the setup and back to camp.

"These are a few of the main reasons why we believe this to be a major topographic undertaking; at the same time they should justify our results so far. In three months we have covered 25 square miles with detailed topography; there are, perhaps, 75 to 100 more that should be mapped. Six months more of ideal going might finish the job, but I am inclined to believe that a full year would be a much better estimate, and this under the proper kind of working arrangements in the field.

"Ovviously further work should not be undertaken under such a setup as we are now using -- not if economy is any consideration. Any further work should be done from a movable camp in the canyons, and transportation suitable for use in the canyons,--sturdy trucks equipped for sand travel or pack animals, -- will have to be provided by the Government. A plan can, perhaps, be worked out under which the men could provide their own camp, -- mess, beds, etc. -- but they cannot do so under the present 30 hour plan. Under any plan the men should have positive assurance that the job would last sufficiently long and pay a high enough wage to justify them in making the necessary personal outlay for suitable camp equipment. W. Verde Watson."

CHACO CANYON NATIONAL MONUMENT. Hurst R. Julian, Custodian, Crownpoint, New Mexico.

"Dear Boss:

During the month of March, 1934, there were 202 visitors to the Chaco Canyon National Monument. The registrations show that by far the larger number of these visitors came from New Mexico and Colorado, five states however were represented.

"On Sunday, March 18, we had the first day of the season when it was necessary to put two men on the job of handling visitors. Luckily we still have the archaeological reconnaissance crew with us and relief guides are easily secured.

"The C.W.A. work is slowing down to the finishing touches and the cleaning up after the job, although dirt is still moving into the revetment at Pueblo del Arroyo, and some repair of fallen walls is being done. The draftsman is busy recording the field work of our engineering crews, and we are all writing reports and figuring costs. Our offices and tool rooms will soon be moved into the store building and all traces of the occupancy of the ruins will be erased.

"The well finally is finished. We have an abundance of good water and it is easily secured. A pump lifts the water from the well into the barrels and other containers in which it is transported to the residence and other points where water is needed.

"Mr. Richardson, the State C. W. A. Safety Engineer, was pleased that we were moving our offices away from the vicinity of the 'Threatening Rock' although he said that he would not order them moved on the possibility of the rock falling in the immediate future. Yet he was positive that the rock was going to fall, and if it did, there might be a possibility that the falling walls of the ruins would push each other over after the fashion of a row of dominoes placed on end in a row.

"We are ready to demonstrate to the most skeptical person that any of the various types of wall capping which have been used to date on either Pueblo Bonito or Chetro Ketl are doing nothing except helping the destructive forces of nature tear the walls down. I am ready to admit that the type of capping which I have favored up to the present, namely, the flat top type, is little better than the trough type which has been used, although it is not quite so destructive as the latter.

"We are ready to recommend the removal of all the cement which has been used to cover the spaces surrounding the kivas, that is the triangular places formed by the cylindrical kiva being set in a square room and these triangular corners being filled with dirt at the time of construction, and to state that if it is not removed within a few years, there will be no kiva walls to protect.

"Naturally you are not ready to accept this radical about face in protection policy without further proof and explanation. To illustrate the principal by which the 'protection' which we have given these walls in the past is tearing them down, we will consider a condition in Mesa Verde.

"The summer before last, when we visited Mesa Verde we were told by one of the lecturers that the caves in which the cliff dwellingswere situated were made by the water penetrating the upper surface of the sandstone layer from top to bottom. This water, upon reaching the impermeable layer of shale at the bottom of the strata of sandstone could

go no further, and consequently evaporated along the point where the stone and shale met. This evaporation or passing of the water outward took tiny particles of the stone with it, thus by a process knows as 'exfoliation' the caverns were formed.

"We have the same condition in a ruins wall except that the direction of the action is reversed. Moisture from the ground goes up a wall as oil goes up a lamp wick. Why, we have no idea. We have invented such terms as osmosis and the like to describe processes which apparently defy the accepted laws governing the action of certain substances under certain conditions. Apparently the water rises in the stone as well as in the dirt mortar. One can easily demonstrate this principle by making a small hole in the earth and filling it with water. It will be noted that the water immediately rises in the embankment surrounding your minature lake to a height of inches above the level of the water in the pool. This is exactly what takes place in a wall which is composed of stone and dirt mortar.

"Returning to the Mesa Verde condition again; this water is stopped by the cement capping as certainly as it is stopped by the underlying stratum of shale, it can do nothing except evaporate by exfoliation, tear out the wall immediately under the capping. Any flat capping which is water proof, or any trough capping which is strong enough that it will hold, will tear out the wall at a point where it joins the stones under it; and trough capping, which is not so substantial will become a terrible menace because it concentrates the water and pours it down through the center of the wall, and we will have a condition which is apparent at Pueblo Bonito, where we have the center of the wall washed out and only the shell standing.

"Persons have been severely criticized for tearing down our ideals and offering nothing with which their place can be taken. This is true even though nothing would be far better than the conditions which were attacked. Consequently I am offering a tentative solution to this problem. It may not be the best, but I am convinced that it is far better than anything else yet suggested. We know that many of these walls have weathered at least eight hundred years of exposure with nothing more substantial to protect them than plain dirt. We know that dirt will work for five centuries, so why not use dirt ? Perhaps within that time we will have thought of something better.

"For the same reasons given in support of this capping theory, I am convinced that we must get the ground level at the same height on each side of all our walls, otherwise exfoliation takes place on the lower side.

"Perhaps it will be felt that I have devoted entirely too much time to the results of our wall capping research, but when it is recalled that we have three miles of wall in Pueblo Bonito alone that is slowly but surely falling, the importance of this matter can be realized.

"Measurements of position of the 'Threatening Rock' tell us that the rock has not moved in the past six months, although earthquakes in nearby Utah caused us to become concerned. But measurements of the position of the four story wall of the north side of Pueblo Bonito indicate that it has fallen outward from an eighth of an inch to perhaps a quarter of an inch in places within the past year. The tallest wall in ancient America (in the United States) is falling in a mass, and we

must do something about it immediately; plans for its protection will be submitted in the next report.

"Among the other signs of spring in the Chaco Canyon was the appearance of the first Hunter Clarkson car which arrived at the Canyon March 24. Things are taking on the appearance of spring, grass and bushes are getting a suggestion of greenness about them, and the birds are returning, all of which tells us that we must make preparation for another busy travel season.

Hurst R. Julian."

That is an interesting report on the settlement of the north wall of Bonito and I will ask Mr. Julian to check up on it every two or three month and see if it continues. It certainly hasn't settled at that rate steadily for the last fourteen years for we have been rough-checking on it for that period of time and the total settlement has been too small to catch. Jackson and myself filed a report on that wall several years ago when he capped it, but I doubt if it could be recovered from the files at this late date.

There will certainly be great excitement in the engineering world if Mr. Julian can prove that capillary attraction is carrying water up to the top of eight, ten and fifteen foot walls and, being stopped from carrying it any further by our cement cappings, it is there coming out through the sides and disintegrating the stones and destroying the walls. If I remember correctly, a good many years ago when they tried to inoculate me with the rudiments of Physics, capillary attraction couldn't have done that,-- but these be other times and maybe it works differently in New Mexico or possibly Congress has passed a law about it and we are not up to date. There is one thing about the trough shaped capping, though which Mr. Julian does not bring out. Why not punch a hole here and there in the bottom of it and let this water which is drawn up by capillary attraction come right up through the bottom of the trough and run away? That wouldn't do though, come to think of it, because it would all concentrate and run down through the breaks in the trough as he explains and wash out the center of the wall; but why should it come up one place and go down another? Boy, page Hi-Ball Attwell or one of these other expert engineers; I'm out of my depth in all this water which is under discussion!

EL MORRO NATIONAL MONUMENT. E. Z. Vogt, Custodian, Ramah, New Mexico.

"Dear Frank:

"I have been holding up my monthly report to you so as to include the latest news of the tapering off process of the C.W.A. program at El Morro and at the same time cover some of the plans for a continued set-up.

"Up to today Mr. Hamilton and I have been waiting here at Santa Fe for word from Washington which we understand has been sent on here to Miss Reeves on March 21. Nothing has come through yet and if nothing arrives tonight I think we will pack our bags and drift back to the cows and chickens of the hinterland. No doubt you will get word through Phoenix and let us know by the time we get back so we can lay out an intelligent and acceptable plan of accomplishment.

"While waiting here at Santa Fe, Mr. Hamilton and I have followed up the visit which Mr. Richey and I paid here on March 5 to the Highway Dept. Today we saw the Governor, State Highway Engineer, Macy, and three members of the State Highway Commission. We also talked with Engineer Howard who has had charge of the State projects of C.W.A. and will have a great deal to do with work relief. After several conferences we believe they have found a way by which a grade and drainage can be thrown up on the uncompleted portion of the road up Zuni Canyon over the mountains to El Morro and Ramah. It takes but 20 miles of road to connect the end of this road to the graded road at Ramah and this connection would take the road right past our Monument. It remains for Mr. Hamilton and me to stop off at Galen on the way to El Morro to see the County Relief Work Chairman in order to assure cooperation on this much needed road.

"I am glad to say that I feel greatly encouraged over the possibility of making the Ice Cave Country a Park Service recreational area. I don't claim to be a prophet but I do feel that there are grounds for a thorough examination of this untouched and interesting region which is still largely unexplored. If it is turned down, or if it is felt that I have been too insistent about it, I hope it will be realized that what efforts I have made have been for the sake of conserving one of the most absorbingly beautiful and interesting places in the United States. If the lumber company gets their road in there and those noble pine trees are cut and the forest denuded and the ice wall is all cut away, it certainly cannot be said that I haven't tried to get what is beautiful and valuable saved for future generations.

"Our visitors at El Morro are increasing in numbers daily and all seemed to be very much pleased with the work we have done. First, they are impressed with our ample and substantial cattle guard, our good looking and strong fence, then when they start up the trail to the north ruins, all are surprised at the beautiful views through the pines of the mountains, now seen easily from the turns of the trail, they are entranced.

"The carved steps along past the north ruin, the view of the blind canyon, the carved stairway up to the highest crest of the cliff, then across to the south ruin, gives them quite a kick.

"Going down on the east side they wind through little canyons and descend to the plain through the reverse spiral stairway chiselled through the solid rock. One lady, who has travelled much, said that our stone work was so fine that it should be called <u>sculpturing</u>.

"On the plain the trail is completed past the pictographs to the water cove and around past the inscriptions. The widening of the trail and levelling off of areas in front of each of the principal inscriptions has not yet been done but will be undertaken next week and perhaps finished before the end of our program. We should, however, include conveniently with this work the taking away of the guard rails which I placed there some ten years ago and in their place put large, natural colored rocks and plant cactus or yucca in a protective way so that the would-be carver cannot deface the history laden cliff walls. Mr. Richey, on his last visit, explained to us how this could be done and we are going to try to accomplish protection without any pronounced artificial means. The translation signs will also be put on new posts

and lowered to an unobtrusive location.

"After we received word of our 'other than labor' allowance, we continued again with our great fill of the big arroyo on the south face of the cliff and brought the filled area around to the nose of the cliff and on to the major erosion dam at the bridge. We spent some time in getting the ideas of soil and grass experts on how to bring the grass back on this fill which amounted to well over 20,000 yards of dirt. After getting many ideas, we harrowed the whole rincon and valley down like a garden which a timely wetting of the ground allowed us to do. We then harrowed in a crop of yellow clover seed followed by oats. Then we brought several wagon loads of small cedars and pinons from the Zuni Mountains and planted them in small groves. We think now that some watering of the seedlings will allow them to take hold and these with the sprouting clover and oats will help the natural grass to get a foothold and gradually regrass the whole of the disturbed area.

"The fence building was a difficult job to complete owing to the very rough nature of the uneven cliff surface on the south and west boundaries. The posts had to be set in concrete in drilled holes in the mesa and the wire, 47 inches high, had to be stretched with greatest care so as to get a good looking and strong job.

"Robert Little, our engineer, is now completing the topographical map which Landscape Architect Richey needs for planning location of parking area, administration headquarters, camp ground and complete Master Plan.

"Our archaeologist, Ted Amsden, is finishing a map of the immediate four townships which corner right here northwest of our Monument line. On this map there is being marked the major ruin sites so they can be found by future scientific parties.

"We found that as the work of examining ruins became more remote, owing to distance from our improvised headquarters, it was necessary to abandon the daily trip with saddle horses and resort to a car so that the members of the party could go out and return with their collections of sherds, etc., by nightfall. We are now about ready to turn over to the institutions the sherd collections the party has made. A comprehensive report of the region is being written up by Mr. Amsden.

"Our young lady sign painter, only woman C.C.C. we had, has finished some 60 signs in all for the many ranch, wood, water and main roads which traverse this country. We have now placed the signs which prevent the visitor from getting lost in all the County to the east of us as far as the Ice Caves and Grants. Another batch of signs will be placed toward Ramah, another towards Ataraque and another group will enable the traveller to find the Monument from the Quemado and Techado direction. A total of 250 miles of road will be posted with signs.

"State Road 32 from the Monument to Techado has recently been improved by ranchmen working under C.C.C. and this holds true of the other roads mentioned above.

"The most ambitious signs we undertook are the two attractive oak carved signs with vermilion lettering following the script of the Don Manuel De Silva Nieto Inscription (1629) on the Rock. One of these signs will be placed at Grants where the road takes off to El Morro and the other at Gallup where the El Morro road leaves 66 just east of town.

"The oak timbers, mortised and braced by iron bars will support

the signs and we think will be so attractive and unusual that the passing tourist will catch his breath, stop, read and perhaps follow the arrow pointing out to our Monument.

"These signs will be finished in a few days. I am sure they will excite the wonder, and, we hope, the admiration of all who see them.

"We have hauled 275 cubic feet of rock for our parking retaining wall and for the headquarters building and have the rock neatly stacked where it will be handy when the time comes. We urge you to see that this is soon.

"There is still a great deal of need for employment though many of the men who have been working for us have now commenced planting or at least plowing while others have gotten jobs in other places. Some look forward to being employed in lambing and shearing work of the sheep men and others plan to get positions with road and Indian projects.

"The great snowfall of February 24 was a life saver for the farmers and stockmen for with the additional moisture which has fallen since I would say that the prospects for a green spring are good. Wool prices are a bit draggy but still much better than last year. The Navajos think they will get 25 cents per pound for their wool in the grease while American raisers are holding for thirty cents. Lambs are being contracted for 7 cents per pound for November delivery. Steers are also being bought up and last year's bean crop is pretty well cleaned up. General conditions have greatly helped here in the country where all live close to the soil.

"Mr. Richey and Mr. Hamilton have both been here several times and kept us guided in our work so that we did not make too many mistakes. On March 2 when they were on their way out they let Mr. Hamilton's new Ford sedan take them so fast into a side ditch filled with snow that they became hopelessly stuck unable to move ahead or back up though every time they started the engine they found they were able to go down deeper and deeper into the snow and mud. Their patience and fortitude was exemplary on an empty stomach and equalled their gratitude when I drove over the hill with a crew of workers from El Morro. By main strength of a New Mexico frijoles, carne and chile diet the men lifted that car out of the hole and onto the road so they were able to return to the warmth and food so welcome as night comes on at this altitude of 7,000 feet.

"Visitors are beginning to come into the Monument from the east from road 66 in ever increasing numbers. Among those who came this month was Chief Ranger Carl Lohnert of Carlsbad Cavern who came with a letter from Superintendent Boles. Mr. Lohnert and his charming wife and interesting little boy drank up the beauties and values of our Monument with great pleasure. They were especially struck with our trail work and promised to come back. Mrs. Lohnert is the daughter of one of the Kolb Brothers of Grand Canyon from whom I had the pleasure of meeting many years ago.

"With Mr. Richey and Lyle Bennett, I visited Bandelier National Monument last month and was amazed at the great work being done by the C.W.A. crew both in roads and archaeology.

"I took the time off from the work to visit Fort Defiance, Arizona, Indian Agency, where I met many Interior Department employees including Mr. John Collier, who again struck me with his fine sincerity and helpful

plans for Navajo progress. I think Mr. Collier the most understanding Indian Commissioner who has ever held that office.

"I saw many of my Navajo friends as well as some of the Pueblos, including Tony Lujan and Manuel Lujan, of Taos. The interest shown by the Navajos in the new deal, with its comprehensive plans for their welfare, was intense, intelligent and favorable.

"The discussions about range control and grazing were most interesting to me and were very vital to this tribe of 45,000 Indians who own one fiftieth of all the sheep in the United States.

"The real purpose of my visit there was to get in touch withthe Commissioner and his expert in lands, Mr. A. M. Stewart, and to secure their cooperation on a land trade for extending our El Morro boundary. I found them entirely friendly and they promised to work out a plan whereby the Indian allotment adjoining our west line can be added to our 240 acres, thus making us 400 acres and giving the Indian the land further west, which is of equal value to his family for life and grazing.

"There are other land problems to be worked out here at our Monument which will take more time but are very essential to give our Monument proper setting and protection.

"I am expecting you to visit us soon, now that the C.W.A. pressure has let up. We are down to 15 men compared to 58 when in full swing. All have enjoyed the work and been helped both from a health and financial standpoint.

Evon."

AZTEC RUINS NATIONAL MONUMENT. John Will Faris, Custodian, Aztec, New Mexico.

"Dear Boss:

"Evidently the weather man has his tables turned and we got our summer when we should have had winter and now that spring is definitely announced, our weather is threatening and spits of snow occur from time to time. This, however, is no hinderance as yet to the work and I am pleased to report good progress in all projects.

"Our visitors total 429 for the month with Sundays peak days. Yesterday I counted 77 of this number. It was our pleasure to entertain Superintendent Leavitt and his wife, of Mesa Verde, and we appreciated their visit very much. It is hoped that they can see their way clear to get down our way very often.

"We were quite surprised when Bob Rose dropped in for a few days and we hope that both yourself and Hugh will pull the same stunt on us. We were particularly pleased to have Bob drop in as it was about this time that we were confronted by some problems on our museum index that needed his attention. We had hoped that he would be back by this time with Carl Russell and Louis Schellbach. We are anxiously awaiting their arrival in order to go over museum plans with them.

"All Public Works at the Monument has been centered on our drain and from rumors I hear this drain is getting us in bad with the Washington Office since someone has the impression that we are excavating. I have tried to impress in my archaeological report that such is not the case and was furtherest from our minds in crossing the area wherein these finds were encountered. We have our ditch up to the ruins proper now and by

the end of the week hope to start across the plaza. It is so deep that we are having trouble getting rid of all the dirt. We expect to have a team and scraper get this away after today. We are also starting, as of this date, two teams hauling gravel for partial refill about the tile across the plaza.

"We contacted the Reemployment Board several times for complete clearance on all Public Works men. It was necessary to obtain new cards even though some of our Civil Works crew are being used on Public Works, having been released from C.W.A.

"Our Civil Works has moved along smoothly as anyone could ask. Project 1, which was the removal of the barn, is of course complete and is merely a matter of history from our standpoint now.

"Project 2, the fence, was completed and while we still hope to cement in several line posts, the fence itself is complete. We almost have to laugh at putting up a fence as sturdy and stock proof as we have and then have Chuck design a splendid and inviting entrance which he will not allow closed. The entrance will present a serious problem from the stock standpoint and we have yet to figure adequate means of excluding all animals from our parking unit. Anyway Chuck will devise some way of helping us out and we are mighty proud of the entrance he has given us. The lettering on the big redwood beams has been painted and the carving is very good and certainly very effective. This is certainly a monument to Chuck's genius.

"Project 3, the parking area, has been at a standstill since the gravel was spread and its completion awaits only ample time and material.

"We have made seemingly little progress in our cleanup since we have so much torn up that it is hard to see where several days have been spent in clean-up work. We were, however, fortunate enough, by noon of March 21st, when we released practically all our Civil Works men to have completed the patio, all its walls and the pond called for in the Master Plan. Added effort was concentrated on this area that all walls around our administration unit would be uniform by gunnite coating. The Gunite Concrete and Construction Company, of Kansas City, were the low bidders on rental of gunite equipment and their work for us has been most pleasing. We have a very uniform and desirable surface on all cement walls so far constructed. We were also able to gunite both the interior and exterior of our well house. The front of the Morris residence, comfort station, and parapet walls in both the residence and garage were also gunite coated. These added features, while not originally planned, were of vital importance and would have demanded attention sooner or later at best.

"Speking of the well house, I might mention that seemingly in accordance with our good fortune, our gunite coating was completed Friday night and Saturday afternoon our pressure switch went to pieces and consequently we were without water for a time. A second hand switch was purchased from an oil air compressor and a wire immediately dispatched to Crane Co. for parts needed in our other switch. The constant use of the water in all concrete work, particularly gunite usage, has been a drain on our pump and has necessitated the above repairs and a new belt. These purchases are the first of any consequence spent on our pump in its three years of use.

"It was our intention to tile the irrigation across the administration

area but in opening the ground wall after wall was encountered and so Chuck finally gave us permission to abandon this tiling and allowed us to put in a cement bottom and rock an open ditch. This will make a very neat appearing feature and will avoid endangering any walls.

"The archaeological reconnaissance work is of course centering about pottery repair and museum indexing. A complete report was transmitted to the Washington Office regarding this division. It is hoped that this report was in keeping with Associate Director Demaray's letter of February 15, 1934.

"All features of our entire setup have progressed satisfactorily. The men took the lay off in splendid manner and each seemed thankful for the work he had received rather than disgruntled because he did not receive more. It is an inspiration to work with such individuals and should a crew of men ever be necessary at Aztec Ruins, our Civil Works set-up has certainly given us an excellent list to choose from.

"We appreciate the help and assistance your office has given us on all our problems and want to thank each member of your staff for this help.

Johnvill Faris."

SOME MORE WHITE SANDS. Laurance Cone, Landscaper.

"Dear Mr. Pinkley:

"This seems to be the time for the report on the work here at the Sands -- and I am glad to report that all is going well. The work on the road is fast coming to the point when one can say that every one can go out into the Sands as far as they want to -- up to this point there have been times when you did not want people to try the road for there were places where cars were liable to get into the drifts and from which it would be difficult for them to get out.. Now there is small danger of that for the road is fast going past these places and if usual care is taken there is no great danger of anything other than getting the thrill of their lives. I think that every day people desire to get out into the sands,-- really out into them -- into the real sands, where they are white and where there is no growth,-- then there is something for these few to enjoy. I say few for there have been many who started out but the sight of the trucks and fresnos and teams have scared most of them back.

"The first parking area is going well and the stone work is starting and there are signs that we soon will be announcing to the public that the Great White Sands of Alamogordo are ready to welcome them. The road past the first parking area is shaping well and, strangely enough, it makes the white sands even whiter by contrast, and to make them whiter is some feat because they are dazzling now.

"The work on the wiping out of the first made roads is going well and where there were marring streaks through the meadows there are now no traces and the sands stand out as the main attraction. You would never know in most of the places that there were ever old roads for there are now yuccas and sage and here and there cactus growing naturally out of the soil.

"I am looking forward to the day when the barrier will be down and every one may enter, rest, and appreciate.

Laurance Cone."

THE ENGINEERING REPORT. Walter C. Attwell, Associate Engineer.

"Dear Boss:

"March found me in the Navajo National Monument in Hosteen John's country. I intended to visit this Monument and look over the C.W.A. work from an inspection and engineering view point but continually found myself viewing the ruins from the tourist eyes. Even Tom Charles couldn't do justice to this Monument.

"The freezing weather had caused the abandonment of the trail work about midway between Marsh Pass and Keet Seel Ruin. Many of the dangerous places have been removed. The elimination of many bad creek crossings has been accomplished. The entire trail has been improved but it still is far below the Park Service standards. It is hoped that the next Public Works allotments will include sufficient funds to eliminate the rest of the ice and quicksand crossings.

"The careful work in repairing Keet Seel Ruin impressed me favorably. It was an excellent start but funds and men were too conservative to more than complete a small portion of this immense ruin.

"Erosion control is an undertaking at Navajo National Monument that requires engineering study. During the past fifty-five years the flat valley in front of Keet Seel Ruin has eroded away to a depth of as great as 70 feet for a distance of several miles. This valley was traversed a few years ago by a wagon road. Now it is only accessable by horse during low water. If this rapid erosion is not checked soon, there will be only a rock canyon where 80 years ago there was a lake and fifty years ago there was a meadow. Most of the willow trees in the whole valley have died, caused by the lowering of the water table. An engineering study of this water problem would probably result in the construction of stone dams at several points where the rock outcrops. This would cause the wash sand to back fill the arroyo to the height of the dams after which another dam could be constructed and the bottom of the arroyo could be again raised. In the course of ten years the arroyo could be completely filled by nature and vegetation again restored to the floor of the valley.

"The photographs show the effects of drainage over the face of Keet Seel Cave. This drainage has caused much damage in the past. Entire sections of the ceiling have fallen. If this surface water is continued to be permitted to enter the cave this damage will increase. This may be eliminated by an 800 foot surface ditch above the cave to cut off the drainage of about 30 acres of slick rock. The cost of constructing the ditch will be the entire cost of the protection as there will be no upkeep required.

"On my way out I visited Betatakin Ruin and the new sheep trail into the canyon. This trail makes a fence at Betatakin imperative to prevent damage to the ruins and shrubbery by sheep. I believe that the entire canyon should be fenced against sheep and goats. I noticed many goats grazing on the greasewood and sage brush. There is not one cottonwood left on the entire monument, all have been eaten by goats.

"I arrived that night at Kayenta, Arizona. By the way, in speaking of post offices, Kayenta is the official post office for Navajo National Monument and has the distinction of being the greatest distance

from the railroad of any post office in the United States., a matter of some 175 miles. On the following day I drove through Monument Valley and arrived at Canyon de Chelly in time to eat lunch with Cozy McSparron and Engineer Weintz and then proceeded to Albuquerque that evening, and Bandelier the following morning.

"I spent ten days at Bandelier on the entrance road, equipment and engineering drawings. During that time I made one trip to Capulin Mountain regarding the road construction, culverts and boundary survey.

"On the 14th I visited Gran Quivira and inspected the new entrance road and parking area. Foreman Scharf was relieved from duty and his position was filled by Mr. E. B. Smith.

"On Friday, the 16th, I arrived at the Great White Sands at night. The following morning, accompanied by Custodian Charles and Engineer Chase, I covered the entire project, discussing grading, plating and parking area. I left that night for Casa Grande arriving there at 3:00 a.m. Sunday.

"After getting my office work herded together, I made a one day trip to Tumacacori looking over cattle guards, drainage and walls. After a few days in the office I expect to return to Bandelier to reorganize the third period of the C.C.C. camp.

Walter G. Attwell."

CLOSE.

And so, Chief, we come to the end of another month. I believe you will catch from these reports that the Southwestern Monument personnel has been pretty busy and have had a pretty good time at their work.

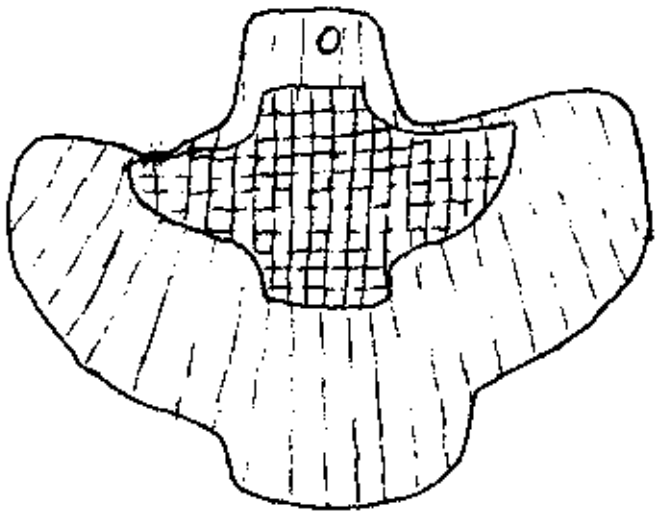
At headquarters we have kept our heads above the flood of paper work and the office work is practically current. We had supposed that the tapering program would taper the office work, but as the pay rolls grow lighter the demandsfor reports grow heavier and it looks like we will be filling our rooms of reports long after the C.W.A. is a matter of ancient history.

But it has been a good month as we look back on it and we have had a lot of fun along with the snarls and kinks that take time and temper to unravel.

Cordially,

Frank Pinkley.

Frank Pinkley,
Superintendent.



Thunder Bird Pendant.
Natural Size.

LAST MINUTE EXCAVATION NOTES FROM MONTEZUMA CASTLE JOB.

"Cyst Grave 8, which was not cleaned out until after the last monthly report had been sent in, has turned out to be by far the most important burial uncovered in the vicinity of the Castle. The burial chamber itself was typical of the cyst graves already described in the report, situated under a ledge and sealed with limestone slabs in front. The contents, however, were singular among this group in that the undisturbed remains of the deepest inhumation were unattended by the scattered bodies of other burials.

"The skeleton was that of a middle aged female, in the prone, extended position, arms and legs straight, and face straight up, with head to the west. The skull showed the typical occipital flattening, and was removed intact save for a portion of the basal aspect, although the rest of the bones were in very poor condition.

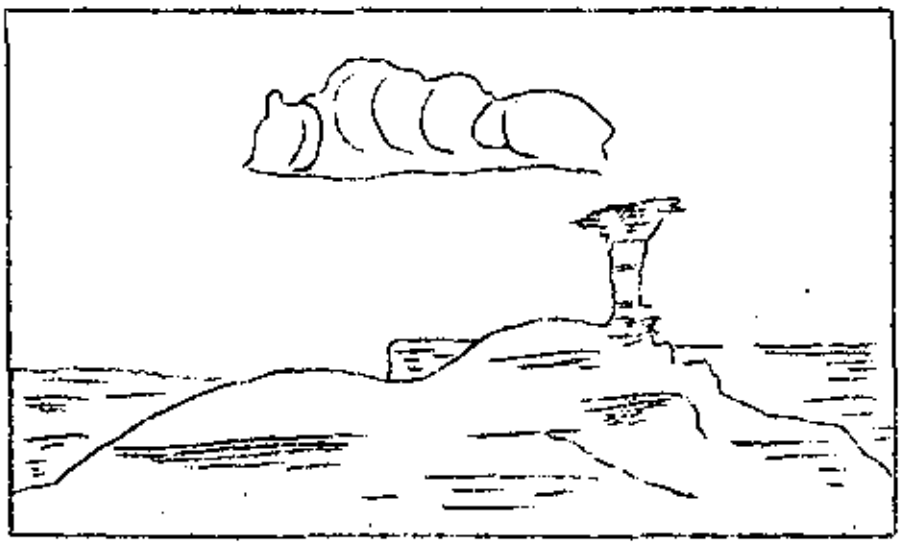
"Directly underneath the mandible was found the Thunder Bird pendant shown in the above sketch, the base carved from a clam shell and the turquoise sets glued to a strip of bark which in turn was glued to the shell. The adhesive was probably mesquite gum. Much of the bark had rotted and the sets had fallen off, but the cross hatched portion of the sketch shows where the stones remained, and there was sufficient outline on the shell to indicate the probable form of the setting as in miniature of the shell. 83 pieces of turquoise were found which belong to this pendant. In addition to this pendant, this woman was possessed of turquoise ear pendants, and a number of tiny disc shaped beads found may have once been on the ear pendant string, as the beads were not sufficient in number to make a necklace.

"Resting over the left hand was a deep, undecorated red bowl, and three inches from the left fibula, to the side, was a large semi-spherical polychrome bowl, of a type tentatively classed as Winslow Polychrome.

"No other artifacts were found in this grave, and no recognizable signs of matting or other burial wrap. However the Tusayan Black on White bowl with vertical loop handle described in the report must have belonged to this burial, although it was found entirely outside the grave, on top, but directly over the feet.

Earl Jackson."

U. S. DEPARTMENT OF THE INTERIOR - NATIONAL PARK SERVICE



Eagle Nest Rock, First Forest

Petrified Forest National Monument, Holbrook, Arizona

April 2, 1934

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

Dear Mr. Director:

The narrative report of activities in Petrified Forest National Monument for the month of March, 1934, is respectfully submitted.

GENERAL:

Work has continued on the various C.W.A. (F-68, U. S. No. 7) activities in this monument with fair speed, but there will be several jobs incomplete when the program ends on April 26. The following jobs will be fully completed:

1. The First Forest-Eagle Nest Road. This is a road about one mile long, graded through the First Forest, making a loop around the Eagle Nest Rock and returning to the First Forest parking area. This will be a very nice road of 14-ft. standard con-

struction, well graded and drained, and surfaced with 4 inches of gravel. This road will provide an opportunity for people who are not able to walk over the footpaths in the various forests to drive comfortably through one of the finest areas in the monument. The road has also been constructed under careful landscape supervision.

2. The drift fence around forty square miles of the monument, consisting of thirty miles of 4-strand barbed wire with juniper posts spaced 16½ feet apart. This is a very fine thing and is for the purpose of excluding all cattle from this area so that the range will come back in first-class condition and provide a refuge for the antelope, which will have free movement back and forth through the monument.

3. The landscaping at headquarters is completed in as far as this may be done, pending the success or failure of water development at headquarters.

4. The campground development is also completed, pending development of water for the planting of shrubbery and piping of water into the campground area.

5. The installing of stone steps on Panorama Knoll and extending the Third Forest Trail to Agate House.

6. Field work in connection with the archaeological reconnaissance is completed with the restoration of Agate House, as stated in last month's report, and now three rooms in the Rio Puerco Pueblo have been cleared out and the walls have been rebuilt on the original foundation to a height of about three feet. In the excavation of these three rooms, one of which was a store room which had evidently been destroyed by fire, the remains of a great quantity of food products in a charred condition was found. This consists of corn on the cob, in very good condition, pumpkin seeds, beans, squash seeds, and burned globular masses, which were probably pumpkins or squash. These have all been carefully preserved for future observation. The amount of pottery found in this pueblo was rather small, indicating that although the pueblo covered more than an acre of ground, the occupation did not cover a long term of years.

Mr. C. B. Cosgrove, Jr., who was in charge of the work on the ground, has left for Santa Fe, New Mexico, where he will be engaged for the next two weeks in the preparation of reports in collaboration with Dr. H. P. Mera of the Laboratory of Anthropology, who was the archaeologist in charge of the work. Jesse L. Nusbaum, Director of the Laboratory of Anthropology, was in the monument on March 25 and expressed himself as very happy that this work had been accomplished and that the Laboratory was able

to cooperate with the National Park Service in it. After examination of the restored Agate House, which was apparently of greater interest than he had anticipated, Mr. Nusbaum said, "I still say there ain't no such animal."

I wish to say that I consider it very fortunate for us that the Laboratory was able to cooperate with us in this work, and that they were able to have Dr. Mera in direct charge. I feel sure that when the complete report is published a considerable contribution to the archaeological history of the southwest will have been made.

The projects which are incomplete or will be partially unfinished at the end of this program consist of:

1. Cleaning ditches and dressing banks on about four miles of the highway.

2. The one-mile road from headquarters to Pictographs.

3. The 1/2-mile trail to ruins situated a mile from headquarters.

4. The side road to Newspaper Rock.

5. The Blue Forest road.

6. Blue Forest Trail and proposed bank protection at the Rio Puerco.

It is hoped that we will be able to finish up these projects under an additional F.E.R.A. program, the details of which are now being taken up with the State Administrator.

WEATHER:

Weather conditions have continued good through the month, with some high winds, but not as much as usually expected at this time of the year. A table of weather statistics follows:

> High temperature for the month was 83 degrees on the 17th, low was 24 degrees on the 10th. Mean maximum was 68.3 degrees, mean minimum 34.6. Precipitation for the month totaled .40 of an inch. There were 28 clear days, 1 partly cloudy day, and 2 cloudy days.

ADMINISTRATIVE:

Our office work has been kept up to date on all matters, including Civil Works. We are still having many complaints from vendors who have not received their pay for materials and truck

services which have been rendered in some cases at the very beginning of the project. They feel there must be something wrong in not receiving their pay after such a long period of time.

The monument has been inspected periodically by the Superintendent and routine matters are proceeding in a satisfactory condition. Assistant Engineer C. M. Bell, who was detailed from the office of the Chief Engineer at San Francisco, has been in immediate charge of the work, and Mr. H. J. Cremer was in charge of landscape C.W.A. work until March 23, when he departed on account of our arbitrary reduction in Civil Works force.

Assistant Architect Harry Langley was in the monument on the 29th and 30th, and went over all the projects being constructed under Public Works with Resident Engineer L. G. Watters of the Bureau of Public Roads, who is in immediate charge of all major road construction. He went over all other projects with the Superintendent and found them in very satisfactory condition from the landscape point of view.

PUBLIC WORKS PROJECTS:

The only Public Works project we have under force account is No. F.P. 129.14, Water and Sewer Development. Under this project work has continued on the test well at headquarters, with the exception of several shut-downs for various reasons. At the close of last month I stated that the "frozen" casing had been removed and that the shoe was being drilled out of the hole. Work has continued on deepening the hole to a solid impervious foundation in the Coconino sandstone and the casing is now seated in this formation at 745 feet. On March 29 about three cubic yards of gumbo clay in a fluid state was forced through the casing until muddy water circulated through the top of the outside of the casing, and operations have now been suspended for a few days to allow this clay to settle. We have strong hopes that the flow of salt water will be shut off. In reaming this hole down to a solid foundation many difficulties were encountered. There were several places in which it seemed almost impossible to secure a straight hole on account of a harder formation on one side, which forced the tools to the other side, thereby making a crooked hole. The hole was filled with rock and drilled out, but still this crooked condition prevailed, so that finally two blasts were set off at these points in the hole, which remedied this condition, and the casing went down to the bottom without any further difficulty. Drilling on this test well will start again about April 5.

LABOR SITUATION:

The labor situation in this locality is probably not much improved, although many of the men we have been employing on

Civil Works have secured other jobs of their own accord, which helped us a great deal in the arbitrary reduction of thirteen men weekly, which had to be done. It is hoped that the additional programs under the F.E.R.A. will relieve this condition.

BUREAU OF PUBLIC ROADS:

The road contracts which are under way under the supervision of the Bureau of Public Roads with Public Works allotments are as follow:

Grading and draining of four miles of U. S. 260. Work is proceeding under a contract by Everly and Allison.

Approximately six miles of road north of the A. T. & S. F. Railroad is under a grading and draining contract by Leo Frost and this job is probably 75% complete.

Under another contract Everly and Allison are proceeding efficiently in the laying of 7 inches of crushed gravel on the regular monument highway.

Del E. Webb, who has the contract for constructing the overpass at the Santa Fe Railroad, which was suspended during the winter, has started in again on this job and the overpass will be completed in time for the heavy summer travel.

MAPS AND SURVEYS:

We have nothing to report under this heading except that the surveys and plans for all C.W.A. projects have been done under the direction of Mr. C. M. Bell and have been submitted to the Chief Engineer of the National Park Service at San Francisco.

RANGER AND MUSEUM SERVICE:

With only four men on the ranger force and the travel constantly increasing, it is inevitable that complete service to the tourists and full protection of the natural features of the monument cannot be accomplished. However, considering these difficulties, excellent service is being given to the public.

ANIMALS:

As stated, a drift fence has been completed around the monument to exclude cattle, and it seems that even in this short time of a few weeks in which the cattle have been excluded, the antelope have been seen in the monument in larger numbers than ever before. We hope that before many years a great number of these animals will be ranging in the monument a large part of the time.

TRAVEL:

Travel is good. Up to this time we show an increase over last year of 107% and the increase over the corresponding month of last year is 4711, or 64%.

For the month, Petrified Forest section,	cars,	1,849,	people,	5,642
Previously reported	"	9,061	"	24,186
Total to date	"	10,910	"	29,828
For the month, Painted Desert section .	"	1,456	"	6,437
Previously reported	"	9,646	"	36,276
Total to date	"	11,102	"	42,713
Grand total for the month	"	3,305	"	12,079
Grand total same month last year . . .	"	2,353	"	7,368
Grand total to date	"	22,012	"	72,543
Grand total same date last year	"	11,414	"	35,075

Travel from all states was registered during the month, and also from the Phillipine Islands, Hawaiian Islands, and the Canal Zone. Foreign countries represented were Africa, Belgium, Canada, England, France, Germany, and Peru.

SPECIAL VISITORS:

Special visitors to the monument during March were as follow: Chief Ranger Lehnert and family of Carlsbad Caverns National Park, March 7; Hugh M. Miller, Chief Clerk, Southwestern National Monuments, accompanied by Mrs. Miller, March 15; Dr. C. H. Watkins of the Mayo Clinic in Rochester, Minn., March 15 and 16, guest of Superintendent Smith; Miss Leila Roosevelt, cousin of President Franklin D. Roosevelt, March 18; Bert Harwell, Park Naturalist of Yosemite National Park, accompanied by his daughter, March 19; Ben Thompson, Wild Life Division of the National Park Service, March 21; Mr. and Mrs. Ralph McDonald of Rocky Mountain National Park, March 24; Mr. and Mrs. Cosy McSparron, Canyon DeChelly National Monument, March 25 to 27, guests of Superintendent and Mrs. Smith.

ACCIDENTS:

No accidents under C.W.A. have been reported except one or two minor ones, such as bruised fingers, etc. Two accidents have been reported under the road contracts supervised by the Bureau, one man being hit on the head by a flying rock from a blast and knocked unconscious, and another man sustaining a serious injury to his eye while cutting off wire material used in the basket riprapping at Dry Creek Wash.

MISCELLANEOUS:

Considerable correspondence has passed between your office, myself, and Richard P. Schuster of Los Angeles, concerning the so-called Adolph Schuster collection of historic and prehistoric pottery, baskets, plaques, etc. This collection has been housed for a number of years in the Los Angeles Museum. It has been the desire of the Schuster family, who are pioneers in this region and have stores respectively in St. Johns, the county seat of Apache County, and Holbrook, the county seat of Navajo County, to have this collection in Petrified Forest. I am happy to state that we have now secured the transportation of this collection from Los Angeles and have it here ready for display. For the present it will be displayed in the cases which we secured from Mesa Verde National Park some time ago, in the east wing of the building at headquarters under a permanent loan from the Schuster family. The collection consists of 172 articles, including prehistoric pottery, old baskets, plaques, beads, artifacts, etc. I am looking forward to unpacking this collection with a great deal of pleasure.

Former President Herbert Hoover visited the Painted Desert Section March 28. No statement was secured from him but he seemed to enjoy the views on the Rim Road very much. This section, comprising 53,300 acres, was added to the monument by Proclamation approved by President Hoover September 25, 1932.

Very truly yours,

Chas. J. Smith,
Superintendent.

SUPPLEMENT TO THE
MARCH MONTHLY REPORT
OF
THE SOUTHWESTERN MONUMENTS
****

Shop talk, folks, and things in general.

REPORT OF ARCHAEOLOGICAL EXCAVATIONS
UNDER C W A AT CASA GRANDE NATIONAL MONUMENT.

Archaeological work at Casa Grande was carried on under my direction from December 11, 1933 till February 15, 1934. There were seven C.W.A. laborers from the beginning of work until January 22 after which time twelve men were assigned to the job but they worked only half time.

The work consisted of two operations; Operation I, obtaining stratigraphic tests from a group of three rubbish mounds and intensive work in a group of houses nearby (see Plate I): Operation II, obtaining stratigraphic tests from a rubbish mound and trenching the adjacent house block to determine whether or not a compound wall was present. Operation IIlay about 150 yards east of Operation I.

When operations were begun, the sites were covered with the typical desert growths, grease wood, cactus, and an occasional mesquite tree. The rubbish mounds were inconspicuous and the house blocks less prominent. (see Plate IIa). In fact, the dwelling area of Operation I was located only after a great deal of exploratory trenching. The dwelling area of Operation II was apparent as a very low mound covered with sherds and dark soil but it proved not to be nearly as extensive as had been anticipated.

THE ARCHITECTURAL TYPES - OPERATION I

Type 1 house - Pit-house. Room numbers 3, 5, 7, 9, (See Plate IIb)
Form and size - Rectangular with rounded corners. Lengths - 14' 4" to 19' 7", widths - 8' 2" to 10' 10", depths - 14" to 24" at present. Probably about 10" deep originally.
Floor features - Fire pit in front of entranceway. May or may not have post holes encircling the floor. Probably all had posts but in some cases the posts were outside the limits of the floor and so were not evident.
Walls - Inside, walls were plastered with caliche up to the ground level. Outside, heavy plaster covered the posts and other solid structure.
Openings - Vestibule entranceway near the center of a long side.
Roof - No evidence.
Remarks - Room 9 is the only one of this type to show many posts in the floor but it is felt that in the others, the posts were just outside of the floor as a lip at the edge of the floor indicates that a plaster was carried up from the floor. These houses do not all face the same direction.
Type 2 house - Pit-house. Room numbers 6, 8, and 12, (see Plate III a).

Form and size - Straight sides and semi-circular ends. Lengths - 14' 0" to 17' 6", widths - 8' 6" to 11' 4", depths - 18" to 36" at present. Original depth probably about 9" to 24".
Floor features - Fire pit in front of entranceway. Post holes encircle the floor.
Walls - Caliche plaster er-enforced. Largest beams indicated by casts in the plaster were about 4" in diameter. Openings, vestibule entranceway near the center of a long side.
Roof - No evidence.
Remarks - Room 6 shows no post holes but a series of shallow depressions about 4" in diameter, near the perimeter of the floor are felt to have been caused by posts resting directly on the floor. These houses do not all face the same direction.

Type 3 house - Pit-house (?) and surface house. Room numbers 2, 4, 10, 13, 14, 15, (see plate III b).
Form and size - (More or less) rectangular having straight sides and angular corners. Lengths - 14' 9" to 17' 3", widths - 6' 10" to 13' 8", depths - 3" to 29" at present. Original depth probably 0" to 20". (about).
Floor features - Fire pits are located near the center of a long side of the room but do not occur in all houses of this type.
Walls - Solid caliche 10" to 14" thick, smooth plaster on the interior.
Roof - No evidence.
Remarks - Rooms 4 and 13 may possibly have been contiguous but 13 was in such poor condition that its walls and floor could not be followed with any degree of accuracy.

No compound wall was encountered on this site.

Operation II - The dwelling block was trenched to see if a compound wall was present. No compound wall was encountered but rooms were built contiguously in some instances. The walls were caliche 12" thick and floors varied from 5" to 25" below the surface. No rooms were entirely excavated so no details can be given.
Mixing pits - (See Plate IV). A number of these pits varying from 18" to 30" in diameter were found on both operations and 23 of them have been located on the map of the entire site. They have caliche walls which are extremely hard and with one exception they are roughly hemispherical. Their identification as being the pits in which the caliche wall material was mixed is based on two instances where the pits were found still containing the caliche mortar. They occur in areas which show no other occupation and above floors of type 1 and type 2 houses but never above floors of type 3 houses.

SUPERPOSITION

The pottery content of type 2 houses and type 3 houses showed no difference but from two instances where all three room types were superimposed one upon another, the sequence of house types is clearly shown. The first instance - room 5, type 1 early; room 6, type 2 middle; room 4, type three late. The second instance - room 9, type 1 early; room 8, type 2 middle; room 10, type 3 late.

FEATURES.

Unusual features were found only in the late type of house, Feature I in room 2 is a flat triangular rock set three inches into the floor and on it are two rounded boulders, one of which is painted red. (see Plate V a). Feature II in room 4 is a raised "disc" of caliche approximately 24" in diameter and an inch high. It is thought to have been a basket rest or a hearth. The room is without a fire pit, (seePlate V b). An incised design was found on a piece of wall material from room 4. It was indistinct but a little could be made out from it, (see Plate V c).

POTTERY.

The local types - All of the pottery of this site was typically Hohokam. With the exception of Gila Redware, all the Hohokam types were represented in sherds and whole pieces. Santa Cruz Red-on-Buff jars were not common. Effigies - Two pottery effigies were recovered from the site, neither of them complete. Both were animal forms bearing considerable resemblance to a dog. The smaller of the two, having a length of about two inches, was apparently an ornament broken from the piece of which it was a part. The legs indicate that it was on a spherical surface, possibly a large jar. Stratigraphy and intrusives - Operation I - All horizons between late Colonial and Classic are represented. Intrusives were few and were judges to be Pueblo II sherds. No polychrome was encountered. Operation II - stratigraphic tests indicate a short period of occupation, most of the sherds being Classic. Intrusives were Pueblo III. No polychrome sherds were recovered from below ground but a very few were found on the surface. Gila Redware appears in Operation II but not in Operation I.

OTHER ARTIFACTS.

Stone work - Largely agricultural. Thin scrapers and hoes were the most numerous specimens recovered. Three-quarter grooved axes, a trough metate, and rectangular flat manos ground only on one side were also present. Ornaments - Were all of shell excepting one small stone bird effigy drilled for use as a pendant (?), and one small fragment of a turquoise pendant. The shell pieces indicate the use of bracelets, rings, pendants, and beads.

DISPOSAL OF THE DEAD.

Cremation appears to have been the only method employed. One cremation pit and 22 cremation burials were uncovered. The cremation burials were of two main types - 1. (a) Calcined bones alone buried in a pocket, (Plate 6a). (b) Calcined bones buried in a pocket with sherds or other small artifacts, (Plate VI b). 2. Calcined bones placed in a pot and buried (a) with, or (b) without other offerings, (Plate VII a and b). The pots containing bones were found in all positions from right side up to upside down. The various types were not seperated in different burial areas and many stray sherds and bones were found all through the fill. Probably the same burial ground was used during the whole period of occupation of the site, late burials disturbing earlier ones thereby scattering bones and sherds throughout the burial area.

CONCLUSIONS.

Dating - Unfortunately there is no direct means of dating the ruins in the Gila River Valley but we can get some idea, indirectly from the intrusive sherds which are datable. From datable intrusives in Operation I, I can only say that the site was occupied at about 900 AD. It does not necessarily follow that this represents the earliest date of the site but it is the only date represented by intrusive sherds. From the indigenous types represented, I should judge that the site was occupied for several hundred years beginning probably before 900 AD. Part of the occupation of the site represented by Operation II, I feel to have been contemporaneous with the last period of Operation I. This is shown by the similarity in pottery and architecture. That Operation II was occupied after the abandonment of Operation I cannot be doubted as polychrome and Gila Redware are found only on the second operation. The approximate on Operation II is 1250 AD. to 1350 AD. The time relations of the sites represented by Operations I and II compared with other Hohokam sites are shown in Plate VIII.

Architecture - The architectural types uncovered in this work substantiate the general Hohokam types as defined at Roosevelt ;9:6 and the Grewe Site during the early periods and fits well with the later types previously known from Sacaton :9:6 and Sacaton :9:1 excepting in the lack of a compound wall. The only explanation for this lack that has been advanced to date is that other dwellings nearby which were occupied contemporaneously had compound walls so in time of emergency the inhabitants of these dwellings could temporarily abandon them and retreat to a nearby compound. This explanation is suggested merely as a possibility and not as a proven fact.

Each of the architectural types must be considered an indigenous Hohokam development as each of the types is found in pre-polychrome horizons. The evidence from this site alone would indicate that the compound wall came in after polychrome contact and therefore might be considered a Salado innovation, but the fact is refuted by other sites.

Pottery - The absence of Gila Redware except in the late part of Operation II, immediately before the arrival of polychrome, may indicate that Gila Redware is a Salado ware and not an indigenous Hohokam ware as has previously been supposed. Approximately a dozen other sites represented by sherd collections at Gila Pueblo tend to substantiate this idea but the point is by no means proven yet.

---

recovered

The specimens/during this work have been deposited at the museum at Casa Grande National Monument. The sherds from surface collections and frm stratigraphic tests have been deposited with Gila Pueblo, Globe, Arizona. Complete copies of the field notes are to be found both at Casa Grande National Monument and at Gila Pueblo. Blue prints of the original map showing all excavations are at The National Park Offices, Washington, D.C., Casa Grande National Monument, and at Gila Pueblo.

No information regarding the excavations can be gotten from again visiting the site as all excavations have been back-filled and the site left as nearly as possible in its original condition. There are no open trenches or pits and no piles of dirt or rubbish.

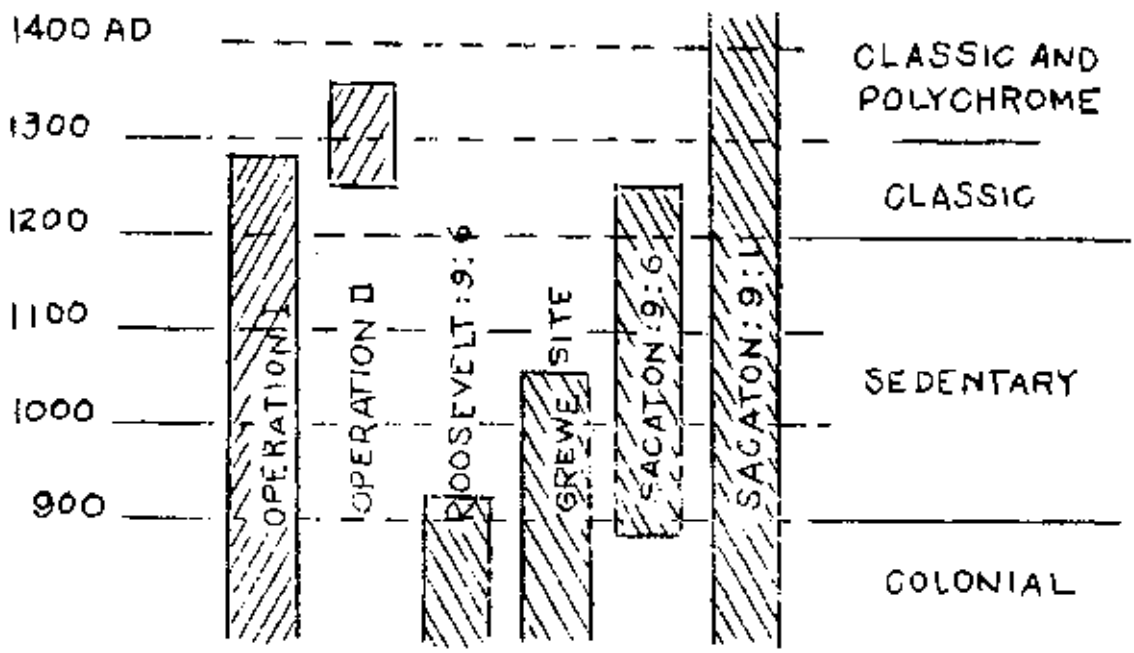
Report submitted March 22, 1934.

RUSSELL HASTINGS.

BIBLIOGRAPHY.

Gladwin, Winifred and Harold S. - Medallion Papers Nos. III, IV, V, VIII, and XIII.
[illegible], E. W. - Medallion Papers, No. XI.
Woodward, Arthur - The Grewe Site, Occasional Papers No. 1, Los Angeles Museum.

E



TIME AND PERIOD RELATIONS OF OPERATIONS I AND II TO OTHER SITES

BUILDING UP THE MESA VERDE MUSEUM.

The Educational Division of the Berkeley Office has recently broken out with a new idea which I think ought to receive a little more publicity than they originally intended it to have. We therefore copy the greater part of it into this month's report. It is written by Louis Schellbach III and sent out under the authority of Ansel Hall. Here it is:

SOUTHWESTERN ARCHAEOLOGICAL PROGRAMME.

It is suggested that thought be given at this time to the problem of our Southwestern Monuments and their educational program on archaeology. It seems that now as never before we should concentrate upon formulating a unified educational plan for presenting our archaeological features and the story of archaeology to the public in the area.

How best to utilize our opportunities with the cooperation of all concerned is the problem. At present there seems to be no such plan for a unified museum development in the Southwest.

With each unit working independently without a unified plan for the whole group, there is the ever present possibility of excessive duplication and a disregard for systematic arrangement of the archaeological story as a whole. It does not seem necessary for each and every museum unit in our Southwest to attempt covering the field of archaeological research in their displays or exhibits. To attempt that adequately would entail a greater collection of artifacts than is now available at any one of them. The mass of technical information presented would make for confusion in the minds of the majority of our visitors.

At only one place should the entire story of archaeology be worked up in displays and exhibits, bringing together the detailed exhibits or stories of our archaeological units in our Southwestern National Park and Monuments system. This should be one of our major sites.

The most logical to the writer would be Mesa Verde National Park, a major unit and the only archaeological park we have. Despite the argument advanced that the number of visitors is not as great as at other places, the fact still remains that because of its location within the archaeological field, the number of its spectacular ruins and sites, and the support it no doubt will receive from scientific institutions as development goes on, archaeology will always be its main feature. It will be a place where archaeological material is assembled for the student, teacher and public interested in archaeology mainly.

Here would be the coming together of all things archaeological. Here archaeological tours could be started on their way through our system of archaeological Monuments and Parks, or be the final stop in the system where all they have seen and heard before is summed up for them in a graphic portrayal of the whole.

For some time there has been the germ of an idea in the mind of the writer of a plan whereby every archaeological monument in the Southwest would take its place in an archaeological scheme of the whole. Each would have the individual story of its ruins and interpret also the archaeological sub-area of which it is a part.

The formulating of such a plan would be the beginning of what in the future would develop into an Educational Circuit or Archaeological Tour of the great Southwest. (This is in line with suggestions of Dr. Bumpus and Dr. Bryant's letter to Hall, February 5, 1934.)

A movement should be started and the problem discussed with the Educational Advisory Board and the superintendents and custodians concerned before some of the Parks and Monuments start planning museums. Otherwise, each unit will be infringing upon the domain of the other. Close cooperation is needed of those concerned which, the writer feels sure, will develop an educational feature that will be a credit to the Service and a boon to the touring public.

Accompanying this paper is a map of the Southwestern archaeological field. It is presented with a view toward making clear the first steps necessary -- that of assigning to each archaeological Monument and Park within the field certain archaeological features which each is to develop in addition to its particular major feature.

In looking at the map it will be noted that the field has been divided by students into major archaeological sub-areas. There are eight of these areas, each one differing from the other in specialized cultural phases. Some of these sub-areas are further divided into districts of high specialization and sub-culture areas. (Not shown on the map.)

On the map is spotted the location of our National Monuments and Parks. Note how in every case, with the exception of the Mimbres and Chihuahua areas, there are one or more monuments in each area. (In the Mimbres area there is the Gila Cliff Dwellings National Monument under the Department of Agriculture, which it is understood, is to be under our supervision.) The Chihuahua area is in Old Mexico; its place in the scheme of Southwestern archaeology would be presented at Mesa Verde National Park.

Here then is a basis upon which we could assign to each National Monument the field it would represent in addition to its major feature, the ruins. In other words, each monument would concentrate upon the field assigned to it and work up the subject as completely as possible, aided by specimens in its museum.

We could liken each Monument's presentation to a chapter in the story of archaeology of the Southwest and finally all the chapters of the story brought together at one central and main point.

The Monuments are not organized along this line at present in presenting their museum material.

Upon this same basis the story of ethnology could be worked up. Certain Monuments would be in a better position to tell the story and display Indian material than others.

(We now eliminate a page or more of general definitions of the several classifications of the pre-historic cultures of the Southwest which are not germain to the discussion in hand, and cut in again when the paper gets back to its muttons.)

HISTORIC CULTURES. (ETHNOLOGY).

Within this field of Southwestern Archaeology we have our modern Indian peoples also to consider, viz; the Pueblo peoples of Arizona and New Mexico, the Navajo, the Ute, the Piute, the Apache and the Yuman peoples of the west and south of the area.

Because of their local ranges today they also lend themselves to representation in museum displays of certain Southwestern Monuments.

Adequate museums are badly needed in all of the Southwestern Monuments in order to properly display and house the many valuable and irreplaceable objects left by the prehistoric peoples. These objects are just as important for illustrating the story of archaeology as the ruins themselves.

If these rare and fine specimens are to be made available for future generations to study, they must be properly prepared, housed and protected from excessive handling or possible pilfering.

A heterogeneous collection of arrow points, a few baskets, a blanket and some Indian pottery from widely scattered regions, however, does not constitute an educational display. We must look upon specimens as illustrations in a definite story and not as a collection of objects to be displayed because they are Indian, because they are curious, or just because some kind hearted soul presented them with the idea that they should be displayed.

If left to themselves, the individual Monuments will develop their own museum displays and stories with no thought to the group as a whole. This will make for a number of museums throughout the Southwest duplicating each other with little chance of anyone fully able to cover any subject completely and in detail.

We lose the opportunity of making the most of our educational possibilities and also that of routing the public from one to another of our Monuments.

Most of our Southwestern archaeological monuments have been set

aside to protect the spectacular ruins they contain. Most of these ruins belong to the great Pueblo III period. In order to vary their stories and make them more interesting and educational, each should be assigned a further archaeological feature to work up in its museum exhibits. This should be done according to an archaeological plan for the whole. A preliminary outline for such a plan is the basis of this paper.

We have heard much about duplication of exhibits and stories as presented in the Southwest. However it must be borne in mind that a certain amount of duplication will be necessary. This will have to do only with the general outline of the Southwestern archaeology necessary for the orientation of the visitor. The exhibits for this are few and consist of a graphic chart, brief explanatory copy, and a map. No artifacts are necessary, and the guide can give as much time as he desires on this introduction. He will also have the opportunity of pausing in his story to call attention to the national monuments wherein that part is told in detail by exhibits.

Taking up each sub-area in the Southwest, and the parks and monuments within its borders, we can begin to logically assign to each additional archaeological and ethnological material for exhibits, without infringing upon the domain of others.

The attached layout shows the archaeological sub-areas, the parks or monuments within those areas, and the archaeological and ethnological story and exhibits assigned to each. For want of a better name at this time, we might call it a Master Plan for Southwestern Archaeological and Ethnological Museum Exhibits.

(The tabulated scheme, outlined by Major sub-areas, Minor sub-areas etc., is too large to insert here as it is in the paper, but we can give the distribution by parks and monuments, showing the proposed field of each and suppressing archaeological information at some of the places in order to play it up at some other place a state or two distant. Here is the list:)

Mesa Verde National Park, Colorado.
- To be the archaeological center dealing with archaeology and ethnology.
- To cover the major archaeological area of the San Juan drainage.
- To cover also the major sub-area of Chihuahua in Old Mexico.
- To cover the sub-culture of Mesa Verde.
- To interpret the story of its ruins.

Yucca House National Monument, Colorado.
- Not as yet developed.
- Besides the story of its ruins it might be assigned the ethnology of the Southern Utes when developed.

Hovenweep National Monument, Colorado-Utah.
- Not as yet developed.

To work up the story of its ruins.
Story of McElmo sub-district.

Chaco Canyon National Monument, New Mexico.
To confine itself to the sub-culture of the Chaco.
To interpret the story of its ruins.

Navajo National Monument, Arizona.
To confine itself to the Kayenta sub-culture.
To interpret the story of its ruins.

Canyon de Chelly National Monument. Arizona.
To feature Navajo ethnological exhibits.
To interpret the story of its ruins.

Natural Bridges National Monument, Utah.
Geological story of wind erosion. Archaeological material kept in study collection or sent to Navajo National Monument to round out their archaeology.

Aztec National Monument, New Mexico.
To interpret the story of its ruins.
It is on the border line between Mesa Verde and Chaco sub-cultures and has the influence of both. Aztec sub-district.
It might also be assigned the ethnological exhibits of the Jicarilla Apache.

Casa Grande National Monument.
To cover the field of the Gila-Salt Drainage archaeology, divided into the minor sub-areas of the Upper, Middle and Lower Gila.
The Hohokam Culture stressed.
The story of Casa Grande Ruins.
Ethnology of the Pima and Papago Indians.

Tumacacori National Monument. Arizona.
Spanish Colonial History.
Bringing in only such Indian material as is necessary to the story.

Wupatki National Monument. Arizona.
To cover the field of the San Francisco Culture.
To feature the ethnology of the Hopi Pueblo Cultures.
The story of its ruins.

Montezuma Castle National Monument.
On border line between Gila-Salt area and Little Colorado.
The local story of its own ruins and what they reveal and their place in the scheme of S.W. Arch. in time.

Grand Canyon National Park. Arizona.
To cover the field of Tusayan Culture.
The brief story of man entering earth history, then America, the Southwest and in detail Grand Canyon region.
The ethnology of the Havasupi peoples.
To be also the geological center dealing with the geology of the Southwest.

Petrified Forest National Monument, Arizona.
The geological and paleontological story.
Archaeological and ethnological material to be kept in study collections.

El Morro National Monument.
Spanish Expeditions. (Conquistadores).
Ethnology of Zuni Indians.
Archaeology kept in study collections.

Bandelier National Monument.
To cover the major archaeological area of the Rio Grande Valley.
To interpret its ruins.
To feature also the ethnology of the Rio Grande Pueblos.

Gran Quivira National Monument. New Mexico.
To cover Spanish Colonial History of New Mexico and such archaeological material as pertains to its site.

Gila Cliff Dwellings National Monument, New Mexico.
To interpret its ruins.
To cover the special culture of the Mimbres area.

The Chihuahua Major sub-area has no local representation.
It is a major sub-area of Mexico running over the line into New Mexico. The story of this major sub-area to be told at Mesa Verde in its logical sequence of Southwestern cultures.

The White Sands National Monument. New Mexico.
Geological story.
Ethnology of the Mescalero Apache Indians.
Archaeology of the Eastern Peripheral-Folsom find and Carlsbad find.

Carlsbad Caverns National Park. New Mexico.
Geological Cavern story.

Zion National Park. Utah.
To cover the archaeology of this area.
Also the ethnology of the Piute Indians.

Bryce Canyon National Park.
Its archaeological and ethnological material to be kept for study collections.

Pipe Springs National Monument, Arizona.
Historical feature.
Archaeological and ethnological material kept in study collections.

Capulin National Monument. New Mexico.
Not within the Southwestern archaeological field.
Geological story. Archaeological material placed in study collections.

Great Sand Dunes National Monument, Colorado.
Not within the S.W. Archaeological field.
Geological story. Archaeological material placed in study collections.

And so there she is, Chief, and you won't be doing right by the Barkley Boys if you don't sit back and admire it. It looks mighty fine for Mesa Verde, which sits tight and gives up nothing, but it is going to be fairly hard on the rest of us to send some of our best archaeological

K.

stuff up to Mesa Verde so they can have the best archeological collection in the Southwest and use it to direct those 16,000 visitors they had last year to these other southwestern monuments who had something over 500,000 visitors last year. Mesa Verde already has the highest cost per visitor in the southwest, it costing them about $2.45 each to handle visitors where we are expected to handle them among the monuments of the Southwest for 14 cents per visitor. Now if they can high-grade our collections to build up their museum and borrow a few GradeARuins out of our Monuments, they might be able to run their visitors up to 25,000, and if they then were able to direct each one of those 25,000 visitors to some of our Southwestern monuments, we might notice the rise from 325,000 visitors last year to 350,000 and give it a paragraph in our annual report, calling attention to a slight rise in the total number of visitors.

Of course Louie doesn't come right out and say so in his paper, but I suspect they think the Lord didn't use very good judgment in locating the ancient cultures in the Southwest, and, while they wouldn't hurt his feelings by calling his attention to it, it being too late anyway probably to correct the matter, they would just quietly re-arrange the archaeology of the country and put the collections where the Lord should have put the people if he had his mind out in when this country was settled up. Thus we quite logically pick Mesa Verde which has 16,000 visitors per year and is open almost all the year except from late September until the first of May. Mesa Verde also, as Louie points out has a halo of sanctity given it by Congress which, in its infinite wisdom has, by its legal action, spelled Monument,P-o-r-k, which, of course made the ruins quite a bit larger than two or three of our monuments ruins which still persist in not knowing it and measuring larger than those in Mesa Verde, and no doubt also made much finer wall construction there, although the rangers still faithfully register finer wall construction and more of it in a couple of our monuments.

Also, it is well known that Mesa Verde is the archaeological center of the Southwest, as Louie states, except for the fact that he himself shows on his map and says in his printed matter that Capulin and Great Sand dunes are both outside the area, which would indicate that it is about 100 miles northeast to the circumference from the center and it must be about six hundred miles the other way to the other edge of the field. We fellows who ride the southwest from end to end get awfully tired of being told that Santa Fe and Mesa Verde are the center of the Southwestern archaeology

And no doubt the 250,000 or 300,000 visitors who are going to visit White Mountain Smith's Petrified Forest next year will be tickled pink to hear that they can see his very interesting archaeological material on display at Mesa Verde which is only a couple of hundred miles off their road as they go east, and can see the very interesting geological display of the district at the Grand Canyon which is not more than 70 miles off their road as they go west, but it wouldn't be at all fitting to have them right here on the ground where the visitors would expect to see them; I don't know why it wouldn't but that seems to be the decision of the Berkeley Boys.

L.

Chief, I don't know much about this Southwest country, - not half what I'd like to know,- and I don't know much about visitors, for they are always springing a new angle on me, but I do know that all this talk about duplicating museum collections is bunk. They are afraid that a visitor going from one museum to another, a day or two apart, and finding three or four charts and three or four tables of figures and a few pieces of pottery from surrounding cultures to be used in talks to point out likenesses or differences, will recognize these things and say that the museums are alike; and they are wrong as they well can be. If they trust to labels to get these things over, the visitor won't read both sets and I will take an even bet that he won't read either of them, and if your man talks about them, the two men can talk so differently that the visitor will listen open mouthed to both of them or if they are poor talkers he won't listen to either of them.

I have never understood why Mesa Verde won't guide its visitors through the museum and talk to them. It could do it because it only has ten visitors per day per ranger on the average, and there wouldn't be any comparison between the reaction on the visitor, labels just simply don't get across; they are only better than nothing at all. You don't have to be an Educational Division man to see this. You put a string of beads and a cremation burial and a stone axe and a couple of other things in a glass case and label them to your heart's content and count the average stop per person before that case. Then I can go up there and begin talking to them about these things and tell them all the little details about making beads and axes and what they were used for an why and I will bet I can hold them on the average twenty times as long as your labels. And they can go on up to Jack's place at the Montezuma castle and he can do exactly the same stunt tomorrow with another bunch of beads and axes and cloth, because he is a different man talking about some other Indians in a different way. So long as you mix good men in with your museums, the public will take them one after the other, but if you try to palm off a couple of hundred labels on them in lieu of some service, your visitors are likely to go stale.

And after all, this paper is built upon the supposition that there is a material overlapping of visitors at various monuments. Now, before we ship the cream of our archaeological stuff up to Mesa Verde, I want some facts on the number of these visitors who visit a 'string' of our monuments. Mesa Verde uses one of its rangers to stop visitors at the front gate and ask them a lot of questions. Have these Berkeley Boys ever suggested getting an actual count on 4,000 or 5,000 of the Mesa Verde visitors and finding how many 'string' visitors there are among them and what monuments they have visited last year? Such figures would give us something solid to bite on. In the meantime let us not adopt this Mesa Verde Master Plan based on what might afterward prove to be some bad guessing.

When it comes to guessing, let me do a little of it. I guess that not to exceed 5% of the 21,000 visitors at Casa Grande last year had visited Mesa Verde that year or the preceeding one, - let us say, roughly, 1,000 of them. Now what right would we have to tell 20,000 of those visitors

that we have sent some of our finest material up to Mesa Verde and so they cannot see it here, nor can we refer in our museum to comparative pieces of pottery from other districts of the Southwest, nor can we give them any but the barest idea of the general story of mankind; all because it might be duplication for that other five per cent? Does that really appeal to you as being good sense? 20,000 people can't hear and see things here because for one thousand it might be duplication.

Of the 16,000 people who visited Mesa Verde last year probably 10% also visited the Petrified Forest,- let's go strong and call it 2,000. And so White Mountain Smith, according to this paper, must not play up the archaeological angle of the Petrified Forest at all because out of his 225,000 visitors less than one percent would have seen some archaeological stuff at Mesa Verde. Does that sound like good sense?

What's the matter with these Educational boys that they can't plan a string of a dozen museums all different enough to keep the visitor interested in each one as he comes to it? Do they consider a museum such a deadly tiresome thing that if a visitor gets out of one alive he never wants to go to another? Our Monument museums are not that bad and we who have built them up just run museums as a side line to half a dozen other jobs; surely an expert educational man oughtto do as well as these dumb ones who are running the monuments.

As I think these things all over, Chief, I don't believe I am going to like this Mesa Verde Master Museum plan and I may later ask leave to rise and remark about it. Let's give this plan to the funny papers and start at this problem right by getting some figures together. Don't let them guess us out of the kind of a museum we think our visitors want to see. We handle visitors by the hundred thousand and we have been handling them for a good many years. Being pretty dumb ourselves, maybe we can guess pretty close to what a dumb visitor wants to see.

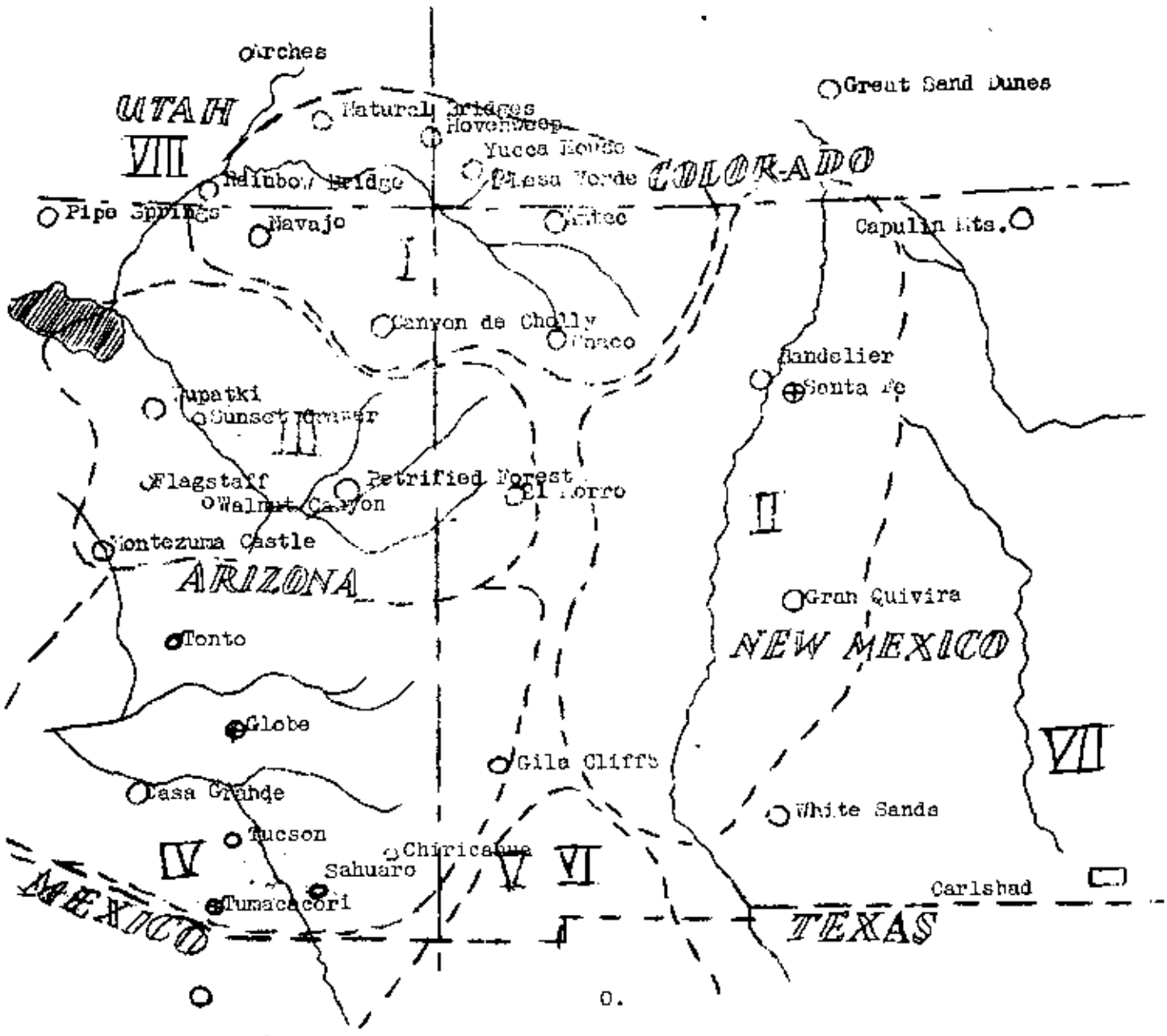
And, speaking of museums, I am reminded to say that we have been having a great time at Casa Grande this last month with the greatly enlarged collection. It has brought us to the point where we are fighting the 'museum fatigue' problem on pottery and, thus far, have not found the answer. You can see the interest drop before you have covered the subject and then of course you begin skipping and shortening up and get the visitors out into the next room where the beads and shell ornaments and stone tools make a complete break in the line of thought and you can see your party revive quiet down and again become intensely interested.

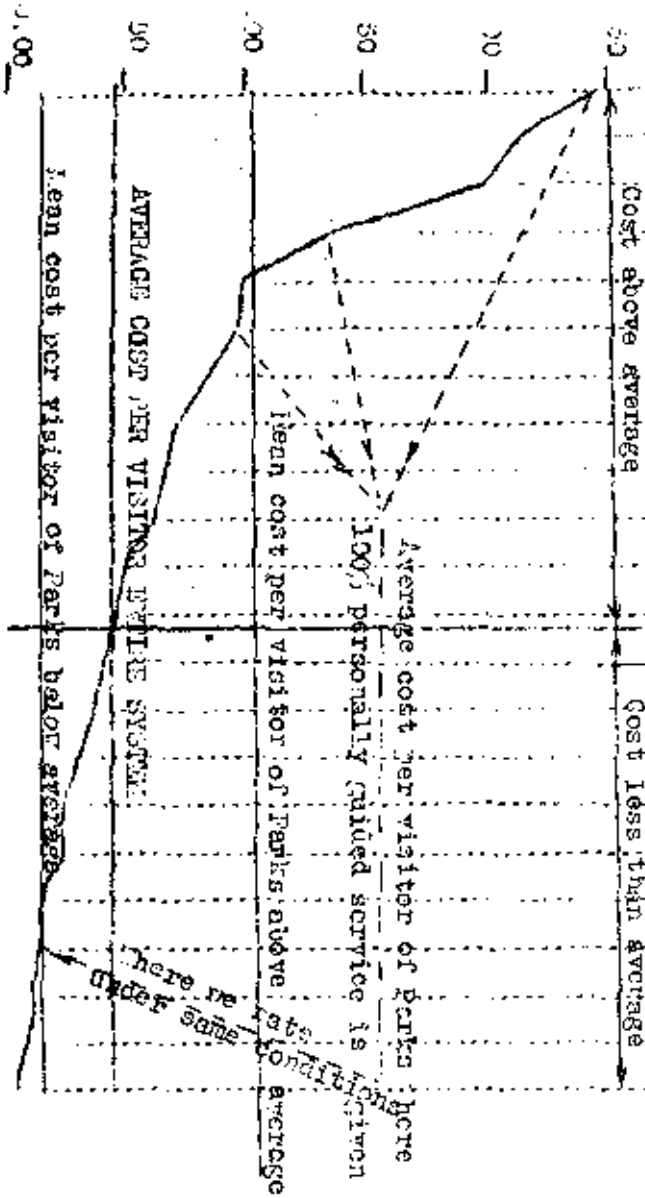
There is, of course, a way to get that mass of pottery over and all we have to do is to have patience and keep plugging; eventually one of the boys will get the solution. Mr. Palmer sprung a new trick during the month which has helped materially. He proposed what we now call an 'Index Case.' This case contains a few of pieces of each of our pottery periods, characteristic in shapes and decorations, arranged from the bottom to the top in time periods, and gives a chance to put the whole problem before the visitor as an index and then turn to the rest of the room for the general talk.

We show below the map which goes with the Schellbach paper which we have mentioned above. The map shows, among other things, how near Mesa Verde is to the center of the Southwest field and puts a delicate point on the statement made about displaying the Chihuahua Culture, which is in Area VI on and across the Mexican Border, up at Mesa Verde, which is only about 400 miles away across four other cultural areas.

The map shows most of our Southwest Monuments, the parks, and the following areas:

I- San Juan Major sub-area.
II- Rio Grande Major sub-area.
III- Little Colorado Major sub-area.
IV- Gila-Salt Major sub-area.
V- Mimbres Major sub-area.
VI- Chihuahua Major sub-area.
VII- Eastern Peripheral area.
VIII- Western Peripheral Area.





Mesa Verde	16,185	$37,760	$2.45
Yellowstone	161,938	348,490	2.15
Glacier	76,715	151,660	1.97
Wind Cave	10,460	14,020	1.34
Grand Canyon	105,475	102,400	.97
Carlsbad	53,768	52,330	.97
Yosemite	296,088	250,070	.84
Zion	48,763	35,940	.73
Sequoia	126,464	86,700	.68
Mt.Rainier	170,104	107,730	.63
Crater Lake	96,512	48,190	.49
Lassen	45,577	20,860	.45
Hot Springs	151,638	64,330	.42
Grand Teton	42,500	15,620	.37
Bryce Canyon	32,878	10,490	.31
Rocky Mt.	291,934	73,370	.25
General Grant	50,081	11,750	.23
Acadia	262,712	41,470	.15
National Monuments	589,116	82,760	.14
Hawaii	273,690	35,350	.12
Platt	220,606	19,150	.08
Great Smokies	375,000	22,270	.05

COST PER VISITOR AT VARIOUS UNITS.

If you divide the number of visitors for the Park Year 1933, which are the last figures available, into the amount of money appropriated for the Fiscal Year 1933, which are also the latest figures available, you get what we call above the cost per visitor, and those figures put together in the above table make some fairly interesting comparisons.

On the right half of the above table will be found in the first column the name of the park; in the second column the number of its visitors last year, and; in the next column, the amount appropriated for its Administration, Protection and Maintenance for next year. The fourth column is the result of dividing the figures of the second into the third and is called the 'cost per visitor.

On the left half of the table the cost per visitor at the various units is shown graphically.

The table will become more interesting as you study it.

F.

HOW IN THE WORLD DO YOU GOVERNMENT MEN SPEND YOUR TIME ?

Your sign out on the highway says visitors are not received after five o'clock and at five-thirty, while you are cleaning up your desk and getting ready to knock off, a couple of visitors cheerfully come in and announce that they are a trifle late but want to look around anyway. You take them around for an hour and find they are very pleasant people. You get to your supper at 6:45 when you were expected at 6:00. At 7:20 a man with a Dutch accent comes to your door and wants to camp on your picnic ground for the night, so you go out and take down the chain and let him and his wife drive back under the trees where they will sleep in their car which is arranged for that purpose. This means these folks will be on deck at the stroke of eight in the morning to be shown around and the service must be there for them. You make a note of that in your mind and go back to your pleasant home to read. At eight o'clock three high school boys knock and ask permission to hold a moonlight picnic on your camp-ground, assuring you they are properly supervised and will not get too noisy. You give the permission and they are off on the run to tell the rest of the gang that it is all right.

ANOTHER DAY.

You step out after supper to do an errand at the next house and notice a man and woman coming around the Administration Building looking for some one in charge. They prove to be out-of-state people who have been misdirected this afternoon by a dumb cluck in a Chamber of Commerce 60 miles away and have driven 40 unnecessary miles to get to your place. They are west bound and cannot come back tomorrow and would like for you to show them around 'just a little bit.' You do so and at 8:10 they thank you profusely after the man has tried to pay you for your time which you have given them, and depart on their way to California.

ANOTHER DAY.

For very good reasons only two men are available for duty today and they have to split the noon shift, leaving only one man on the job. As soon as his partner leaves a party arrives and the man on duty takes them over to the ruins. A well known man, who drops in about three times a year and always asks the boss to leave his desk and take his party around, then arrives at 12:20 or thereabouts, finds the Administration Building locked until the guide gets back with his party, writes a cutting note on the register page about the lack of service, and promptly departs, - the party in the ruins seeing the arrival and departure is evidence that the visitor could have seen the guide and his party and joined them if he wished.

The Custodian afterward writes the man a letter explaining that there was only one man on duty at that time and he was in the ruins; that if the gentleman would come back when two or more men were on duty he could get immediate service, otherwise he might have to wait ten or fifteen minutes. The reply was a curt letter saying the service was not good and no excuse would stand.

ANOTHER DAY.

It is Sunday night and you have been on duty from eight in the mor-

ning until a quarter of six and are now trying to get closed up.

A man and wife arrive with some dozen youngsters of high school age and explain that it is a history class which has been out on a two day week end trip and have been so busy that they just couldn't get to your Monument any sooner and they know they are late but can't you spend just a little time showing them around yet tonight? You decide to take a chance on them and spend the next hour and twenty minutes talking to them. You find them pretty nice folks except for two members of the Hand Holders' Union who persist in talking to each other in a steady low monotone for the last thirty minutes, forcing you to pitch your voice a bit higher than you want to after a days' talking and exert yourself to hold the rest of the party against the distraction, whereas if the two Hand Holders would walk out on you and do their cooing outside, you could hold the attention of the rest with no trouble at all. Finally, a little after seven, they bid you goodnight. The man tries to pay you for the extra service and you have to explain that you don't do business that way,- that it was your pleasure to present him and his party with an hour and a half of your time and he can't pay anybody for it. Then he takes your name in his note-book and will mention it in the paper tomorrow as having shown them around, and you can feel all filled with pride at getting so much publicity, - and sit down to your dinner over an hour late. WHAT IS THE ANSWER ?

ANOTHER DAY.

A fellow you know comes along about six-twenty and calls you from your dinner to ask if he can take some young people over around the ruins. He has been delayed by business until the hour is late and he doesn't want to take you from your dinner but he would like to take his folks over through the ruins. You rather regretfully give him permission, remembering this is about the third time he has pulled this same stunt in the last year and feeling certain in your bones that the garbled second hand talk that he will give them about your ruins will forever preclude their getting an adequate idea of what it is all about. Should you; (1) get up from the table and go out and take care of the party properly, or; (2) tell him to beat it and come back some time in regular hours when you can give him and his party real service, or; (3) let him do as he asks and, after spilling nine gallons of misinformation to his party, go away with the sublime belief that he knows as much and can talk a little better about your ruins than you can yourself., WHAT IS THE ANSWER ?

C.W.A. RULES.

The State C.W.A. officials in Arizona have caused us a good deal of amusement by demanding a vendor's certificate with each and every voucher. They returned a voucher for team hire to headquarters demanding a certificate before they would pass it. 'Bud. sent it back to Jackson with the following note: "Regarding Item 1, I am at a loss to understand just how and why anyone is going to certify as to the manufacture of these mules in the United States and of American materials, and of compliance with N.R.A. code concerning mules. Perhaps Mr. Combs who owns them may be willing to make such certification. The mules obviously could not. The parents of the mules, if highly educated, might be able to do so. In

this connection it is pointed out that such certification must be made by the mother, it not being legal for the father to testify as to the parentage of the offspring. Rules being noted for obstinacy, not to mention obstreperousness, I suggest that Mr. Coombs be prevailed upon to execute the Vendor's Certificate."

In the due process of time the voucher with an attached Vendor's Certificate was returned to headquarters, and we were quite surprised to find that, like the late Silas Wegg, Mr. Jackson or some one for him, had "dropped into poetry" to the following extent:

Old Vern (M) and Sal (F)
Old Kitt (F) and Pal (M)
Work with regularity,
To think they do not earn their pay
Would be rank vulgarity.
Now that they have been introduced
I shall that they were manufactured & produced
In this good old U.S.A.
According to the N.R.A.
Now that the contractor complies
To see that material and supplies
Are approved by the code of competition
For the trade or industry or subdivision,
These old mules are not concerned,
If they get their oats, the tax be durned!

This rule that they will not pass a voucher without a Vendor's Certificate has its foolish phases. We issued some gasoline from our tank at headquarters to a car belonging to another monument and had to put through a voucher transferring the charge on the books. The gasoline had come into the Government possession of course under a Vendor's Certificate and we tried to explain that it didn't need another to transfer it to another place in the possession of the Government, but they made us swear that we were complying with the code in the matter of working not over thirty hours a week, etc. before they would accept the voucher for payment.

The latest stunt the State has pulled on us is to refuse to accept the $300 exemption because Mr. Hopkins has not yet ordered them to change the instructions in the little book under which they operate. We have the Presidential Order and the exemption has been passed in the law by Congress, but we must continue to get competition on small amounts because the little book of instructions has not yet been changed. It means that we are going to have to send a flock of vouchers back into the field if we can't get the State C.W.A. to admit that the President and Congress meant what they said when they told us we didn't have to get bids up to the sum of $300.

We wrote Hosteen John Wetherill saying we thought he ought to have a first aid kit and asking his opinion on it. Here is his reply:

"Send your first aid along if you think we need it. We have some cough syrup, Mercurochrome, Aspirin, Zinc Ointment, Liniment, Vick's Salve, Iodine, Zinc Oxide, Adhesive Plaster, Plaster Paris Bandages, Gauze, and some more stuff that I don't know how to spell.

If the kit contains snake remedies, send it along as I think we could use it, though we have no snakes.

In regard to the report required by the Washington Office, Mr. Hayden says the work can be done in two years at $3,500 per year. We have four weeks to do it in and we will do our dardest to get the report out. We have had the typewriter going every minute that we could spare since yesterday morning copying the catalogue numbers. I will need two more typewriters to get the work done by the 19th of April. It takes most of the Archaeologists about ten years to get out a little pamphlet. You see what we are up against."

Just to keep the record straight on that snake bite outfit, we are thinking of sending along a couple of snakes.

OFFICE ORDER NO. 265.

MUSEUM PLANNING.

The staff at the Berkeley Office of the Western Field Headquarters has recently been enlarged so that that Office is equipped to offer the Park Superintendents greater assistance in their museum problems.

Most parks do not yet have a well studied, long time program of museum development. The museum staff at the Berkeley headquarters is now prepared to give museum problems expert attention and offer assistance in the field.

A museum plan should be a definite part of the Master Plan for the development of each Park, and it is desired immediately to develop this phase of the Master Plan to its proper proportion.

As provided in Office Order No. 228, the Master Plan requires that a development outline for museums be prepared by the Park Superintendent. The development outline for museums is a statement detailing the scope of the museum program. It should include a listing of the existing facilities with a description in particular as to their relation to the ultimate plan (whether they are temporary and will be replaced, or if they are to be a part of the ultimate scheme). In addition it should include a statement of proposed facilities which are required to bring the physical development up to the requirements of the general museum program. This development outline is the basis on which the development plan is based. In brief, it is a statement of the museum problem for that particular park.

When the development outlines are completed the Berkely Office of the Educational Branch will collaborate with the Branch of Plans and Design, San Francisco, in preparing the museum development plan. These plans will then be circulated for approval before they are included in the Master Plan for the Development of the Park.

It is expected that preliminary sketches for museum buildings for the future projects will be developed. The requirements of these buildings will be tentatively drawn up by the park superintendents, with the assistance of their naturalist staffs, and sent to the Berkeley Office for detailed study by the museum headquarters staff. At this stage problems in museum circulation, scope of exhibits, arrangement of exhibits, etc. should enter into consideration. When suitable to the museum staff and the superintendents the tentative layout will be sent to the Branch of Plans and Design for preparation of preliminary sketches. In the development of

the latter, members of the headquarters museum staff will be called into consultation.

At the Berkeley headquarters are also several well-equipped museum laboratories, and a large staff of museum preparators (under E.C.W. and C.W.A.) are engaged in making charts, diagrams, labels, relief models, miniature and full sized groups, and other exhibits for existing and planned museums. Park Superintendents should submit to the Berkeley Office a list of exhibits most desired, together with details regarding their construction.

Correspondence to the Berkeley Office should be addressed to Division of Education and Forestry, National Park Service, 333 Hilgard Hall, Berkeley, California, and a carbon copy should be sent to the Director to keep the Washington Office advised.

PLEASE ACKNOWLEDGE RECEIPT OF THIS ORDER.

(Signed) Arno B. Cammerer,
Director.

Chief, I have received a sufficient number of copies of this Office Order No. 285 to send one to each of the Southwestern Monument men, so, I suppose, they can see how the park museums under the park superintendents are going to be benefitted by the Berkeley Office staff. It is very interesting to us and we only wish that the writer could have included the 67 National Monuments of our Service in the plan as well as the couple of dozen National Parks. Maybe a future Office Order is planned which will include Custodians and Monuments in this scheme. If so we wish you would ask the boys to get it out.

We ought not to close this Supplement without thanking Walt. Attwell's brother for the artistic cover page, representing one of our new babies, the grotesque stone formations of the Chiricahua National Monument. We had five of these babies delivered on our doorstep in one letter last week, and only Ansel Hall knows how proud we feel. Old Hi-Ball himself drew the maps and plans and things in the periods of rest between arriving from a field trip at 3:00 a.m. and going to work at 8:00, for all of which we render due thanks.

And as we put the last few keys, Harry Langley comes in to urge us to enlarge the fish ponds at Pipe and to unload a new bale of woe on our desk. Who ever invented Landscapers and Engineers, anyway?

The Boss

SOUTHWESTERN MONUMENTS

MONTHLY REPORT

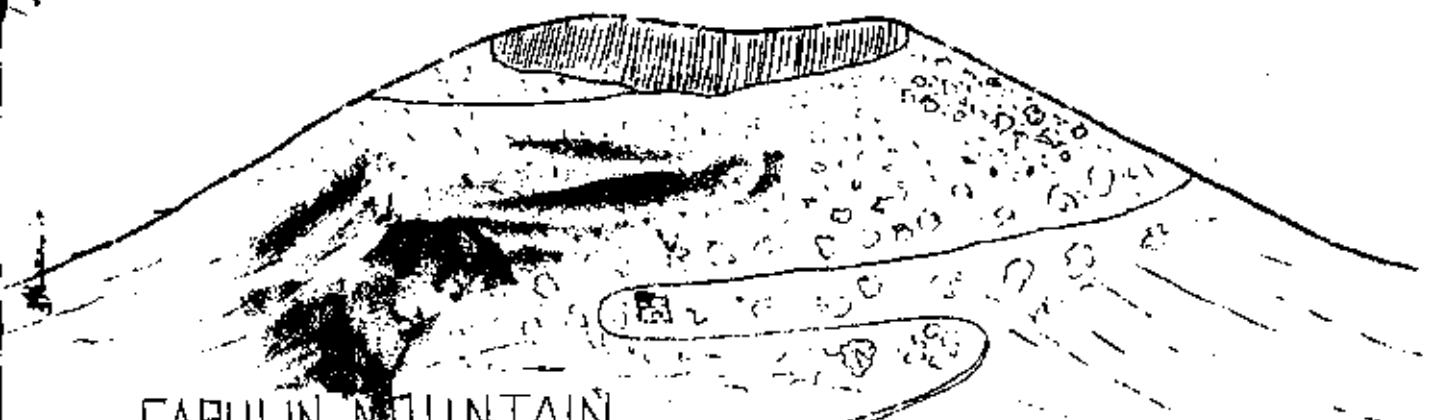
APRIL 1934

CAPULIN MOUNTAIN NATIONAL MONUMENT

CREATED BY

PRESIDENTIAL PROCLAMATION

AUGUST 9, 1916



CAPULIN MOUNTAIN

CAPULIN MOUNTAIN NATIONAL MONUMENT

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

SOUTHWESTERN MONUMENTS

MONTHLY REPORT
MARCH, 1934

Introduction ----1

Aztec----------25
Bandelier---------- 13
Capulin---------- 20
Casa Grande-------- 28
Chaco Canyon------- 8
El Morro ---------- 1
Gila Cliff -------- 30
Gran Quivira ------ 8
Montezuma Castle -- 23
Natural Bridges --- 21
The Big Parade ---- 33
Navajo---------- 31
Pipe Springs---------- 11
Saguaro---------- 30
Sunset Crater--------- 30
Tonto---------- 30
Tumacacori---------- 10
Walnut Canyon -------- 30
White Sands ---------- 10
Wupatki ---------- 17
Engineer Attwell ----- 31
Comments ---------- 35

Petrified Forest Following page 35

THE SUPPLEMENT

Navajo Indian History & C W A Work by John Wetherill ---- A
A Word from the Wintons ---------- E
Exploring the Tunnel at Pipe Springs ---------- F
Comments on Master Museum ---------- H
Southwest Archeology field as a Series of Specialized Subdivisions ---------- I
White Sands again in Print ---------- K
Twig Girdlers ---------- L
Archeology Find at Aztec ---------- M
Letter of Appreciation ---------- N
Serching for a Better Word ---------- O
Roads Signs a Blessing ---------- P
Grand Larceny at Capulin ---------- P

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
SOUTHWESTERN MONUMENTS

Coolidge Arizona, May 1, 1934.

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

Dear Mr. Director:

As the time has now come to report on our activities for the month of April, we feel in future years we will remember this month as the "End of the Civil Works" much in the same way as our Navajos who still refer to their slow march from Canyon de Chelly to Fort Sumner, or Bosque Redondo, New Mexico, in the early days, as "The Big Walk". It will require several weeks, however, for completing the important matters of final reports, cleaning up outstanding vouchers and obligations, and in other ways closing the books, and looking back in perspective at what has been accomplished.

Several of our monuments with Public Works allowances are already getting their work well under way. Accounts of progress in these projects will be found under the individual reports of Aztec Ruins, Chaco Canyon and Casa Grande.

The past winter has been remarkable in that the various Civil Works projects were held up very little because of inclement weather. Reports from the regions of New Mexico and northern Arizona give us encouragement as to general conditions on the range. How well these fine prospects for grass and range will hold out as Spring and Summer come on, remain to be seen. There has been a decided dearth of precipitation in the form of rain and snow during the winter. A few rains during the Spring and Summer, however, may tide us over until Fall better than we're expecting.

Summer travel will be making itself felt in our northern monuments during the coming month. With the let down of all of this rush of Civil Works, we want the boys at all of the monuments to meet this rising number of visitors with the same old brand of good service.

The reports from the field follow, beginning with some of the old time news from El Morro:

EL MORRO NATIONAL MONUMENT: E. Z. Vogt, Custodian.

"The past month has seen the closing of the C.W.A. Program at

El Morro. Up to the last minute there was the same hum of doing things which the men showed here from the very start.

"We had to make careful desisions on what we should do and what to drop. The great fill in front of the water cove is finished and planted; the 265 steps are carved up and over the great cliff with little left to he done; the fence and cattleguard are completed; the box canyon is cleaned of brush; the erosion control dams are done; a great quantity of building rock has been hauled and nicely stacked like cords of wood for future use; and the archeological party is winding up its study of the dead. Obviously, the loose ends were the clean-up at our entrance of concrete bags, brush used as camp protection by our workers, and odds and ends here and there. During the last three days I put three men and a team in the Box Canyon and they finished the Indian Well which was discovered during the program. It was dug deep, lined with galvanized iron culvert-end below and built up with stones, with steps leading down for those who want to drink. The whole well was drained against damage by flood.

"Travel has increased this month, now that danger of storms is over. But the greatest increase we had was on the day of the Ramah P. T. A., a complimentary picnic to the teachers of McKinley Countey. On this April 14, by 11:00 o'clock, people began arriving and by noon there were between 125 and 150 persons there, including teachers and their friends.

"On the day before the affair, the P.T.A. of Ramah turned over to me 20 lbs. of pinto beans, two pounds of "jamon salado", or salt pork, 20 pounds of fresh beef, a string of chili, 4 lbs. of coffee, flour, baking powder, lard, salt and sugar. From the Spanish American workers we had employed during the winter we selected two of the old-time sheep herders who had spent more time in sheep camps than they had with their families. They, being experienced camp cooks, built great fires in the center of a cleared circle 15 feet in diameter, to avoid grass fires, and put the beans to boil on the live coals which soon accumulated. After nightfall underground cooking holes 8 feet wide and 2 feet deep were linedwith hot coals and the beans in 50 lb lard cans were carefully lowered into the holes and completely covered with the coals. Just before covering for the night, salt pork, nicely diced in cubes, was added so that the seasoning progressed as they cooked all night. The chili was made by hand-kneaded chili from the ristra and added to the fried meat. Coffee was made in two 50 gallon cans.

"We then arranged convenient planks raised table high for the cream, milk, cakes and for the eating utensils. At 12 o'clock,

EL MORRO, CONTD.
Eugene Lambson, President of the P. T. A., called the crowd together to see the beans dug out of their steaming hole. Many, though westerners for many years, had never seen how we cook while we sleep in sheep and cow camps of the Frontier. They were intensely interested, and became more so when the beans were uncovered and they smelled their fine aroma.

"In a few minutes all passed along, cafeteria style, and were served with generous helpings of beans, chili, potato salad, coffee and hot rools which we kept warm on great stones 2 feet by 4 feet long under which we had placed live coals. These warming stones also kept the chili and coffee warm after they were taken off the fire.

"Two men were busy all the while turning out hot tortillas from their Dutch ovens. It was useless to try to keep up with the rate at which they ate the hot bread but both Andres Gurule and Esteben Chavez gave them all a chance to see how it was done and they were given many a chance to eat the hot bread which were preferred to the nice rolls from Ramah. It is surprising how many people do not know what a Dutch oven is. They think that they are either the out-door cooking ovens one sees in Spanish or Indian villages or they think they are the de-horned type of iron kettles without a flanged lid sold on the market

"After a hearty meal which was cooked and served at the foot of the saddle trail up the north face of El Morro in the Rincon de Encino(Oak Cove), a short program was held with School Principal Sainsbury in charge. Mrs. Reat, the County Superintendent of Schools, spoke; "Fair New Mexico" was sung by the crowd, and I was introduced for an historical line-up on the old story of El Morro. We then proceeded, the entire group meantime having been augmented by the teachers from the Indian Schools at Zuni, led by Superintendent Trotter, and some more teachers from Fort Wingate, up the trail to the ruins, then across and along the carved steps to the great south rim. The wind, meanwhile, had come up, and developed into the strongest gale I have ever faced. Many were alarmed; children of whom there were very few, had to cling to heavier persons to avoid being blown off the cliff. Going down the east face into the shelter of the coves was a great relief, however, all realized that they had taken part in an unusual adventure something of a thrill which comes to few lives in their ordinary course. I was impressed with the attention shown as I explained the old Inscriptions and the absorbing interest they took in the monument. I feel that we made many friends that day of people who had been to El Morro but perhaps who had never been up over the cliff and had never been prepared by that journey for the Indian and Spanish story.

"That wind meant something for in the next three days we had almost incessant rain which practically filled our water reservoir

and put more moisture in the ground than any rain I have ever seen at this time of year. Travel became all but impossible owing to deep mud.

"I have had time since the close of our program to pencil afresh that old inscription on the south face and give it a careful coating of Dri-wall. It is always somewhat alarming to paint those hallowed old inscriptions with parafin paint for at first the inscription and the rock around it is so changed looking. But in a few hours the parafin preservative sinks into the sandstone and dries off so that a natural appearance is given.

"While tracing the Don Juan Onate Inscription, the oldest one dated 1606, I thought of the discrepancy there in the date since Onate passed really in 1605, and want to change the 6 to a 5, but even though the line is very faint, perhaps, as you say, we should not tamper with any date which we know has stood as 1606 since Lieutenant Simpson first saw the Inscription in 1849 and so read and copied it in his book.

"Tommy Williamson who missed some of his time while working under the program has been making up his time at the Rock by concreting the tops of a few weak steps, irrigating our transplanted trees in the Rincon, building some trail and helping out with the visitors. I am exceedingly glad to have him there, for despite the fact that we thought the agitation of homesteader farmers for the use of the water in the cove had stopped, I find there are several who threaten to trespass and get water anyway. We will not permit this at all since in getting the water they would drive over our planted fill and cause fresh erosion but someone must be there until this difficulty subsides. Under the FERA I have noted that farmers can develop water on their own places and pay for the work and expense with labor on their places. Being a close friend of Homer Powers who is heading the FERA up for the State, I am trying to bring about the development of waters on the very farms of those folks though they do not realize that this project is in mind for them. This will relieve the feeling that they should continue to be permitted to haul house and stock water from our Monument. They contend, but I think wrongly, that we will have more water than we can use in our reservoir and that it will run over and cause erosion in our fill. But, we are already irrigating our trees from the reservoir and plan to siphon more of it right along to insure the growth of what we have planted.

"The most startling thing I have to tell you is that we are actually and truly getting a road to El Morro from Gallup. As the

EL MORRO CONTD.

result of the three days I spent with Mr. Glen Macey, State Highway Engineer, during which time we visited Crownpoint, Pueblo Bonito, Aztec, the new Aztec-Gubernador-Chama Road, then back through Farmington, Gallup, Ramah and El Morro, I have been asked to serve as Acting Engineer of one month's work which Mr. Macey is paying for through State funds. I have less than $1,000 to spend for 58 miles of road but we are making the dirt fly with the borrowed Caterpillar-60 and grader from McKinley County equipment. After blading off the road from Gallup to Ramah we set new blades on the grader and now have the machinery already throwing up the grade over a straightened course which I staked out to the northwest corner of the Department of Commerce landing field 3 miles west of El Morro where we take up the course of the State Highway Survey made last winter.

"By liberal use of telephone and car I have been able to get $500 worth of Navajo labor through Mr. S. F. Stacher, Indian Agent of Crownpoint who sent his engineer, Mr, Rust, over to set some Navajos to work with fresnos and teams to make fills, plow a few difficult places and place culverts. Mr. Baldowski, who has charge of the Beacon Lights and airports of the Department of Commerce, has agreed to furnish some cement and is wiring to get permission to pay for the $175 worth of gas and oil which the tractor will eat in two weeks. If I can effect that saving I can get more done with the grader. Mr. Trotter of the Zuni Agency has promised to grade up, drain and fix the bridges on the Reservation and to maintain the road after this is done over that 20 miles of road. After we get the road built to El Morro we will transfer the machinery between the north line of the Reservation and Gallup where we will put in two weeks in grading up and placing the 20 culverts which have laid there beside the road for three years.

"This is the first experience I have had in engineering a road and I hope to give a good account and get the maximum done so that when Mr. Macey comes out to see the work that he may empower us to go on east of El Morro and finish the 12 miles of road to connect up with the finished Forest Service andd CCC road which comes out 30 miles from Grants.

"The authorizationto do this road work, a thing we have been working and praying for for many years, came over our newly installed telephone, the first phone ever erected south of Ramah and the first call over the new phone.

"I have been trying to decide what it was that so interested Mr. Macy and softened his heart. It was either the fine meal we had with

EL MORRO CONTD

Custodian Julian at Pueblo Bonito or the meals that he had here at our house. At Pueblo Bonito Mr. J. B. Hamilton, Assistant Engineer, met us with Mr. Julian and we went over the course of the road through Chaco Canyon and was very willing to cooperate in building as Mr. Hamilton, Mr. Julian and Mr. Richey would like the road. The great ruins there were newly impressive and Chetro Ketl sent a spell up our spines which I never will forget. Leaving Chaco, we took the fine road Mr. Julian improved so effectively with his CWA group and at Aztec we made a visit long enough to see what Johnwill Faris had done and discoveres. Very attractive changes have been made at Aztec and the finds are most interesting.

"County CWA Inspector C. W. Garrett visited our monument and went over our projects in detail and was given a supply of pictures to illustrate his report. He said that his El Morro portion would be the most interesting in the entire county. Soon after he left, I had a wire from State CWA Engineer Howard asking for photographs such as he had seen in Miss Reeves' office so I am supplying him photos for the State report. I am now working on my combined report of the CWA work and hope to have it in your hands by the 1st.

"The carved El Morro signs made in oak plank with vermillion lettering following the Gov. Nieto style of letters carved on the cliff, were hung on April 12, both at Grants and at Gallup. Oak uprights 14 feet long, brought from the Zuni Mountains, with a cross bar support mortised in and braced by attractive structural iron work, support the signs which are about 4 by 3 in size. They are very attractive but unfortunately they cannot be read. The vermillion coloring in the letters carved on the dark oak does not show up at all . And so far as our work being successful in the way of a directional sign is concerned, it is a failure. This can be remedied however by employing more contrasting colors and I am hoping Mr. Richey will soon come and suggest the right thing to do to make our signs effective. The sign at Gallup was set in concrete but the one at Grants is set but temporarily and will be changed and set in concrete as soon as the road changes there are decided and finished.

"A fresh cowhide of a steer, stolen and butchered, was found just west of our monument in a rattle snake den which I often visit to study the snakes. It is a very little known place but some Navajos looked down in the lava hole about 10 feet deep and found the hide. The brand and ears were cut off to obliterate sign of ownership and the hide hidden there where it was unlikely to be found. I have been working with the Cattle Inspector on the quiet trying to locate the thieves who apparently took the beef to Grants and sold it. So far the owner of the beef has not been located.

EL MORRO CONTD

"On the 21st, five hours behind their schedule and after I had waited all afternoon at the Ice Cave for them, Chief Engineer Kittredge and Assistant Engineer Hamilton arrived at my home. I had given them up. They were delayed by bad luck and mountain roads. Mr. Hamilton showed Mr. Kittredge the Ice Cave as well as the inscriptions and erosion and fills at El Morro, and even took him over our carved trail. We were glad to see them but regretted that we did not contact them as planned and Mrs. Vogt was somewhat put out because they had to eat the left-overs of the supper when they arrived.

"That evening, we discussed further work at El Morro and we decided we would try to get further work under FERA set-up. A program is now being prepared for you which we hope you will agree with and be able to put through our State Administration. Mr. Hamilton, who is especially adept at figuring out costs of projects, is working out the details and will send them on in within a few days.

"Since the CWA crewshas gone I find birds and wild life increasing and becoming much more evident. Our fence is practically rabbit-proof but we have evidently enclosed some rabbitts when we closed this fence, for I see quite a few.

"We hope when you come to give us a"vuelta" that you will be able to travel a new road and a good one, the building of which is now engrossing me in addition to my other work. With kind regards, Como siempre, E.Z. Vogt."

Thus endeth a report from "Easy" Vogt that is one that makes history. If you have glanced through "Easy's" account of cooking beans 'a la cow-camp' style, beginning page 2, next to last paragraph, turn back and re-read it. Here's an account of something reflecting the spirit of the Old West.

Hosteen John Wetherill, whose general report begins on page A of the Supplement to this report, also describes some episodes having to do with the Navajos and when John speaks on Navajos, it's worth the attentive ear of anybody seeking reliable, first-hand knowledge about Indians. John is the fellow who springs "Witchcraft" on us as the latest of a thousand problems in CWA that have faced us at one time or the other. I here make notice of Hosteen John's report together with Vogt's for John was down here at Headquarters a few days ago and may not get back in time to produce a report for this section.

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

"Dear Boss:-As report time has rolled around again, I'll see what has happened that might interest you. First of all, I am somewhat discouraged as to the visitor outlook. This month we show a decrease compared with the previous month and with the same month last year. I find I have registered only 207 visitors entering the monument in 47 cars, during the past month.

"Although the visitors were less in number than usual, I cannot say that they were less interested in the Monument, nor were they less easy to entertain. Our list shows several distinguished visitors among whom we find Mr. EdmundB. Rogers, Superintendent of Rocky Mountain National Park, under date of April 11; Mr. Lewis T. McKinney, formerly of the Carlsbad Caverns, registered April 14; and Mr. F. A. Kittredge, Chief Engineer and W. G. Attwell, Associate Engineer, April 18, both of whom were very much interested in the future development of our monument.

"We have had another month of beautiful weather here except for the past week which has been cloudy a great deal of the time and very threatening of rain. We failed to get the rain which is very badly needed here. The farmers haven't enough moisture for planting and enough rain to make the grass come out wouldn't be objected to by stockmen. This past week of cloudy weather is probably one of the factors responsible for the drop in visitors who feared to get off of the main thoroughfares.

"Our CWA program wound up here April 5 leaving us with some unfinished road and the parking area uncompleted. Although the parking area is incomplete, it will accommodate the public and will answer the greater part of our need until such time as it can be completed. Also the road is finished as to grading but the lower portion that had been left unsurfaced is rather bad and there is some minor work to be done all along such as the roll and shouldering it out. But in its present condition, it is much better than it was prior to this work and it would be but a small matter to finish it now. I am greatly elated over this as it will give the monument an appearance of a well kept institution as well as afford a needed accommodation for the public. Also, think of the many distressed people who were helped through all of this program! All in all, Boss, I feel that it has been a great thing. Sincerely yours, W. H. Smith." And here ends a short but good report from Mr. Smith. With a swivel chair and a stenographer to dictate to, W. H. might well have given us a few more pages.

--

CHACO CANYON NATIONAL MONUMENT HURST R. JULIAN, Custodian.

"This report is being written at the Superintendent's Office at Coolidge, Arizona, and consequently without the aid of the notes

which are taken throughout the month, the information from the register, and other necessary data, which go into the making of a monthly report. The number of visitors and the states represented must be left for the May report. However, a general summary of the events of the month will be given from memory.

"The C.W.A. Program is finished with the exception of the monthly report which is almost completed. The P.W.A. Boundary Fencing Project is in operation with four men working. Little fencing will be done, however, as there are but a few hundred dollars in this fund, and the most of it will be expended in all probability in the getting ready for the actual construction of the fence. The right-of-way for the fence is being cleared and the lines are marked so that as little difficulty as possible will be experienced by the construction crews.

"Mr. Kittredge and Mr. Hamilton were at the Chaco Sunday the 22nd and gave the C.W.A. projects their final inspection. They were both very much interested in the fencing plans and the results of the experiments on wall capping which were mentioned in the report fot last month. Plans were considered for arresting the gradual movement of the four-story north wall of Pueblo Bonito which was also reported last month. No douht, they will make recommendations on these important matters in the immedhate future.

"While making plans for the fencing of the monument, a trip was made to the Mesa Fahada by Louie Kirk and myself. Like practically everyone who has seen the unusual butte, our curiosity was aroused to the extent that we paused to speculate upon the much discussed problem of exploring its summit. Many conflicting stories have been told, some to the effect that the ascent was possible while other seasoned and experienced climbers were positive that no person had ever been able to scale it. I have known of a number of unsuccessful attempts having been made to reach the top, and had planned my own assault upon several occasions but had never had the opportunity to make the attempt.

"Mr. Kirk and myself decided to do a bit of exploring for ourselves. We circled the base and after two attempts, managed to climb up through a crack on the west side and reach the lower bench. Here we found a broken piece of board which told us that we were not the first to get to the half-way point.

"Being unable to get higher, we explored this bench and discovered the ruins of a small Kiva. Working our way around the mesa from left to right we reached the east side where we discovered the ruins of a few houses, and the remaining portion of the board. Someone had carried the plank along with them and, placing it against the cliff, had evidently climbed the board. We were able to get to the

next level without using the board, and by a route considered less dangerous.

"From this level we scrambled to the next and discovered the names of two Spanish-American sheepherders. Finally, reaching the top we found another piece of board which seemed to have been broken from the one previously mentioned, but there was a name on it which was recognized by Mr, Kirk as being that of a cowboy who had been working for Richard Wetherill at the time Mr. Wetherill was killed by an Indian.

"In a sheltered spot we found three names carved in the stone; Richard Wetherill, A. Hrdlicka, and Matteson(if my memory serves me correctly);-the date, 1899. There was also a more recent undated name, that of a local person. Wetherill and Matteson were early explorers and Indian traders, and it is my opinion that the A. Hrdlicka was the great anthropologist with whom we are all familar.

"The next day we made a water-proof box and put a small pad, with a pencil attached, in it. With the aid of a clothes-line we got the box to the top of the mesa. A few lines were written in the pad explaining the significance of the inscribed names and an appeal was made to future climbers to respect this spot and preserve its archeological and natural features for those who might have the temerity to follow in their footsteps.

"While inspecting the boundary survey and making plans for the proposed fencing, a small but excellently preserved cliff dwelling was discovered. Sheep herders had carved their names in several places on the ruins and a particularly attractive stone threshold had been carved and cut in several places. Perhaps before another month has passed we will have a box with a register in it for these ruins.

"Mr. Harold Harkness of Farmington, N.Mex., made a valuable contribution to our museum collection. He was doing the engineering work on a project near Shiprock, and happened upon an Indian workman tearing a human body from the earth. To the Indian, this body was just a "quantity" that must be removed, but to Mr. Harkness it was a museum specimen. Mr. Harkness relieved the workmen at this particular place but was unable to save the buckskin sack in which the body had been buried. However, nearby was another burial that seems to have had peculiar characteristics. The body was folded up and placed in a striped cloth container. The cloth was evidently of cotton. It seems as though the head had been removed, the abdomen opened, and the head placed in a cradle made from the skin of the abdominal cavity. If this observation is correct,

possibly there may be some scientific interest in the find."

--

The account about climbing to the top of this mesa reminds us of the many times stories come out about the "first to scale this, and that mountain". Mr. Julian points out Hrdlicka's name, believed to be that of the famous anthropologist, who reached the top in 1899. Many of our areas 'never seen by white man' have, in many instances, been quite thoroughly looked over by geologists of the United States Geological Survey. Makes us think the cry of adventurers of the future will be "Oh, for new mountains to scale for the first time, and new areas to discover!"

--

PIPE SPRING NATIONAL MONUMENT: Leonard Heaton, Acting Custodian.

"Dear Boss: Another month has flown by and reports will be due your office in a few days from your many national monuments, so here comes my contribution for April.

"I plan to make two records of the travel this tourist season; one for the tourists who come to see the Fort on their Park to Park and Monument to Monument visits; the other will be just the count of the local travel without segregating as to states. This month showed a good increase in visitors out to see the monument.

"Record No. I
(Visitors to the Fort)
N. P. S.-------- 4
Arizona---------37
Utah------------31
California------11
Colorado-------- 3
TOTAL-----------87

Record No. 2
(Local Travel)
Total for month------617

TOTAL RECORD NO.I------ 87
" " No.II-----617

MONTH TRAVEL TOTAL----704

"On April 2nd, Old Man Winter paid us a visit, staying until April 4th. With him he brought snow, hail, rain and frost enough to kill most of the fruit and the first of the leaves to come out. There was more snow on the ground on April 3rd than we have had at any one time during the past winter. The Weather Man repented of his doings on the 2nd and 3rd by giving us a very good rain on April 16th and 17th, and warm days that surely brought out the green leaves and early Spring flowers.

"About the question of water: I have been wondering whether anything is going to be done about it this year ? Mr. Langley, Mr. Cowell and I agreed that the best place for the division box would be on the west end of the pools. This will give us a head so we can get the water to the upper end of the camp ground for irrigation of the trees and to any other place below the Fort.

PIPE SPRING CONTD

I have heard many times this winter and spring about the Indian Service buying three miles of 4-inch piping to carry off the Reservation the 1/3 of the water allotted to the cattlemen and that it would be only a week or so until it was here. The local Indian Agent says the pipe will be in by May 15th and that they will have an Engineer in at that time to install the division. It's none of my business, I suppose, but I can't help saying that a lot of needless money will be spent in getting a 4-inch pipe to carry the stockmen's 1/3 of the water when the whole 3/3 can get through a 2-inch pipe without cramping it in the least. I have tested it several times just to see if the water needed a larger pipe to carry it. I have placed the 2" pipe in the rock ditch just below the spring and hardly the tops of the pipe was covered by the water backing up before it could all get through the pipe.

"The outlet from the pools is a 3" cast iron pipe which will carry the water to the bottom of the division box that is being designed by Engineer Cowell. I am still of the opinion that I will have some trouble in keeping the meadow watered with just 1/3 of the water running all of the time without using the flood system of irrigation. However, I shall do the very best I can.

"There has been a bit of excitment among the stockmen these past two months. It seems that a gang of cattle thieves that had been working in this section for the past few years got drunk sometime in February and began to accuse each other of cheating one-another. This lead one of their gang to squeal on the bunch to the officers. This in turn has lead to the arrest of 7 men with 3 to 6 charges against them. The officers reported that the remains of beef that had been stolen were found in several places and estimated that about 75 beef had been killed by these men. We hope justice can be given such men if they are in that kind of business.

"On April 9th, a nine pound boy arrived here to help with the monument work. Mrs. Heaton and the baby are getting along just fine.

"About all that is left to be added to this report is that on April 29th, I sent in the last CWA report that has been called for up to date; at least this is the last report I know of. My only hope is that there have been no great mistakes made in the administration of the C.W.A. at Pipe Spring National Monument. Sincerely yours, Leonard Heaton, Acting Custodian."

--

Well, reading that third paragraph above of Leonard's makes one admit "The West is still wild". Vogt around El Morro seems to have had some of the same kind of excitement.

On Sunday April 29th, Leonard's monument made the first page of the Arizona Republic in an article written by our good friend Harvey L. Mott. A fine article of more than a complete column composed by Mott on the occasion of the visit of the "Friendly Survey of Arizona" at Pipe Spring.

BANDELIER NATIONAL MONUMENT: M. O. Evenstad, Acting Custodian

"Dear Boss:- Another month has somehow slipped by and report time is here again. The travel this month totaled 440. Our Sunday travel is fast increasing, a good deal of it coming from local sources, consisting mostly of people who know how to spend a Sunday to good advantage. There's always a fair sprinkling of out-of-state cars, however. Couriercars arrive almost daily, sometimes several in one day. The road certainly contributes to make a trip here more enjoyable on account of eliminating the need for the coming in on the wearisome foot trail.

"As yet, we are not organized to handle travel properly. Up to this time, the Acting Custodian's time has been pretty well taken up with procurement and other duties in connection with the two programs we have had, namely, E.C.W. and C.W.A. However, the termination of the E.C.W. program with the prospect of getting a man for the E.C.W. procurement, it is hoped that we soon can give the public some attention.

"I have a plan, which, if approved, would give us some control of the traffic as soon as cars enter the Canyon floor. On account of having the camp here, I have made an arrangement to have a man of the C.C.C. personnel always on duty at the office for the purpose of answering fire calls, over the phone. This man will be on the job all through the fire season. I desire to have a temporary office building located some little distance below the C.C.C. camp, where all traffic entering the Canyon must pass. At present, our office is located on one of the public utility operator's cabins near the hotel. This temporary office building will serve as office, telephone central, and checking station combined. The C.C.C. man referred to would be able to take care of registering visitors, handing out publicity pamphlets, keeping the grounds clean, and attending to other duties which would allow me to give more time to actual educational contacts to the public in the way of field trips. This arrangement would give us an accurate count of visitors and would enable us to keep traffic under better control. If I judge correctly, the coming season will be the biggest in travel that the monument has ever had.

"As you already know, the C.C.C. Camp will be continued here during the coming summer. The third enrollment period commenced April 1st, the second period having automatically terminated on March 31st. This might be a good time to briefly summarize some of the more important accomplishments since Camp N.M.-1 came into existence last fall: We had a number of projects on the program, some of them small and some of them rather large. By far the largest project was the building of a road leading into the Frijoles Canyon from the end of the road up on the mesa. This road is 2½ miles long, built to standard width of 22 feet, and from a point where the road begins to drop off into the Canyon, the roadway runs almost solidly through the commonly called tufa rock. The original E.C.W. Program

contemplated a 12 foot wide truck trail; with the inauguration of the C.W.A. Program we were able to get the roadway widened to standard 22 foot ###### width. The road is now practically completed so far as the actual construction is concerned, with about half its distance landscaped on shoulders and slopes. The widening of the road from the 12 foot truck trail standard to the 22 foot width must be credited entirely to the C.W.A. Program and makes the road a real highway. As a safety factor the wider road is very important, especially along the cliff side where the road drops off into the Canyon. A 12 foot road there would have been far from safe, especially for people not familar with the road. The maximum grade is along this part and is only 8%. We are rather proud of this road both from its appearance and its utility and the fact that it gives the public a way of getting into the Canyon without resorting to the wearisome walk up and down the foot trail.

"Another project completed was a 6,500 foot pipe line, for furnishing the various utilities in the Canyon with a handy and plentiful supply of water. The line is of 2-inch pipe, bought with E.C.W. funds; the labor was practically all done by C.W.A. workers. This was accomplished in a comparatively short period of time, and insured the C.C.C. Camp, hotel and ranger station with a good supply of water free from any chance of contamination.

"About 1 mile of trail was reconstructed leading to the Upper and Lower Falls of El Rito de los Frijoles. About one half mile of new trail was built above the Ceremonial Cave. Renovation of the ranger cabin was started and is still under way at this time.

"Although there were certain drawbacks in the working out of the C.W.A. Program, mostly due to the lack of time in preparing for it, the fact remains that the inauguration of this emergency program enabled us to accomplish much. Projects were completed that would have taken years to bring about in the ordinary manner, and at the same time giving people a means of a living throughout the winter. The Chairman of the C.W.A. Committee for this county told me, about a month after we had started our C.W.A. work here, that our program at Bandelier had absorbed practically all of their relief cases; that this work had solved a real problem of relief for their county. I only hope that these people will be able to pick up necessary work from other sources. Our program officially ended on April 19. With very few exceptions, the men proved to be good and willing workers and seemed happy of the thought of working for a living and not having to resort to asking for relief. I think we got a return of 100 cents on every dollar that we spent for C.W.A. labor at this monument this winter.

"Many of the projects that we had programmed were not even begun and these and others have been made a part of our summer program. The most important of these are trail-building, ruins repair and

BANDELIER CONTD:

and fencing certain areas of the Monument. The end of the enrollment period on March 31st reduced the camp personnel through automatic expiration of enrollments, to a little more than one-half of the normal strength. Re-enrollments during the month has brought the company strength up into the neighborhood of 190 men.

"Several improvements have been made lately for the recreation of the men. An educational director is now a part of the camp's personnel. An old field, near the camp, was converted into a baseball diamond, leveling it off with grader drawn by a tractor. The boys built up a good ball team, and there will probably be several teams organized in the camp. Several good games have been played with teams from neighboring towns. Two tennis courts are being built on the camps grounds, one to be a clay court, the other to be coated with asphalt. The New Mexico State Highway Department donated the oiled material for the latter.

"The weather has continued quite dry throughout the month. No time was lost on account of weather. Several little showers came up, but nothing that looked like a good rain, which is something which the country badly needs. However, there have been local showers reported in several places, which were badly needed, especially on grazing lands. Several showers have fallen in Santa Fe and immediate vicinity, but a general rain is what we are still looking for.

"Several Park Service officials have visited the Monument since the last report was sent in. Ben H. Thompson of the Wild Life Division visited here on March 27 and 28. In company with Lyle Bennett of the Landscape Division, we spent the entire day of March 28th on an exploration hike up the mesa with a view of getting some glimpses of some wild life. Three deer were seen, as well as several signs of turkeys. We found where Alamo Canyon was a place for the nesting of a species of duck hawk, or falcon. There werenumerous tracks of domestic stock, and I was still more impressed with the necessity of having some of the monument boundaries fenced. I discussed with Mr. Thompson several phases of the Wild Life situation, including the question of the re-introduction of beaver. This question has also been informally discussed with the State Game Commission.

"Mr. Kittredge, Chief Engineer with Associate Engineer Attwell spent a part of two days here last week, making certain inspections of some of the projects under way or completed. They left for Capulin afteer which Mr. Attwell returned for a stay of several days, leaving yesterday.

"While Paul Reiter, archeologist at the monument this winter

BANDELIER CONTD

under C.W.A., and the acting custodian were away making a study of Tsankawi Ruins on the detached portion of Bandelier, we found where Mr. Edmund B. Rogers, Superintendent of Rocky Mountain National Park had made the monument a short visit during our absence. I am sorry to have missed meeting him on his visit here.

"We have lined up a pretty large program for the coming season and we hope to accomplish many things that we were unable to, during the short 4½ months constituting the first camp period at this monument. Sincerely yours, M.O. Evenstad, Acting Custodian."

"P.S. I was certainly glad to find out that we were back in the National Park Service again. This ONPHER did not have the right sound somehow, and made you feel that you had lost something when they took out the "National Park Service". Anyway, as Miss Story said, we will not have to change our "NPS" uniform insignias."

Bandelier has suddenly become of age in problems of administration with the completion of the new road bringing people to the floor of the Canyon. Formerly, people found it necessary to leave their cars on the Canyon rim and walk down the 1/2 mile trail, a thing that automatically prevented about 1/2 to 3/5 from getting into the Canyon. Too, people could be met at the one point at the foot of the trail and taken, or directed, to the various ruins. With this road, a whole set of new problems have come up for this summer including (1) automobile traffic; (2) thousands more visitors than ever before; (3) longer times visitors can spend in the Canyon which will mean a tendency for them to scatter more generally over trails in all directions; (4) increased fire dangers; (5) greater problems in camp site, parking area and utility cleanups; (6) greater problem of vandalism to ruins, and many others. Bandelier could, from the start this summer, keep a personnel of from three to four or five as busy as any three or more people anywhere in the parks and monuments of the Service.

TUMACACORI NATIONAL MONUMENT: George L. Boundey, Custodian.

"Visitors for the month total 899. Because of winter visitors returning to their homes, our numbers have dropped considerably. Regular summer weather seems to be coming and the winter wheat is beginning to turn yellow, ready for threshing.

"I think the work started here under C.W.A. will be completed under FERA. The county officials in Nogales say that they will furnish the men if we can handle the supplies necessary in carrying out the project. I think we have everything necessary on hand except some straw for adobes and team hire for hauling of sand and gravel, and etc.

TUMACACORI CONTD.

"We have had the usual number of artists painting at the Mission this Spring and Winter and some very good canvasses have been turned out. New York parties are going to put in a number of sightseeing busses for use on the Border and running into Mexico. They say it will be possible to take in the Kino Chain of Missions during a single trip out of Tucson.

"Chief Clerk Miller and wife of the Headquarters at Casa Grande National Monument paid us a short visit one Sunday. Mr. Kittredge, Chief Engineer, and Engineer Attwell , both of the San Francisco Office, paid us a short visit last Saturday Afternoon. It was my day off, and I'm sorry I did not see them.

"Neighbors in the vicinity are very anxious to have a power line come down the highway in front of the Mission. They seem to think that if we were to go after it, they would surely get it. I told the power line officials how much we would like their power, and then sicked them onto the Boss; I hope he doesn't hold any grudge against me.

"The Sonora Pigeons are here in force but for the first time since I have been on the Border they have not paired and gone to nesting. They still hold in large flocks and the mating calls are not heard. Sincerely, George."

WUPATKI NATIONAL MONUMENT Dr. H. S. Colton, Custodian.

"The C.W.A. Projects at the Citadel and Wupatki ended with a bang on April 12. The two camps were dismantled and the ruins abandoned to the Navajos and to the tourists. How much of the good work will remain in a few months is a subject for speculation. At Wupatki, the building built by the Museum of Northern Arizona for a Mess Hall and kitchen was left and locked. It it was stored lumber and cement left over from the Projects; we pray daily for a ranger before it is too late !

"The day before the work at Wupatki ended a tragedy occurred. One of the boys antiquing the beams burned the roof off Room No. 44. This room had been restored last summer by the Museum of Northern Arizona. Mr. J. W. Brewer, Jr., and Jim Kiwanwytewa of the Museum, after the C.W.A. Project ended, spent three days putting on a new roof. In using a smudge the fire should be in a perforated can, or better, the roof should be antiqued before assembled.

"Mr. Dale S. King, Mr. J.C. Fisher Motz, and Mr. J.W. Brewer, Jr., spent from the 12th to the 21st, at their own expense, working

WUPATKI CONTD.

on their reports. The Museum has employed Mr. Milton Snow, who was photographer on the C.W.A. Project, to prepare the photographs for the Kiet Siel, Nalakihu (Citadel) and Wupatki reports. Mr. J. W. Brewer, Jr., will assemble the material for the reports for both the Wupatki Monument Projects. It is almost as hard work to get out the reports as to do the work and no provision has been made to handle the costs on Monuments without an appropriation.

"Now that the C.W.A. has ended we can look back at a lot of good work accomplished, not as much, however, as we expected. The restoration and preservation of the sites took much more time than we anticipated that it would. The supervisory staff was inexperienced in this work and the laborers employed on this job had to be trained. Much was learned by the method of trial and error. A few Hopis could have done the work in half the time and made even a better job. In fact they usually make so good a job that it is impossible to tell the reconstructed from the original. Notwithstanding all the work accomplished there is still room for more research at Wupatki, and the excavation at Nalakihu proves that the excavation of the Citadel, Tewalanki, will bring rich rewards.

"The day before the work stopped at Wupatki and Nalakihu the sites were visited by Chief Engineer Kittredge, and Mr. Attwell. We were glad of this visit as the ruins were cleaned up, paths built, and everything was in shape to be abandoned the next day by the work crews.

"Please, Doss, get us a Ranger quick! --Harold S. Colton."

--

A great amount of fine work has been done at Wupatki which not only makes the ruins there more interesting and accessible to visitors but which will preserve them. Everything now has such fine appearance in that there is little or no evidence of vandalism. Under present conditions, free from vandalism, these ruins are worth immeasurably more than they'll be if they lay unprotected for any length of time. We are striving to get one of the temporary positions established for Wupatki beginning this summer. With the ruins in their present fine shape for showing to visitors, protection should begin at once.

In a great many places in the Southwest, vandalism has run riot to such an extent we would not want to set these places aside after they have been so scarred and marred.

--

WHITE SANDS NATIONAL MONUMENT: Tom Charles, Custodian.

"Of all the times in the world, this is the poorest for a report. We are just closing down a 104 man C.W.A. Project on which all the

tools were borrowed. There is a brace and bit to be returned here, a cross-cut saw there and a fresno on top of the mountain. Bill Smith has failed to sign a voucher for $1.01 and has now moved out of the country, and one of the workmen has not returned the shovel that he used out on the project. It is queer that no one seems to be interested in these minor details as I; guess that is because I am the one who has to face Walt Attwell if these things do not check out right.

"I can at least say that the job is over. The eight miles of road into the heart of the sands has been "roughed in". Hundreds of automobiles drive in to the turn around every Sunday and it is with no little delight that we are able to report that these visitors come back with expressions of amazement at the splendor of the Sands.

"It was our good fortune this month to have three distinguished visitors. Our own Mr. Frank Kittredge of San Francisco; Frank C. Pooler, Regional Forester for New Mexico and Arizona and Edwin Minteer, Editor of the World's News, a daily newspaper in El Paso. The unqualified approval of this new monument as of major importance by all three of these men, means a great deal to us. We have almost daily evidence that we were not wrong in our recent development. The old settlers who have lived here for years are now driving out into the heart of the big alabaster sand dunes and saying; "Well, I've known these sands for 60 years but have never seen them before."

"On Easter Sunday we had 750 visitors; the next Sunday 300; the next 350. On April 29 we expect our record-breaking day. The Alamogordo Chamber of Commerce is putting on a Coming Out Party for this young lady in white. They are featuring an Old Settlers Picnic. Judge A. B. Fall is to be one of the principal speakers. Judge Fall has always been friendly to the White Sands National Monument and his many old time friends and neighbors are delighted that he has consented to speak to them on this occasion. The Falls have been residents of this section ever since 1882. George Coe, the last remaining buddy of Billy the Kid will tell of his friendship for that well-known character of the early Southwest. Several other prominent men of this section will speak and two bands will furnish music for the Moonlight picnic. This "blushing blonde" is due for a real party at her debut.

"The new road is not a model from the engineer's viewpoint. Our dump foreman was drawn from the relief roll and instead of being on the payroll at $6.00 for six hours, as he should have been, he drew $6.00 a week. After working his allotted 15 hours we had to get another foreman from the charity crew. We tried to draw the most likely. Poor fellows; they had only four men and a team of mules to spread over 400 yards of clay in six hours. Is it any wonder that

WHITE SANDS CONTD

the Chief (Kittredge) could still detect where the five yard trucks dumped by the swell on the road and where the little ones dumped by the low places ?

"However, from Mr. Harry Hopkins viewpoint this project worked to perfection. If an old man was physically unable to load his ten yards of clay a day, his big husky buddy made up the deficiency. There was no labor trouble, no dissatisfaction, and not an accident in over 20,000 hours of work.

"Just now the Chamber of Commerce wants to know if they may have an airplane to take up passengers at the White Sands at the Coming Out Party; Bill Robinson, Dean of the New Mexico Press, rushes in with the word that over 1,000 automobiles will be at the party and that we must have a liberal group of the State Motor Patrol here to handle the crowd. This is no time for a report ! , Sincerely yours, Tom Charles."

CAPULIN MOUNTAIN NATIONAL MONUMENT: Homer Farr, Custodian.

Homer has a thing or two to say to Tom Charles in the last paragraph or two of this letter, so it is being placed just following the White Sands report. Also the fellow, Howard Stewart, Engineer, who swiped 1,000 feet of Homer's mountain sits right here in reaching distance in Headquarters Office as the report is being typed. We can give Homer a little consolation on what might have become of his thousand feet of Capulin't summit; Ask an Engineer to tell you the square root of 4; I've heard some will take a slide rule and say 1.98. Carrying this far enough, Stewart says he might possibly be able to give you back 100 feet of it .

"Dear Mr. Pinkley: I am happy to submit the following report for this Monument for the month of April. The weather has been mostly dry with some wind, and a few light showers strictly local in character.

"Approximately 500 visitors came to the monument this month. Several schools have held their picnics, annual affairs, on the Monument this month. Bulgaria was well represented with almost all of the population of Sofia as welcome visitors. By Sofia, here, I do not mean the Capital of Bulgaria; I mean to convey the fact that this is a small village in northeast New Mexico inhabited principally by Bulgarians and whose town is named after their native land capital.

"The 12th of this month marked the end of our C.W.A. Program for this monument and I will state that this work has worked wonders for

CAPULIN CONTD

our monument. We have built roads, trails, public out-of-door fireplaces, improved camp grounds, erected new signs, and accomplished many other things much needed for the monument. Our one strong prayer is for a game fence, more deer and elk, and a good water supply.

"Among special visitors, we have had Mr. and Mrs. Howard Stewart and their daughter Helen, who left us on the 20th but who probably will return soon. Howard has not finished the boundary survey as yet and we hope he gets to that before long. On the 20th we were honored by Chief Engineer F. A. Kittredge and his assistant, W.G. Attwell of the San Francisco Office. Mr. Kittredge pointed out that we needed this road wider on the Volcano and made notes of the desired furthering of the width and probably some good will be worked out by the San Francisco Office. Certainly a fine fellow, this Kittredge, no fun, all business but quite congenial.

"I wish that boy that took the thousand feet off the top of Mt. Capulin would return it. We could get along very well without that extra thousand feet but I am inclined to think that he took our view-finder with it. The latter might in some waynhelp us to locate the former item in this paragraph. No Tom; I never did believe you got this ! You are absolutely exonerated of it all; Miss Franzen told me about your birds.

"An effort will be made to interest some bone hunters since the cave has been discovered and a few items found in and near the cave. Recently the writer found a very large stone hatchet about two hundred yards just west of the cave.

"Game and Fence:- We have between five and seven deer on our Monument here all of the time and we have 680.37 acres area. With the new insistence of the National Park Service in Washington with reference to game in parks, we should make every effort toreintroduce into this monument at least a half dozen elk and about 25 deer. This could be done and this monument will support this amount nicely with a well and water tank and fence to keep out the cattle and sheep. The game should be kept inside; every acre of this Monument is natural habitat for both deer and elk. Homer Farr, Custodian."

From away up Natural Bridges we get one of those letters from Zeke that comes in once in a while:

NATURAL BRIDGES NATIONAL MONUMENT: Zeke Johnson, Custodian.

"Dear Frank: In answer to yours of April 19th I am glad to tell you that we are still working on the road. We have about $3,000 left to

work out. They stopped the work for 10 days during the change from C.W.A. to F.E.R.A.. Slow progress is being made owing to the heavy construction where we are working, some rock cuts being 10 feet or more, and fills are as much as 12 feet. So we will complete but a few miles with the little amount given for the project. We hope for more when this money is gone.

"The U.S. Bureau has sent an engineer and crew to survey the road as far as the Bridges and it sounds like something is brewing. toward the completion of the road although we have no assurance that is the case. I have put in every day on the road, but you know C.W.A. wages are very small so I have made but very little; very thankful though for what I have made and I am thrilled over the prospects of the completion of the road on to the Bridges. However, it may take a couple of years to complete it.

"In answer to your letter of 22nd, I will say, yes, you had better start me on June 1st as I don't think the road work will keep me after that date and already many cars are going out to the Bridges and the country looks lovely and green.

"I have put a man in my place for 12 days. I came to Salt Lake City today, and Saturday the 26th, I start out on a 10 day trip with Dr. Pack and his Geology Class of 16 students. We will arrive at the Bridges Sunday, stay two days, then go on to Monument Valley and to the South Rim of Grand Canyon. We will then go to North Rim from there and to Zion National Park and Bryce, and finally home. I expect to return to Blanding May 10th and continue my road work until June 1st.

"Now Frank, I am looking for some help and I was just a little surprised at your last letter. I thought sure I would have June for the month that was held back last October. I'm having a hard time living on such small amounts

"I just received a letter from Mr. A. E. Demaray asking me to report on what houses I have rented out to other employees and I am telling him that I haven't even a tent for myself. I used to make some money with saddle horses and pack mules, but nothing doing now for over three years. The trip I am making now with Dr. Pack makes very little for as you know, students now are not very flush with money.

"Will you please advise me of any changes that have, or will be made, in the general routine of business. Please send me some pay-slips and instructions on how to fill out, and some plain sheets to

NATURAL BRIDGES CONTD:

go with letter heads. Now, Frank, I want to do all in my power to interest people who come to the Bridges, but I still think I am entitled to a little more help on my trails, and a cabin to live in. All best wishes for you and yours, As Ever, Zeke Johnson."

This was only a letter and not a formal report of Zeke's. It came in this morning. We'll get out a reply to his several questions soon.

MONTEZUMA CASTLE NATIONAL MONUMENT: M. L. Jackson, Custodian

"Dear Pink: We have had 1335 visitors for the past month, which, I am sorry to say, is 15% less than for the same month of last year. I cannot account for this falling off in numbers. Visitors are registered from 22 states and 5 foriegn countries. The four highest states in order were: Arizona, California, Texas and New York. The states and countries represented were:

Arizona	Kansas	Oklahoma
Arkansas	Massachusetts	Texas
California	Michigan	Utah
Colorado	Minnesota	Wisconsin
Connecticut	Nevada	Washington, D.C.
Georgia	New Jersey	
Illinois	New Mexico	Canada
Indiana	New York	Mexico
Iowa	Ohio	England
		Japan

"Judging from the amount of correspondence I am getting from out of state people asking for information about the Castle and other points of interest, it would appear that the policy of the administration-"make 1934 a National Park Year" - is working out. Which reminds me that I have never seen nor heard anything else about the curly headed stenographer I mentioned to you some time back.

"Our long, dry spell was broken by a good rain about the middle of the month, thanks to a rain dance the Apaches held near Camp Verde, and was the cause of much rejoicing in the district. It was a well-behaved rain, hence there was little damage to roads.

"Chief Engineer Kittredge and Associate Engineer Walt Attwell were in to see us on the 12th. It was Mr. Kittredge's first visit to the monument since I have been here. Walt, oc course, has been working with us for some time, and if he doesn't show up quite often we have to send for him to straighten us out on our engineering

MONTEZUMA CASTLE CONTD.

problems. By the way; in the event the revetment wall is put in we hope you send Walt in to do the job. I am still convinced that he can move more dirt than any other living human. Needless to say, we enjoyed Mr. Kittredge's visit, and since he has broken the ice, we hope he will come more often.

"One engineering problem we have here, and on which I would like to ask for a sitting of all available engineers, is this: How to show all the artifacts that were found here in the recent excavation in our 12 x 18 foot museum which is already full. We have some dandy new specimens, about which many visitors ask, so we are tackling a fourth dimensional problem of making two material objects occupy the same space at the same time.

"Since the C.W.A. Project has drawn to a close we feel that we can be ourselves once more and devote our time to the visitors. While we are grateful for what the C.W.A. did, we are glad it is finished, as our busy season is approaching and we will have plenty to do without any construction on hand.

"The busy season must be at hand, for all evidence points to the presence of Spring in the air. My wife has already located several dozen places where she would like to plant a flower or a cactus; our old friend, the Roadrunner, is back on the job fighting his reflection in the basement window glass and making his usual trips along the rock wall looking for lizards; a great many song birds are in evidence, and some are nesting in the sycamores directly in front of the museum; and last, but not least, I notice a great many young couples who come in are holding hands. It must be Spring ! Cordially yours, Jackson."

--

On a recent field trip through northern Arizona national monuments and Grand Canyon National Park, mention was made that visitors comment on the neatness and well kept appearance of parking area, rest rooms and other facilities at Montezuma Castle. It was again proof that the visiting public does take notice of, and appreciate, these conveniences the Government provides for them, and shows our efforts in maintaining them bring returns in friendliness for our service. We often at Casa Grande have people especially mention their appreciation for the facilities furnished and the fine condition in which they are kept. We would keep these things up in fine order without these responses, but it does give us incentive to work a little harder and polish the fixtures a little brighter when people take the trouble to compliment us on what we're doing. These items of neatness and orderliness of premises are good things for us all to take note of as the tide of travel begins to sharply rise in our northern monuments of our district.

AZTEC RUINS NATIONAL MONUMENT: Johnwill Faris, Custodian.

"Dear Boss:-Visitors for the month total 579. More sections of the country are represented than one would expect at this time of year. Last Sunday at one time I observed cars on the parking ground from Rhode Island, Massachusetts, Wyoming, Pennsylvania, etc. However, Colorado and New Mexico still furnish the majority. Our week day visitors, while not many in number, just come at the right intervals to keep one man busy all of the time. Mr. Tatman has been supervising excavations encountered in our drain ditch and the clearing of debris for wall repair. At times he has been the only qualified man available for visitors and has given hours to this when he should be on hand at work points.

"Mr. Thompson is unable to show visitors through and I have found it difficult to give the required time to any party. We were forced to hire a young man whom we will use as general handyman and who will supervise and protect our museum collection. We want you to supply our summer guide at once so we can keep up the finest brand of service to our visitors and still not have to neglect our program of work.

"We bid a fond adieu to Civil Works on April 12th, and despite of annoyances we blame C.W.A. for, we hated to see it pass. Of course some disagreeable problems came up but in general the program was highly free from friction. We express our appreciation to both the Washington Office and the Secretaries for the allotments on Aztec Ruins which were badly needed by the community.

"The archeological reconnaissance party enabled us to restore all artifacts in our museum and this restoration has taken place in such manner that authorities on pottery repair say their visits to several museums have yet to reveal a standard of repair the equal of ours. Under this heading also comes our museum indexing, which due to a number of circumstances is authentic beyond all expectation. I should explain this situation; very few museums in indexing have at their command or ever can contact personally the archeologist who actually excavated probably 75% of the artifacts. Mr. Earl H. Morris, through the courtesy of the Carnegie Institution, has been loaned to the Park Service for ruins repair at both Aztec Ruins and Mesa Verde. Mr. Morris, having excavated the portion of Aztec Ruins so far unearthed, has graciously consented to check each card and with the aid of his field notes taken during actual excavation, give us the location and description of the pottery encountered. We are trying hard to make the very best of this fine opportunity and consequently our indexing may be somewhat slow, but we feel it is essential and of prime importance. This project has been most pleasant and agreeable. It has given the

custodian a far broader understanding of our museum collection and many of the circumstances under which the materials were found would probably have not been called to my attention had it not been for this C.W.A. Work.

"All projects, in addition to this archeological work, have had a direct influence for the good on our Monument proper. The fence is very pleasant in appearance, but more important has been the removal of numerous cross fences which once dotted our unit. Our administrative area is surrounded by a two foot cement wall which is striking as one approaches our Monument and at the entrance a very inviting gateway has been designed by our landscape department. Second and third time visitors can hardly visualize the change which has taken place under C.W.A. and many pass remarks about how wonderfully the program has benefited the ruins.

"In addition to our C.W.A. programs we have carried some laborers under Public Works and are employing thirty-two individuals on our P.W.A. Program. The majority of our work has been centered on a drain ditch to eradicate seepage from our court yard and thus protect subterranean channels and kivas. Mr. Kittredge, his assistant Mr. Hamilton, Earl Morris and I, decided on the grounds to extend this drain to a length of approximately 350 feet longer and this work is continued to accomplish this end. While on the subject of drain ditch I might mention a near catastrophe which occurred on April 11th at which time one of our workmen was buried completely. Only the immediate action and good judgement of fellow workers enabled us to get the man out alive. We were probably an hour completely freeing him and with the exception of a few minor bruises and shattered nerves, he was not hurt at all. His glasses were broken and a pair of rubber boots cut up, but other than that, all was well. A report was sent in immediately to our injury clerk with the necessary papers accompanying it. The man is working daily and we are profiting by the experience as a result of this accident.

"I might mention that investigations were made to determine the cause. While I, as custodian, am probably responsible for not realizing possibility of an existing fault we are unanimously convinced that a team and scraper which were removing dirt from the surface as it was being shoveled from the trench, caused undue strain on a prehistoric subterranean wall which gave way, allowing the dirt to slide in and cover the man. The trench, as we passed through this section, did not disclose this wall but when the cave in occurred, very definite trace could be made of the wall at the point where the cave started. Realizing this possibility, we are now eliminating every possibility of future occurrence.

"On April 16th [illegible] arrived from Boulder, Colorado and preparations were immediately started for our ruins repair. The

AZTEC CONTD.

Great Kiva is at the present time being cleaned out, unsafe walls torn down, and new walls being placed in their stead. Our major wall repair is being centered on our north wall along the museum rooms. It is quite surprising that this wall is in as bad condition as we found it. The accumulation of debris of centuries past, we felt, would give it protection and it would be in need of very minor repairs. This, however, was not true, and our north wall is probably the worst wall encountered. An old stone mason with years of experience in laying old ruins walls has been secured, and with the assistance of several other masons this work is progressing quite rapidly and efficiently. The reconstruction is most pleasing and we are setting all stone along this particular wall in cement to add to its durability since probably no other wall is more essential than that bordering our present museum rooms.

"Plans have been sent to our San Francisco Office regarding a kiva roof and the roofs over our museum rooms. As soon as approval is given these plans work along these lines will start. We are anxious regarding our Museum building work and are wondering what steps have been taken in this direction in your office. Since I have heard nothing during the past few days we assume San Francisco is dealing direct with your office regarding the letting of this contract.

"Perhaps with visions of our C.W.A. and P.W.A. experiences clearly beforeus we feel ourselves facing FERA. We are yet very hazy as to its workings and will need the past experiences to work out a program under it. Your Office has been supplied with a copy of our request for relief workers and it is hoped that it can be put into effect in the near future.

"We have enjoyed during the month, visits from Dr. and Mrs. Russell, Louis Shellbach III, Bob and Marie Rose, Engineer Kittredge, several State C.W.A. and F.E.R.A. officials, Custodian Vogt and Mr. Macy, State Highway Engineer, several from Mesa Verde, Chaco and other Park Service strongholds. We arem always pleased to have these people make us a visit and trust that in so doing they have a clearer conception of the perfect unit that our culture in Aztec represents.

"We are anxiously awaiting Chuck Richey's return from San Francisco to review our landscaping. The planting of several hundred trees is certainly going to have its effect and even now one can glance across the five acres directly in front of our

AZTEC CONTD.

ruin and see the small trees budding out and they present an especially pleasing appearance.

"In this last report covering Civil Works, I want to again express appreciation for the fine cooperation of State officials. We are looking forward to an exceptionally good year from the standpoint of visitors. We have given serious thought to the fact that 1934 has been designated by our Secretary of the Interior as as National Park Year. We are wanting our summer guide problem settled just as soon as you can possibly do something for us. With every good wish to the Casa Grande force, both permanent and temporary, we are Cordially yours, Johnwill Faris, Custodian."

CASA GRANDE NATIONAL MONUMENT: H. F. Palmer, Custodian

"Dear Mr. Pinkley:-After reporting an increase in visitors for three months straight we have, for April, a slight decrease to report over the same month last year. There were 2747 visitors as against 2927 for April, 1933, a decrease of 180, or about 6%. We are still 1333 ahead for the travel year to date. These 2747 came in 753 cars from 39 states, Washington D.C., Canada and England. 61% came from Arizona,; California was second with 354; Texas third with 148 and Illinois fourth with 79. These 2747 people were served on 292 personally conducted tours through the ruins of Compound A and 260 lectures in the Museum. In addition to these 2747 visitors who received personal educational service, there were 469 people who drove in, took a glancing look, and went out, or who used our picnic area without visiting the ruins

"The most noteworthy event in regard to visitors was the visit of those who attended the convention of the Brotherhood of Locomotive Firemen and Engineers which met in Tucson on April 16, 17, 18 and 19. The Southern Pacific Lines furnished them a special train from Tucson to Phoenix and return on the 19th, with a two and one half hour stop at Coolidge on the return trip. The Coolidge Chamber of Commerce met the train with school busses and private cars and transported them, 350 strong, to the Monument. Here the personnel escorted them as well as we were able, through the Ruins and the Museum explaining as well as it was possible to with such a crowd, the main features. To prove that we did a good job, turn to the Supplement and read the letter of appreciation from the Chairman of Arrangements Committee. The crowd was well over 400, counting local attendance. The Ladies Auxilliary of the local Methodist Church served a barbecue dinner to them after their trip through the ruins and they were entertained by a bandcomposed of Pima Indians from the Reservation close by. Everyone had a good time and were highly pleased with their reception.

Casa Grande CONTD:

"C.W.A. was successfully closed during the month. Some of our projects are incompleted but everything that has been done is just that much gained for all of them were of such a nature that they could be stopped at any point, to be picked up again at any future time when funds permit. Much useful work was accomplished and many things done that would have had to wait years to have accomplished under the regular program. We have [illegible] one P.W.A. project going under contract. It is a 4-room residence and work is progressing very satisfactorily. The walls are all window-sill high and part of them lentil high; the still window frames are all set and partitions are being placed.

"Some repairs to buildings and other maintenance work has been done under regular appropriation.

"All C.W.A. vouchers and reports have been submitted and all other office work is up to date with the exception of the final report of Public Works force account projects which are prepared but waiting for pictures before being transmitted.

"Assistant Architect Langley made his regular inspection trip during the month; Engineer Attwell has been in and out several times. Chief Engineer Kittredge has been here during the month and inspected our accomplishments under C.W.A. and other improvements since his last visit. We have had several other Park Service visitors including John Wetherill and wife, Custodian of Navajo National Monument; Custodian Jackson from Montezuma Castle; Custodian and Mrs. Julian of Chaco; Earl Jackson on several occasions from Montezuma Castle; and Dr. and Mrs. Colton, Custodian of Wupatki and Director of the Museum of Northern Arizona. Sup't. Tillotson of Grand Canyon stopped in one day.

"The weather has been hot and dry. There was precipitation on only one day when .06 inch of rain fell. The mean Maximum for the month was 89.4; the mean Minimum, 50.7 and the mean temperature, 70 degrees. The maximum was registered at 98 on the 21st and the minimum at 32 on the 4th. There were 25 clear, 3 partly cloudy and 2 cloudy days. The month has been entirely stasisfactory from every angle. Sincerely, H.F. Palmer, Custodian."

CHIRICAHUA NATIONAL MONUMENT:- (Recently transferred from Forest Service)

Fred Winn, Superintendent of Coronado National Forest, reports to Engineer Attwell, that last year this new addition to our monument system had 28,150 visitors!

This summer, beginning with July 1st, we'll have one seasonal position there lasting about 3 months. I'm entering this monument here to get us all used to seeing it, and to show we have a life-size monument [illegible] from the very start.

TONTO NATIONAL MONUMENT:- (Recently transferred)

Tonto has a travel which has already reached several thousands annually. It has drawing power for visitors the year round. It is just off the Roosevelt-Globe Highway and its fame is already widespread. We're planning to start with a seasonal position there. Tonto is highly popular as it draws heavily from Southern Arizona's winter tourist travel while summer climate there is delightful. Any day our Service can provide a full time position there will not be too soon for there is already a life-size public contacts problem the year round at that monument.

WALNUT CANYON NATIONAL MONUMENT:-(Recently transferred)

Walnut Canyon lies just off Highway No. 66 through northern Arizona. Proximity to Flagstaff and to this transcontinental Highway makes Walnut Canyon popular. Last year it drew just 40 people less than 10,000! Once more, here we have a big problem in public contacts and protection. Our seasonal position recently prescribed for Walnut should be made year round as soon as possible.

SAGUARO NATIONAL MONUMENT:-(Recently transferred)

Saguaro National Monument draws heavy travel through the year, and especially during the winter season. It is some 20 miles from Tucson and benefits in travel from people who come there to live during the winter. Saguaro will be referred to from time to time in our reports and we want our personnel to become familiar with another of the new Park Service monuments.

SUNSET CRATER NATIONAL MONUMENT:-(Recently transferred)

Sunset Crater National Monument is in the famous San Francisco Peaks region near Flagstaff. Geologically, the area is famous being described in connection with a U.S. Geological Survey report on The San Francisco Volcanic Field. As a general region where plant and animal life exemplifies the Life Zones, this region is classic. From time to time Sunset Crater and vicinity are mentioned in reports and we want to make our force better acquainted with this area noteworthy along several lines of natural history , and of fine scenery.

GILA CLIFF DWELLINGS: - (Recently transferred)

Through the recent transfers of monuments, New Mexico's Southwestern Monuments were increased by one. Its location is in southwestern New Mexico. Reference to roads, trails and other improvements will bring in Gila Cliff Dwellings from time to time. Five monuments of those recently transferred are in Arizona and one in New Mexico.

NAVAJO NATIONAL MONUMENT:- John Wetherill, Custodian, Kayenta, Ariz.

During the course of preparation of this report, Hosteen John drops in and hands us a report from Navajo for April. For additional news from Navajo, see his account beginning page A in the Supplement.

"Dear Natany: - To begin with, we have put Kest Zeel in the best shape possible with the material and time that we had at hand. I think though, that we should have been able to do as much on it as a bunch of "ignorant" cliff dwellers as they had the same material and lots of time. All we lacked was the time. We had the best of them on tools.

"Since sending in the last report we have found two more interesting skeletons near where we found that last two mentioned in the last report. All four were within a space of five feet. The last were at a depth less than the first. One of these was headless and had a small piece of finger nail pottery with it. The headless body had been buried sitting down. Its head would have been between its knees if it had of had a head. The hands were under the pelvis bones with the arms down by the sides. The other body was laying on its left side and in a straight position. The Cliff Dwellers bury with the knees doubled up to the chin and the arms crossed. The head had no artificial flattening like the Cliff Dwellers but was a longhead very much like the head of the Basket Maker we found in the Grand Gulch, Utah. One room under the oaks I have covered with a roof of the same as the Cliff Dwellers used. The boys did a fine job. As I returned to camp from Kayenta I found about two miles of the trail strewn with camp equipment. Jimmy, the white mule did not like his pack and started down through the bunch and had them all on the run. Ginger, Bill's favorite, took a header off the bank into the creek. While Bill was getting out the rest of the bunch were going on down the trail leaving a pack here and there. When Bill got to them there were about two of the packs left out of six. He gathered them up as best he could and went on to camp at Marsh Pass.." Yours truly, John Wetherill."

ENGINEERING REPORT:- Walter Attwell.

"Dear Boss:-The month of April found me in the field the entire month. Chief Engineer Kittredge and I covered the Southwestern Monuments to look over recently completed work and future engineering problems.

"Leaving the San Francisco Office the first part of the month, we visited Sunset Crater with Dr. Colton, looked over road matters, trails, water and sanitation. We then visited Wupatki and Citadel. The problems there were also roads but the problem of especial importance was repairing ruins from further deterioration.

ENGINEERING CONTD.

"On April 11th, we drove to Walnut Canyon and made a study of several engineering problems. The present grade crossing and road location were studied. We covered the various trails among the ruins. Four possible sources of water were investigated.

"The following day we drove down Oak Creek Canyon to Montezuma Castle where the C.W.A. Project was being closed. There, with Custodian Jackson, we reviewed the Basket Dam Protection, Sewer System, Garage and Equipment Shed, trails to Castle and Ruins, Water Supply, Road and Parking Areas, and Fencing and Irrigation for the Camp Grounds. I have been instructed to make surveys and to prepare the necessary data.

"On April 13, we drove to Casa Grande and looked over problems on the ground with Custodian Palmer. On the 14th we left Coolidge visiting the Sahuaro near Tucson where the Grazing and land situation were studied with representatives of the Forest Service. Leaving there at 3:00 P.M., we drove on to Tumacacori and inspected all of the work accomplished by the C.W.A. Upon arrival at Douglas at 2:30 A.M., we read in the midnight edition of the paper where we were "not there at all". That was worse than being accused of being only half there.

"The following day we horsebacked over Chiricahua studying with the local Chamber of Commerce their expected 8,000 visitors for Labor Day and facilities that would have to be provided. A new road is nearly completed which will need post-construction and maintenance. No trails have been built and the fire hazard is a real menance. We reviewed all of these problems.

"We left Chiricahua on April 15 driving to White Sands. After inspecting the new entrance road under C.W.A. construction we had lunch on the Sands in Tom Charles' style. The following day we covered Gran Quivira with its C.W.A. road. Other engineering problems coming up there were water, sewer, fencing, parking area and restoration of ruins. That night we drove to Santa Fe.

"We spent the entire day of the 18th on the entrance road into Bandelier. This was the major project there as both C.W.A. and C.C.C work were used on it. The following day we inspected the water system just completed, the ranger's quarters being remodeled, trails, sewer, parking, and fencing yet to be constructed. That night we drove to Raton.

ENGINEERING CONTD.

"Capulin Mountain was visited the following day. Some recommendations were made on the C.W.A. road project while studies were made on the road widening, bank protection, parking, fencing and trails. That evening we drove to Santa Fe and at 11:00 P.M. Mr. Kittredge left with Engineer Hamilton for El Morro, Aztec, Chaco and Mesa Verde.

"I returned to Bandelier for four days and again joined the crew at Canyon de Chelly. We studied erosion control there and at Navajo. On the 28th we left the Navajo Country arriving at White Sands the following day for the Opening Event referred to elsewhere in this Southwestern report. The night of the 29th found me again at Southwestern Headquarters completing 15 C.W.A. Projects Reports and trying to work up some new proposed F.E.R.A. ones. Sincerely, Walter G. Attwell."

The following supplementary report from Tom Charles at White Sands was delivered by Walt Attwell personally, and deals with the Sunday Celebration on April 29th:

"Dear Boss: The "Coming Out Party" is over. The weather was perfect, the sunset glorious, and the crowd most orderly. Former Secretary Fall was our principal attraction; hundreds of prominent citizens of New Mexico drove from the far parts of the state to hear him. The count showed 772 cars, 3,642 visitors. There were two bands; the State College Band of 26 pieces and the Alamogordo band of 24 pieces. The Alamogordo Chamber of Commerce handled the parking perfectly with the Fire Department boys and 12 other picked young men. Cars were parked in double rows with 60 foot streets and there was not an accident or delay that occurred in traffic. Four uniformed motor police furnished by the State handled the traffic on the open highway. Nine of the most prominent citizens of New Mexico and Texas spoke from the shelter of a brush ramada to over 3,000 people sitting on the natural amphitheater of alabaster sand dunes. It was an inspiring sight. It was just one GOOD party.

"This meeting has impressed upon me the need of a few things:

1st:-there is a most sad need for more rest room facilities. This need was certainly most evident on this day.

2nd:-Basket-lunchers need a convenient place to burn their trash; it gives me the jitters to see hundreds of dirty papers go tumbling over these alabaster sand dunes on the evening breezes from the San Andreas.

3rd:-A place at the sands so that a guest who comes hundreds of miles to see them may rest in comfortable shade and enjoy it.

4th:-I wish I could quit watching every thunderhead for fear the Service will have several hundred cars of people stuck in a clay road when it rains.

5th:- It would be nice if we could have more than one water barrel and three dippers to water 4,642 visitors.

6th:- I want one of these valleys planted to the native Cottonwood.

"I must go now and earn $0.85. I noted last night that both of the 36 foot tables were broken down by people crowding upon them for shelter. Trash heaps were piled upon the sands. I fear if they are not cleaned up, the claim that this Monument is without flies may be exploded. Wish you could come over and help work out our problems. Yours very truly, Tom Charles."

Regarding this Celebration at White Sands, Walt Attwell comes in with more to say. It is well to add his remarks here following those of Tom Charles:
"Dear Boss:- Enroute to the Office Sunday after a month in the field, I joined the crowd and turned into the White Sands with 4,642 other enthusiastic guests. While there I heard the following expressions from such men as Ex-Sec. of the Interior Fall, Ex-Governors Dick Dillon, Geo. Curry and Prenger, Judges Edwin Mechan, E.L. Medler, and Judge McClentic of the Texas Highway Commission, and C.M. Harvey, Owner of the El Paso National Bank:

"The entrance road was well designed and constructed thus making a perfectly plated boulevard out of what appeared to be an impassable sand barrier. All signs of anxious drivers were absent and instead of stern faced drivers, all were greatly thrilled."

"From thelocal traffic officers: "The twelve lines of parked cars situated on six-60 foot lanes so each and every car could come and go at any time, with every car being driven carefully-without one single minor mishap, showed that Tom Charles was using his best planning ability.""

"Say, did you notice the perfect cooperation between every community and not the slightest indication of selfishness; did you see that every business in Alamogordo had men working for the success of this great picnic."

"Tom Charles did a mighty grand thing when he had the city's tank w wagons haul water for this nearly 5,000 person crowd but to run it into barrells filled with ice was perfect. I wonder why the Park Service couldn't dig a well and get water in a more economical way. Anyway, the free ice water was a blessing and well worth standing in line for and Tom deserves his share of the praise for not overlooking any bets."

"Why in the world isn't something done about the problem of rest room facilities for crowds of even one-fourth this size ?"

"Getting down to black and white, that colored baseball game was a thing of color."

"I can easily see one of America's most popular playgrounds right here. Five thousand children should be permitted to enjoy this area every day. Any direction you look right now you can see hundreds of people strolling over the snow white sands.Just look at those children!(here he pointed to 8 women buried in the sands with only their heads above the surface)."

"Tom himself put up this question:-"Without one cent for maintenance, what I want to know is who is going to pick up all of this litter left; there are nearly a thousands tobacco cans and cigarette wrappers; look at the remains of several hundred lunches on every dune where diners watched the Moon come up; look over where the Old Timers staged their dance; whose going to help keep tidy this 100,000 acre playground; I'll donate a month's salary (85 cents) but I can't doo all of the housekeeping."" These are a few of the million thoughts I heard expressed while there." W.C. Attwell, Assoc. Engineer.

--

Just about the time this report was to be closed, Tom Charles telegraphs his travel record of 6,244 for his count on Sundays only, for April. This means, considering his 4,642 there on the special occasion April 29, between 300 and 500 are there on average run of Sundays.

--

This completes the various letters and reports from Southwestern Monuments for April. New problems, or perhaps I should say more old ones of the same kind, will be facing us with the addition of six new monuments transferred to us from the Department of Agriculture. In about three or four of these monuments, full grown problems in public contacts already exist. Chiricahua with 28,150 last year and Walnut Canyon with 9,960, are problems from the start. We're glad the Interior Department Appropriation carried provision for seasonal positions in some of these new monuments. With but seasonal positions under our charge where formerly, in some of them the Forest Service provided rangers or laborers to protect against vandalism the year round, we must look toward establishing some custodian and permanent ranger positions in these new monuments of our Service just as quickly as we have a change to put them into the estimates.

Office work generally is up to date. Final C.W.A. Reports are coming in from the monuments which means we'll have a busy week or more getting them all ready for your office.

Cordially,
FRANK PINKLEY, SUPERINTENDENT.

(Signed) Robert N. Rose
Ass't. Sup't.

SUPPLEMENT
REPORT FOR APRIL
SOUTHWESTERN MONUMENTS May 1, 1934

Rosteen John Wetherill from Navajo National Monument writes concerning spiritual matters among the Indians, the progress of the CWA work as of April 3, and other activities of interest there.

"Dear Natany: This is to let you know that our work is drawing slowly to a close. Though there will be much left undone, much has been accomplished. We could do a great deal in repair work on the upper part of the ruin, repairing many gaps in the walls, flooring and several roofs that need replastering. The work on the lower level has just been started good. Up to now, three rooms, one kiva and a tower have been uncovered. Many more rooms should show up when we get the rubbish removed.

"In our stratigraphic tests we went down about eleven feet at the base of the cliff and still found pottery and charcoal. In repairing the upper part, nothing was thrown over the cliff. All the trash was used for fills for the retaining walls. We used much brush brought up from below, to hold the rubbish and wall in place. We broke up all the large slabs of rock that had fallen from the cliff after the Cliff Dwellers had left here, and used them in repairing walls. We had to carry much of the rock that had fallen from the walls above, back up the cliff.

"We have a witch here. He comes to camp nearly every day. He has a camp about three miles down the Canyon where he lives with his niece and her husband and child. They have a bunch of goats, about 150 in number. He was born at Bosque Redondo(Fort Sumner) while the Navajos were held prisoners there from '63 to '67. His father was a Mexican, thus his name Nocki(Mexican) and Yazzi(little), or Nocki Yazzi,("Little Mexican"). In 1908 he claimed to be a witch and threatened to bewitch seven people, among whom was his mother. They tried to capture him, and did, but made the mistake of taking him to the trader's store at Oljato where Mrs. Wetherill was and she worked with Nocki until he promised not to bewitch any more Indians. On the strength of the promise, the Indians turned him loose. He had been free only a couple of weeks when one of the seven he said he would not bewitch, died. The Navajos got after him, stronger than ever, but he stole a mule and rode to Keams Canyon in the night. Mrs. Wetherill had notified Mr. Murphy who was Superintendent at the Tuba City Agency. Mr. Valentine who was Commissioner of Indian Affairs, happened to be at Tuba at the time. They both came to Oljato to see about the case but it was too late, as he had been gone several days when they arrived.

They went on to Keams Canyon, picked him up, and sent him to the Insane Asylum for Indians in Dakota. He escaped from there about 1925 and returned to his old stamping ground. He was safe after his return as the Government had things in hand and the Navajos were afraid to act. Very soon after he left the Reservation, two of the squaws died and the Navajos tried to get the Government to send him back but their request was refused. Since his return he has been accumulating a herd of goats. He goes to a Navajo and tells him if he does not give him a goat or a sheep, he will bewitch him. They usually give him the worst they have. Three years ago he had about two hundred fifty head. To ride toward the bunch looked like riding into a bunch of horns, as fifty percent of his goats were very old. Most of the old goats are dead now on account of the two hard winters we have had. Now he has about one hundred fifty fairly good goats which he is herding, a part of the time, on the Navajo Monument.

"Old Nede Clocy (Fuzzy Face) who has been running cattle in Keet Zeel Canyon, is afraid to run him out as he is afraid he will bewitch some of his family. He has tried to get the Agent at Tuba to act, but the Agent has made no move as yet. If we had fencing, we could fence the ruin but it would do no good unless we had a ranger to keep the fence up.

"Mr. Hargrave was out to see us last week. He was more impressed than ever with the importance of our ruins. In cleaning up the floors we brought to light many interesting features such as floor ties for looms, firepits, potholes for cooking, sipapu holes (uses unknown) cut in the solid rock, and many other interesting things. Sunday, Milton Wetherill crossed the Canyon to Turkey House to take notes on the Kiva that Dr. Kidder partially worked out in 1923. I think the Dr. made notes on what he found at that time. I will look up Kidder's report when I get a chance. Milton carefully cleaned the kiva and found much that had been overlooked by Dr. Kidder. The Kiva had been very large at one time with one banquette over the ventilator. It was afterward rebuilt, and made smaller, with no banquette cutting off the ventilator, and replacing it with a new one inside the old kiva. The most of the kiva was of solid rock with many floor ties, and round holes, some of which had been plastered over to the level of the rock. We also found the firepit of the old kiva, plastered solid with floor mud, dried hard, level with the floor of the kiva. While Milton was taking notes and measurements on the kiva, one of the other men started to clean out a room. He found many interesting things, a list of which I will enclose with this report. The Work was not finished by noon, so they went back after dinner and and completed the notes, and by five o'clock had the room cleaned. The room was about eight feet square, with three feet of rubbish and turkey droppings at the back wall, and about 16" at the front wall.

"An interesting thing occurred last week. We had two Indians in camp for supper. The one, Nede Closy(Fuzzy Face) Bidony, and the other a school boy Eshan Cessie Begay. After supper we heard some unusual noises in Turkey Cave. The Navajos wanted to know what made the noises. Josh Allen, the cook, told them that we had been hearing the noise for three or four days. They seemed frightened and left camp yesterday. Nede Closy returned and told us that he had brought Bedetso Holoney ("The Man who Raised Peaches"), a medicine man who could control evil spirits, and left him one-half mile below camp. He was supposed to be praying to the Gods to quell the evil spirit and protect our camp. They had ridden twenty miles to get Bedetso Holoney. He is supposed to be back two more times to get control. He thinks that there is an evil spirit among the men who is causing the trouble ---

"We chained out, mapped and took the notes and measurements on Kiva # 2 in Turkey Cave. It was of the Mesa Verde type of kiva. It had five pilasters with fine banquettes. One of the interesting features was a small boom back of the opening to the ventilator and under the banquette. The ventilator opening had a groove around the casing to fit in a stone door and close it tight. That was very unusual as they seldom closed the ventilators. The larger kiva in Turkey House was of this type. This kiva had been worked on enough to locate the firepit, but it was up to us to thoroughly clean the floor and find the Sipapu, and the loom floor ties. Milton took notes, photos and measurements of both this and #2 and #1. The #1 had not been cleaned though Dean Cummings had worked on it and had found the Sipapu, and the firepit, but had missed other points of interest.

"It began snowing forty-eight hours ago and let up at noon today. Looks as if it might begin again any minute. The boys found two skeletons about noon. One was stretched on his back, bent at the knees, with his knees about 12 inches above his head. It looked as if he had been pitched in the hole, head first. He was large for an average Cliff Dweller. The other small one seemed to have been dropped in the same hole, the body rested on the knees of the large one. Its knees were doubled up with the arms crossed on its breast. The head of the large one was about 4½ feet below the surface. The smaller one was about 3 feet from the surface. There were no artifacts found with either one. We cleaned them and took photos of them as they lay.

"Mr. Kartchner and Mr. Allen uncovered another room at the lower end of the rubbish heap. They cleaned it to the floor. The bottom of the walls are slabs of rock standing on edge as Pueblo I would build. The rest of the wall is of the regular cliff house type. There is a firepit in the center of the room. The walls stand about six feet high. The room is nearly round and about 7 feet across. All the

artifacts found were the bones of a badger, some bones of a dog, fragment of a child's skull, and a bone awl. Yours truly, John Wetherill."

--

Up until this letter from Hosteen John came in, we thought about every kind of thing one could think of had come up at one time or the other to disturb us in our CWA program. But, to vendor's certificate, bids, voucher preparation, and payrolls, and a thousand more problems, we find ourselves having to add a new one -Witchcraft !

--

From Turkey House and the fill of the room mentioned at bottom page D, the following materials were recovered:

TURKEY HOUSE

695 NA 2521

1. Miscellaneous sherds
2. Large coilware jar
3. Fibre cord
4. Burnt reed stubs bound with cord
5. Long cord of braided human hair.
6. Miscellaneous feathers, bronze color and one yellow(Parrot?)
7. Tuft of badger hair
8. Small, perfect sandal of yucca, twilled
9. Large sandal of fibre cord, woven round fibre warp
10. Sandal do
11. do, patched with similar stuff.
12. Piece of fur cord.
13. Long strand of braided fiber cord
14. Scrap of coiled basket
15. Fragment of a cradle
16. Bone awl
17. " "
18. " "
19. Bone tool, small, flat, like spatula
20. Heavy bone tool, end sliced and ground at angle, odd
21. Loop of willow (?) tied.
22. Piece of batten, showing thread marks.
23. 12" stick, flattened point, rounded end.
24. Roll of bark tied.
25. " " " " wrapped to for ring.
26. Stem and part of rind of pumpkin (?).
27. Bundle of long slender twigs willow, (?)32" long.
28. Long water birch stick with 1/2" loop in end like walking cane, 29" long.
29. Greasewood stick, long and slender.
30. Long water birch stick; $\frac{1}{2}$" loop in end.
31. Slended soft wood stick, rounded ends, 29" long.
32. Long stick, used, 1"diam., 41" long.
33. Birch stick, $\frac{1}{2}$" diam., 31"long
34. Long polished stick, forked end.
35. Long, polished, very crooked stick, blade-like end, 37" long.
36. Heavy 2" diameter, digging stick, blade end, 34" long.

From E. Z over at El Morro we have received a newspaper clipping sent to him by Professor and Mrs. W. M. Winton of Texas Christian University. Southwestern Monuments folks will remember the Wintons as our friends who stayed at El Morro with Ranger "Pete" for quite a while last summer.

"WINTONS SHOW FILM OF TRIP

"T. C. U. Professor and Wife hold Audience Spellbound.

"If you are wondering where to spend the next vacation, take a tip from Professor and Mrs. W. M. Winton of Texas Christian University and go West.

"In the T. C. U. Auditorium last night they showed movies of a region just west of Texas which held an audience spellbound. The pictures were taken by the couple on summer wanderings in New Mexico and Arizona.

"The Natural Bridge in Utah (Rainbow Bridge), the largest in the world and of recent discovery, was one of the pictures. Due to its inaccessibility, it has been seen by only a few hundred white persons. Many of the pictures were of the Southwestern Indians, the nomadic Navajos and their horses, Hopis making pottery, and other tribes. The films also showed the cliff dwellings of ancient Indians, clinging precariously to towering cliffs, which were once the homes of a people who boasted a comparatively high civilization long before Columbus set out to discover the Western World.

"The big mule deer, eating out of Mrs. Winton's hand, white tailed squirrils, chipmonks and side-winder rattlesnake, who travels over the Southern Arizona desert's sands sideways, were among the animals shown in the film. Mrs. Winton explained the movies as Professor Winton showed them."....

Letters from the Winton's tell of their interest and love for the Southwest and they are going to try to have some time again for a long stay in and about El Morro.

Tunnels have a way of becoming famous in Southwestern Monuments. Scarcely less famous than the proposed Montezuma Castle Tunnel is the tunnel at Pipe Spring National Monument. I have had a thoroughgoing report on an examination made of this tunnel by Acting Custodian Heaton shortly after Bob Rose was up there last Fall. This report, in our files until lightening of Civil Works, is now brought to light because the Tunnel Spring is a part of the history of that monument.

Mr. Heaton writes: "I will try to give you the facts about the Tunnel Spring as I found them on December 28, 1933.

"Ever since Bob Rose was up here on the water survey I have wanted to know for sure just how long the tunnel really is. Since we have the CWA men working here and since the cleaning out of the tunnel is one of the projects to be done, I took this opportunity to go into the tunnel on the 28th. With the assistance of some Boy Scouts I secured the following measurements and figures:

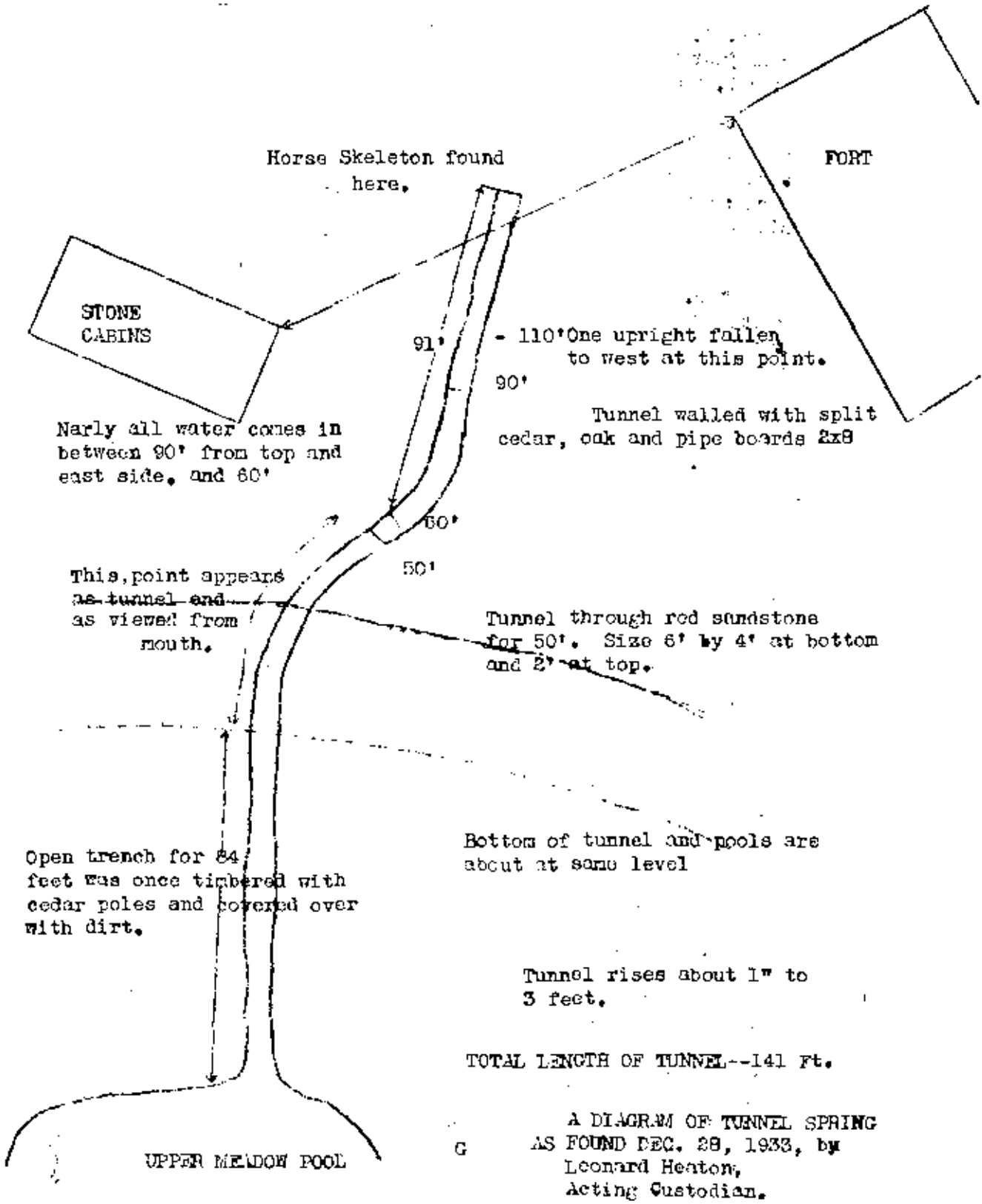
"I had the mouth of the tunnel cleaned out, beginning at the Upper Meadow Pool, going back for 84 feet to the hill. There had at one time been timber placed at the mouth making a tunnel 188 feet to where the tunnel goes through red sandstone. The size of the tunnel measured 4 by 5 feet.

"There is still 4 feet of this timber in the mouth of the tunnel. The rock part of the tunnel is about 6 feet high, 4 feet at the bottom and 2 feet at the top. It makes a turn to the East as shown in the drawing. At a point where Bob and I thought was the end, there is a rock projecting out into the tunnel making it look like the end. This rock tunnel is 50 feet long. Then there begins at this point more timber making the tunnel 4 by 6 feet which continues for 91 feet, still bearing to the East. The timber back in the tunnel from about 90 feet is very weak in places and at the 110 foot mark one of the uprights has fallen into the tunnel leaving only a small opening by which I could go through.

"There is a slope of about 1inch to three feet. I got this by measuring the water at the mouth where it was backed up and then the distance it went back into the tunnel. At the mouth the water was 30"deep, backed into the tunnel 90 feet.

"The most interesting finding was that of the water and, to my surprise, it came from the top and east side beginning at about 60 feet and ended at a point about 90 feet, and the most of that was between 60 and 75 feet. There was scarcely any water coming in beyond 90 feet as the Cedar logs had white mildew on them, down to the mud that had collected on the bottom. The timbers in the tunnel where the water was coming in had no mildew on them. I don't know just how much water is coming in at the bottom for I have not been able as yet to get all of the water out of the tunnel. However, I hope to succeed in doing this in a week or so at which time I shall make a close check on the flow of water and where it comes into the tunnel.

"In the far end of the tunnel I found a skeleton of a horse about 1½ years old, or possibly younger. This horse once belonged



A DIAGRAM OF TUNNEL SPRING AS FOUND DEC. 28, 1933, by Leonard Heaton, Acting Custodian.

to Mr. O. F. Colvin who lived here from about 1908 to 1914. He never knew just what became of this horse. As to how it got into the tunnel, we can only guess.

"Now the trouble that I am having is to decide just what to do with the tunnel, for the bottom is about on the level of the bottom of the Upper Meadow Pool. And if the water flow is changed much by cleaning it up, we may have to do away with the pool. The sides keep sloughing in and we are going to have to cut the banks on a slope of about 20% to keep them from caving in.

"Mr. Cowell suggested that we place a 3 or 4 inch pipe at the mouth of the tunnel, then cover upn the open trench out to the pool. But I am in favor of rocking it up if possible as it would add to the beauty of the place. I will send you the measurement on the water flow as soon as I get it done. Let me know your idea on fixing it up. Sincerely yours, Leonard Heaton, Acting Custodian".

***

Mr. Heaton's map of the tunnel is found on page G, this Supplement.

A field reaction on the problems of a Master Museum and duplication comes from Mr. Evenstad at Bandelier;

"If we had all the Southwestern Monuments and Mesa Verde assembled in one place, I believe the idea of a Master Museum at Mesa Verde would have some merits. Then the visitor would go into the main room of the museum and look things over. Then if he found something there that particularly interested him he could go down the hallway until he came to say, the Casa Grande, or Chaco Canyon, or Bandelier room and go in there and take a look. If he wanted more, he would have to go back to the main room(Mesa Verde) to get another clue and so proceed. The only trouble with this all in practice is that the rooms are too far apart; for instance the Bandelier room is 800 miles from the Tumacacori room, etc. He might run out of gas.

"As for tiring the visitor by possible duplications between some of the features of various monuments, I think if the practical end of the running of a monument were considered, it would be found that interest of the visitor intensifies by running into similar phases. There is REALLY NO DUPLICATION: ONLY RELATIONSHIP IN INSTANCES.

"We don't lose our interest in automobiles by seeing several makes and models on display. When I say the first automobile in the Smithsonian Institution at Washington made in the early '90's, I was still much interested in seeing Ford Car Motor No. 98 in Santa Anna, California, the next year. Although all of our present day automobiles have multi-cylinder internal combustion engines, they all have certain interesting selling features of their own. And so it is with our monument, even limiting everything to those that are archeological. They have a pre-history, related in many instances, but all nethertheless different.

"If this proposed Master Museum were located on some main highway such as U. S. No. 66 where the travel would be, say, 500,000 annually, it might be the means of some good advertising for our Southwestern Monuments and Mesa Verde. A building with just enough display to create an interest with specimens from various monuments might be good publicity, if properly located. But this museum should not furnish the complete educational needs of the public as to museums. A little more study, I feel, must be given to practical factors, like travel, location and other problems. Sincerely, M. O. Evenstad, Acting Custodian."

--

SOUTHWESTERN ARCHEOLOGICAL FIELD & ITS SPECIALIZED SUBDIVISIONS:

This museum problem has been a hard one to express in a mere paragraph, yet the ideas are quite clearly in our minds. In the course of a year our field personnel of Southwestern Monuments travel the Southwest from end to end many times. Visiting these monuments each of which, in nearly every instance, exemplifies a different Culture Area, gives us intimate knowledge of the distinctive qualities of the culture area presented at one monument that set it apart from its neighbor. Too, no one realizes no more clearly than we do that the museum, lectures and guided trips at a monument representative of a particular culture area have as their primary function the telling of the story of prehistoric accomplishment in that area, and that the educational activities at the next monument are primarily for telling the story - a story with different distinctive quality - of that culture area, and so on.

How forcibly we realize this ! How real do these distinctive qualities of the various culture areas present themselves to us as problems of administration ! The story of the Ho-ho-kam of the Casa Grande region is almost as different from that of the Chaco or Mesa Verde as the story of farming in the Phillipines is from the story of farming in France. I need only to point out that our rangers trained only in Chaco or Aztec guide work find themselves, for a time, completely lost when transferred to Casa Grande or Montezuma Castle. Now just why is this ? ; It is because in one case we are dealing with a different people whose pottery, burials, house construction, masonry, agriculture, ornaments, ceremonial objects and other cultural materials have distinctive qualities developed differently, or not found, in the other culture area. Prehistoric Indians of the Southwest in the various culture areas were presented with about the same general problems of environment. They were about all confronted with the same limitations of (1) scarcity of water, (2) no metals, (3) no draft animals, (4) no written language bases on phonetic interpretation, etc. Culture areas come about because the immediate problems of environment in one area differed from the next and differences in cultural materials show up because of scores of factors.

Prehistoric Indians achieved about the same standards of culture in one area as in the other. Mesa Verde people practiced agriculture under great difficulties; so did the Casa Grande peoples, but how different were the problems confronting the Ho-ho-kam ! All of these terms such as San Juan, Mimbres, Chihuahua Basin, Upper Gila and Rio Grande culture areas, and Basket Maker I,II,III, and Pueblo I-V, are adopted for purposes of classification. This classification is necessary in order to bring organization to an enormous mass of facts. Without such classification and organization, Southwestern Archeology would resemble a fruit orchard planted by a man unable to distinguish apple trees from peach, apricot, fig, prune and cherry, and who would plant them without regard to segregating the different types of fruit trees. Then, at fruiting time, suppose this man gathered the fruit of each tree as he came to it, putting all the different kinds of fruit in the same baskets. He would find himself in about the same predicament as we would be in if we weren't fully aware of the distinctive qualities of our various culture areas and didn't from the start recognize the necessity for classification into culture areas as to geography, and periods as to quality of specialization and time sequence.

It's not so much a matter of "the story" of one culture area supplementing "the story" of the next as it is the fact that a quality of specialization is found in the cultural materials of one area that sets it apart from similar cultural materials in the others. And it is this specialization which differs more or less widely from monument to monument, so much in fact that we find our personnel in one monument needs intensive training in the specialized phases of the culture in the next monument exemplifying another culture area before they can do satisfactory lecture, field trip and museum preparation work in that new culture area !

It seems we're all pulling in the same direction in these rather lengthy discussions, but our ideas appear more widely divergent than they really are because of differences in the way we express our thoughts and offer illustrations. We'll all agree I think, that we have different culture areas because there's a specialization of culture in one area and a distinctive specialization in the next, and so on; also there's the necessity for organization and specialization as to geographic location, time sequence, quality, and etc. And finally, I think we'll all agree that it it the primary function of the museum, lectures and field trips in monuments and parks exemplifying particular culture areas, to emphasize the particular periods, time sequence, and specialized qualities of the culture each presents. We cannot escape the necessity of bringing in a limited amount of general maps, diagrams, charts and cultural materials, into the story at each place for comparison and for purposes of showing visitors just where the specialized culture we're explaining in full at a given monument or park fits in relation to the whole field. We don't have to tell the

complete story of each of the other 9 to 12 culture areas, nor could we find the time to do it if we wanted to. Thus, I would conclude that as long as there's the appreciation of the fact that nearly all of our monuments exemplify different culture areas differing in specialized qualities of the culture , and differing in some cases in time(Basketmaker-Pueblo),etc), we'll not be faced with the danger of having identical museums and educational programs in all of our archeological monuments.

R.H.Rose.

--

Tom Charles' lakes have broken into print in many places over the country, the latest being the Pathfinder. I believe to quote this clipping will interest us all, and will show us that science still has interesting problems to solve in this old world yet:

"4/14/34 CURIOUS WATERS ARE COLORED.

"Scientists can explain why leaves turn red in the autumn or why chameleons and tree toads are able to disguise themselves but they admit defeat when asked why waters of certain lakes and springs in New Mexico turn red every fall. This colored water appears for a short while, changes to a milky white and finally regains its normal transparency again until the next year. Many visitors are attracted to the White Sands National Monument, a national park, to see this wonder which as yet has no explanation."

--

In our monuments service we're amused to see the "a national park" in the next to the last line of the clipping. It would be interesting as an experiment, to interview about 50 Americans representative of many walks of life, and ask them the question: "Just what comes first into your minds when I name several national monuments of the Southwest such as Aztec Ruins National Monument; Casa Grande National Monument; Sunset National Monument, and others?" It might help us explain why the article above contains "a national park" in apposition to "White Sands National Monument".

The periodic occurrence of this red, milky white and normal transparency of the waters each fall strongly suggests microscopic life of some sort as the cause for it rather than any change in concentration of mineral substances. White Sands National Monument presents unusual problems because of a most peculiar environment for its plant and animal life.

This matter of peculiar white mice, strangely different coloration of reptile life, and curious waters at White Sands, reminds me of a most interesting thought I heard expressed sometime ago about these dwarf trees and other vegetation in the Southwest that is making its last stand. The idea was expressed that many of these grasses, shrubs, and other vegetation are but the modified forms of what this same vegetation was when some of the very dry areas were supplied with moisture and farmed by prehistoric people. Changes in precipitation, over grazing, and other factors

HAVe made radical changes in some localities such as the canyons of northern New Mexico changing them from the the productive valleys they, some of them, once were, to areas with the most hardy grasses and other vegetation remaining. What did these hardy, dwarfed grasses and other types of vegetation look like 1,000 years ago when some of these valleys were supplied with vegetation and quite luxuriant ?

Several months ago we had occasion to write Dr. H. H. Forbes of the University of Arizona Experiment Station, asking for certain information. We wrote him as follows:

"Yesterday one of the workmen on a little brush clearing job here on Casa Grande National Monument brought in the small branch portion of Mesquite which you will find in this box. The branch shows a little incision clear around which completely girdles it.

"Wondering how prevalent this girdling occurs, I walked over a small circuit of about 100 yards near the Administration Building examining rather superficially some 10 different trees. I noted 4 girdled branches on different trees during this hasty examination. In one instance the girdling had been done long enough in the past that the branch portion from the girdle to the tip had withered completely.

"Mr. Pinkley suggested that this branch portion showing one of the girdles be sent to the Experiment Station. I would be pleased to have you refer this to the proper person for diagnosis. We would especially like to know just what is injuring these trees and, if it is likely to spread, how would we go about combating it ? Sincerely yours, Robt. H. Rose."

Dr. E. D. Ball, Economic Zoologist, replied a little later with the following interesting letter:

"Your letter to former Director Forbes has been referred to me for consideration. The branch you sent in is the work of what we speak of as a twig-girdler. This insect lays an egg in the branch beyond the place where this cut is made, then makes the cut so that the branch during the wet season will break off and fall to the ground; where it will rot and the egg will hatch and a worm develop in the rotting branch to produce a new twig-girdler for another year.

"This insect is not sufficiently numerous in most sections to more than prune the trees. Occasionally they transfer their attention to some more rapid growing cultivated shrub, and in that case they may be seriously injurious. Sincerely yours, E. D. Ball, Economic Zoologist. "

We have received a copy of a letter sent to the Director by Department Consulting Archeologist Jesse L. Nusbaum, regarding a recent discovery made at Aztec Ruins National Monument during the course of Public Works there. Mr. Faris' April report at this moment has not arrived in our office but it will doubtless carry notice of this discovery. Following are excerpts from Mr. Nusbaum's letter:

"Mr. Earl Morris of Carnegie Institution of Washington, who has been loaned to the National Park Service for a period of three months by President John C. Merriam and Dr. A. V. Kidder, for the purpose of supervising the program of repairs, stabilization and perhaps minor restoration of the Aztec Ruins and those in need of attention at Mesa Verde National Park, has just called me long distance from Aztec to report that the drainage trench which they are cutting to care for the drainage of the great kiva, has disclosed a small kiva immediately to the east of the great kiva, which should be scientifically investigated before the trench - which extends from six to seven feet below the floor - is completed.

"Mr. Morris has asked permission to excavate this kiva as a part of this trenching operation, stating that the deepening of the trench will destroy approximately one third of the kiva and that he thinks this small kiva should be thoroughly investigated as a part of this trenching project, since otherwise valuable scientific features and data which are essential to the fuller knowledge of the Aztec Ruins will be destroyed. Hidden features of this character may become evident in the course of this drainage work, and it is my recommendation that Mr. Morris be permitted to test out such aboriginal hidden features as may be encountered in the ordinary progress of drainage and other operations which penetrate areas not previously investigated, in the excavation of this or other sites involved under the program. ....."

--

The working out of such features as are found in the direct course of drainage and other operations in this case is especially important since , once the drainage tile is placed and the trench is refilled, it may be an age before investigations at such depth below the ground level can ever be attempted. It is fortunate that Mr. Morris is on the gound at Aztec while these major Public Works projects involving trenching and earth moving are being carried out.

In the landscaping, fencing, trenching and other operations that have been necessary at Aztec in the P.W.A. and C.W.A. work the encountering of artifacts and other things of archeological importance has been inevitable. Extreme care seems to have been

taken there in the work to thoroughly investigate what might be important before carrying on through. In one instance, a fine burial was found squarely in the course of the drainage ditch. This burial was completely removed by digging under and around and slipping supports about in such manner that it was removed with no disturbance whatever. It is one of the finest from the standpoint of preservation that has ever been found, and when properly prepared, it will make an excellent burial exhibit for the new museum planned there.

It has not been our policy [illegible] to carry out any extra digging there not necessary to the work projects under way. Several of the foremen had worked with archeological crews before which was of advantage in their knowing what to do as their digging operations began to reveal indications of archeological materials.

One of the prettiest programs of pottery repair and museum cataloguing we've seen has just been completed at Aztec. Mr. Faris states that additional checking of his catalogue cards is being made by Mr. Morris. With the transfer of Johnwill's museum materials to the new building, and the complete change in exhibit arrangement, this catalogue system will at once begin to prove up its high value. The importance of carefully recording the location from which miscellaneous pieces come from during daily operations of projects, and the entry of these data on catalogue cards, cannot be overemphasized.

BROTHERHOOD OF LOCOMOTIVE FIREMEN AND ENGINEERS AND LADIES SOCIETY ENTERTAINED ABOUT 400 STRONG: (Casa Grande Nat'l. Monument)

We have received the following letter from Mr. J.P.Morris who was in charge of all arrangements for the Brotherhood and the Ladies Society who visited the Monument on April 19th. A more complete account of this visit will be found in the Casa Grande Report but these "flowers" properly belong in the Supplement. [illegible]

"PIONEER HOTEL, TUCSON, ARIZONA
April 28, 1934

"Dear Mr. Palmer:

"I am unable to find words to express my gratitude to you and all of your staff for the ROYAL manner we were received at the Casa Grande National Monument on April 19th, and the able manner in which our delegates were shown and told of these ancient people who dwelt there long ago.

"Nothing but praise was heard from every one who had the privilege to be there, and I am sure our delegates will long remember Coolidge, and they will never forget the Casa Grande. They expressed

their appreciation of how well they were shown and told of the Ruins in such a short-time. I am sure such a well trained force as you have is seldom found anywhere, and this our delegates were quick to realize.

"I wish to extend to you and all of your staff the sincere thanks of our committee and members, and we are proud to know that we have such officient men as yourself and staff in charge of the monuments within our State. With kind regards and best wishes, I am Sincerely yours, J.P. Morris, Chairman, Committee."

From Custodian Newell Joyner of Devil's Tower National Monument, Wyoming, we have the following: doubtless gave him some thought as well as amusement.

"A visitor of the fairer sex, going onto elderly, accompanied by her daughter who lives near here came to see the Tower the other day. In conversation with her, the following was brought to light and I believe, needs a little airing; "I'm so interested in Devil's Tower, my late husband was in the monument business, too!"

"Please give me the correct answer. Maybe, the answer ought to be left to the Director's Office, or would it be simpler to think of another more appropriate designation for these areas."

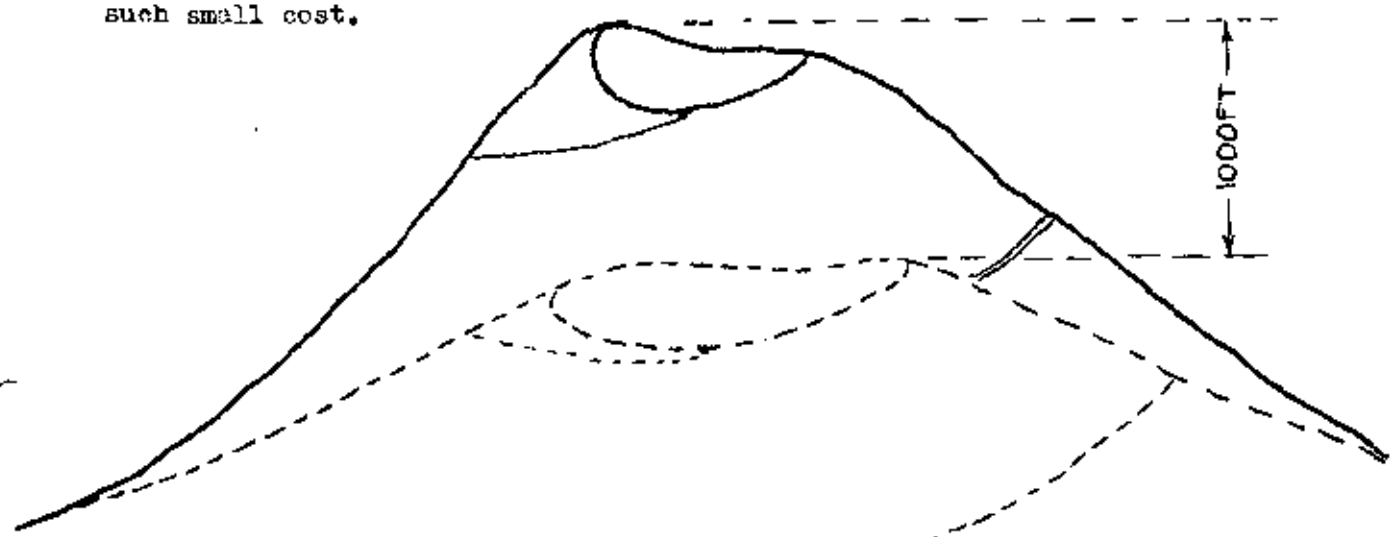
Packed into those remarks which at first amuse us, there is a lot of serious thought for all. There's something about the name that makes the average person not acquainted with the facts think of monuments as a stone marker or historical landmark of very small size. A person to whom the monuments are entirely new, doesn't feel that Petrified Forest or Canyon de Chelly national monuments could possibly have in them some 100 square miles or more. In these remarks many times we have pointed out the fact that there are national monuments which are larger than some of the larger national parks. Yet, how many intelligent people we have who visit our monuments and ask "Where's the monument ?".

Names are like rules and regulations. Through trails, fences, barriers and the like we make the right thing to do seem like the natural thing to do, thereby making these rules and regulations as unobtrusive as possible. Thus it is in this problem of seeking a name which will come more nearly bringing the true picture of these historic, prehistoric and scientific features to the mind than does the word monument. Is it true that upon mentioning to people over the Nation generally, that the National Park Service has jurisdiction over several score national monuments, they immediately picture as many stone markers erected in commemoration of great events or notable characters in history ? This is doubtless true to a large extent. Looks as if we'll have to conduct a contest of somekind to find a name perhaps more appropriate. Nothing better than the name monument seems to have been proposed as yet.

0

A story has gotten around this far from Devil's Tower to the effect that sometime last year Custodian Joyner received a letter from a paint company who stated that they were in a position to paint his monument; they were inquiring a little more as to conditions and asked Mr. Joyner for permission to submit prices !

A program of placing directional signs to the national monuments along the principal highways of the Southwest was carried out several months ago. These signs are doubtless a great help to tourists who plan to visit some of the national monuments and yet are not very familar with roads in the Southwest. Without these signs, Montezuma Castle, for example, would be fairly hard to find for the average tourist. Now, however, the standard Park Service signs near Prescott and along the highway #66 in Flagstaff where roads lead South to Montezuma, give the tourists directions, distances, and consolation. This program has made a fine start and is one of the best things for direct public service we have done in a long time. It has only been through the fine cooperation given by the State Highway Departments of Arizona and New Mexico that so much has been done on this program with such small cost.



Solid Line Profile:- Capulin Mountain before Engineer Stewart arrived.

Dotted Line Profile:*-Capulin after Stewart left.

(See Capulin Report, page 20)

L. R. Caywood

SOUTHWESTERN MONUMENT

MONTHLY REPORT

MAY 1954



EDWIN BRIDGE

NATURAL BRIDGES NATIONAL MONUMENT

SOUTHWESTERN MONUMENTS
REPORT FOR MAY

I N D E X

Aztec ---------- 8
Bandelier---------- 5
Capulin---------- 2
Casa Grande----------27
Chaco Canyon----------11
El Morro----------20
Gila Cliff Dewllings----------25
Gran Quivira---------- 3
Montezuma Castle----------26
Natural Bridges----------19
Navajo---------- F
(Supplement).
Pipe Springs----------13
Saguaro---------- 25
Sunset Crater---------- 25
Tonto---------- 24
Tumacacori---------- 7
Walnut Canyon---------- No Rep.
White Sands---------- 15
Wupatki ---------- A-Sup.
Arches---------- No Rep.

Engineer Attwell-------- 29
Engineer Hamilton------- 32
L.S. Architect Morse---- 30

THE SUPPLEMENT

"The Hopi Craftsman"----------A
High School Classes on Arizona Tour----------B
A Complimentary Word on Civil Works----------C
Announcement from the Chaco----------C
The Mooseberg Collection at Casa Grande----------C
Fish Family to Montezuma----------C
"Traders to the Navajos"----------C
"The Navajo Story of Keet Zeel and Batatakin"----------F
Letters on Early History of Navajo Monument----------G
Conservation of Prehistoric Ruins ----------L
In Closing ----------M

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
SOUTHWESTERN MONUMENTS

Coolidge Arizona, June 1, 1934

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

Dear Mr. Director:

This report for the month of May will begin with an account of the general activities in the Southwestern district.

We are pleased to say that all final reports on the Civil Works Program have been received and forwarded on to Washington. It is good to see how well these activities have been reported upon. It is the clearness and conciseness of these reports that make them of value in the future administration of the Monuments. Field leaders are to be complimented upon the manner in which they organized their work and prepared their reports.

A C.C.C. Camp has been recently approved for Chiricahua National Monument. We will be able to get much useful work done which will result in adding to the enjoyment of people visiting that unique area. We have been somewhat disturbed about plans on foot in cities of that visinity to stage a great Labor Day celebration at the Monument where it has been estimated 8,000 people would attend. Simple arithmetic tells us some 2,000 to 3,000 cars would have to be parked and space for the celebration prepared. When Nature prepared the topography of that locality she just didn't have this particular celebration in mind and just how sufficient parking and other space can be provided where little space due to topography exists, puzzles us. Engineer Attwell and Architect Langley are looking into these matters on the ground now(May 30) while Chief Engineer Kittredge was there about a month ago.

Mr. Attwell and Mr. Rose made a short trip to Tonto early in the month to note necessary preparations for a temporary ranger going there July 1.

The appointment of Mrs. Gay Rogers as Temporary Ranger at Aztec is effective June 1. Visitor interest in Aztec will be unusual during the summer for in addition to the absorbing story of the ruins and the museum there, the restoration of a great kiva is going on under the direction of Earl Morris.

During the last few days of May work has been progressing on the preparation of a new Six Year Program taking into account those projects recently recommended under the coming Public Works program. This Six Year Program is to reach Washington on or before June 5. The preparation of this program coupled with getting out month end reports has caused an accumulation of work. However, we believe we will come through with all office work current.

The Boss has made two short field trips during the month of about one week each. The first was for purposes of attending the meeting of Superintendents and Operators held at Grand Canyon during the last few days of April and early May. The other took him to Gallup and Canyon de Chelly on matters relating to Chaco and the erosion control problem at de Chelly. A general plan of erosion control in de Chelly has been approved by the offices concerned and plans have been speedily put afoot for starting the work.

Recommendations for several temporary ranger appointments have gone forward and by July 1 we will have men on most of these new monuments recently transferred to us from the Department of Agriculture.

At the time the report for last month was being prepared, conditions on the range looked fairly good in the Southwestern district. During the first weeks of May, however, drought conditions were beginning to prevail. The enormous dust storms were not restricted to the Mississippi-Missouri-Ohio river valley regions. Tse storms were fairly general in the Southwest. However, during the last few days of May gentle rains have prevailed. Recent visitors from Billings, Montana, say rainfall has recently occurred from that state, down through Wyoming and Colorado. It will be seen also that most of the custodians report recent rains in their localities. This is encouraging for lack of snow and rains during the winter means these occasional summer rains will be much more badly needed than ordinarily is the case.

The reports from the various monuments follow. From them it will be seen that the tide of visitors is rising in most of the northern monuments.

CAPULIN MOUNTAIN NATIONAL MONUMENT: Homer J. Farr, Custodian

"Dear Mr. Pinkley: - I have the following report to make for this month:

VISITORS:- We have had approximately 700 to see the Volcano this month. Many schools have visited us including the school of Felt,

Oklahoma and several Boy Scout troops. 'Tis a good thing Capulin is made of rock for when a troop of Boy Scouts come they leave nothing unturned. But boys will be boys you know, and the best we can do in this matter is to wish we were boys again.

WEATHER CONDITIONS: Weather conditions here have been ideal but very dry. Local showers have appeared on almost all sides of this monument within a few miles, but it looks as if the Custodian and his good neighbors have not worn any holes in their knees, else we would have had our quota of rain. Raton (35 miles northeast) reports almost two and one-half inches last week, while one inch of rain fell about 40 miles east of here. Grass is extremely dry in this vicinity and cattlemen are suffering for the want of moisture.

GENERAL: I have very little news in this class to report this month. The road and trails continue in good condition. Mr. and Mrs. Pat Murphy, Superintendent of one of the leading schools in the southern end of this Sunshine State, were over-night visitors at Capulin Mountain one night last week and from their report were extremely well pleased with their trip to the volcano. The Custodian hopes that by the time for making the next monthly report he will be able to show this Monument all fenced. The fencing is now on the ground and application has been made for a FERA Project to complete this work. We hope to get started the first of June. Very respectfully, Homer J. Farr, Custodian.

- - -

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

We have the following optimistic report from Mr. Smith over Gran Quivira way:

"Dear Boss: Again I find it time to submit another report on the activities of the Monument for the past month. Travel has been somewhat slow with us. I have registered only 318 visitors, entering the Monument in 72 vehicles. Although we have not had the travel we had expected, we show an increase over last month and also over the same month of last year. Our register shows visitors from eleven states including our own.

'Among our distinguished visitors we find Dr. Edgar L. Hewett on May 20th. Dr. Hewett with a class of his university students, 42 in number, spent about three hours here. While here Dr. Hewett gathered his class, and all others present, in front of the Mission and delivered a very interesting talk on the early Spanish Missions of New Mexico. He then guided the party through the Mission and Monastery, making short talks on each room and its particular use. Then they gathered in our small Museum room and he spoke of the artifacts. After this, all accompanied him through the Indian Pueblo and enjoyed his talk on the ancient prehistoric Piro culture, as he followed it on down into the period of Spanish occupation.

GRAN QUIVIRA, CONTD.

"Well, we have had another month of dry weather which is causing a great deal of misgivings among the stockmen and farmers. And well it may, for in my seventeen years here I don't believe I have ever seen a winter so scarse of moisture. There isn't any underground moisture to bring the vegetation on. The grass is dry and hasn't any strength. The sheep men are saving only a small percentage of the lamb crop. The cattlemen are sharing the same fate. This dry weather is sure making the lower end of our approach road bad. This loose sand was graded up and there hasn't been enough rain to settle it and the constant travel keeps it worked up until it is in an awfully bad condition. I surely hope we will get a project under WPA funds to surface the remainder of this road.

"The ground plans of the Mission that were prepared to be placed in public places are being sent out right along. We placed one in the Gran Quivira, which is the Harvey Hotel at Clovis, New Mexico, and one in the Clovis Hotel, Clovis, New Mexico. One has been sent to Albuquerque to be placed in the High School museum room. One has also been placed in the Denver Hotel, Mountainair. Thanks to Mr. Attwell for this suggestion. I believe it is going to be a good way to get the Monument before the public.

"On date of May 3 and 4, the sewer tile, pipe, ground joint unions, L's, and gate valves were delivered to the Monument in good shape. This looks mighty promising for the future development of the Monument. It looks as if we will have an adequate water supply for the Monument and pipe enough to put the water on the camp ground.

"Mr. Cheney of the Forest Service, Albuquerque Office, was with us a few days ago. Mr. Cheney seems to think that the road under construction back in the Manzano Mountains will eventually contact our Monument and possibly be built on south to Carrizozo, thus getting a connection with a good highway here to the White Sands Monument and the Carlsbad Cavern National Park. This bit of information surely sounds good, for if this materializes we can expect our Monument to really come to the front. Respectfully yours, W. H. Smith, Custodian.

- - -

Gran Quivira is one of those few interesting places in the Southwest where Pueblo and early Mission history overlap. As the Monument is made more accessible through improvement of roads in the locality, this two-fold nature of Gran Quivira is sure to attract visitors in great numbers.

It is very pleasant to be travelling through central New Mexico and see the standard Park Service signs at the important road intersections directing people to Gran Quivira National Monument. These signs, together with maps and information telling people just what Gran Quivira is, should help travel figures as the season progresses.

BANDELIER NATIONAL MONUMENT: M. O. Evenstad, acting Custodian

"Dear Boss: Report time is here again and I am going to try to give a little outline of the past month's activities at Bandelier. For some reason, the number of visitors shows a drop this month. The total runs to 380. There was a noticeable drop in the number of Courier-cars, probably due to the opening of other areas, making possible longer trips. The fishing season for the state opened on the 20th, and as our fishing season does not open until June 1st, we no doubt lost a considerable percentage for the last two Sundays of the month.

"The actual construction work on the Frijoles Canyon Road was completed early in the month, but a crew is still working on the landscaping of the slopes and ditches, and another crew is busy on the stone guard rail running along the bank of the curve from Stations 85 to 90. This stone guard rail will, when completed, be about the best looking guard rail that is possible to build and will be equal, if not superior, in strength to the customary type. Another crew, divided into several sections, is busy rebuilding the trail to the Falls and the Rio Grande. This trail is in very poor condition and has several bad rock slides, but the boys are really putting out a first-class job on the rebuilding. There is a real problem in trail building involved on this trail, but I believe the gang is attacking it in the right way.

"The renovation of the ranger cabin and the re-building of the old stable into suitable sleeping rooms is progressing rather slowly. This type of work is quite different from ordinary construction work, as every phase of the work taxes one's ingenuity. Men skilled in such work are rather hard to find among the CCC personnel, but the work is progressing now to a point where we are beginning to see the beginning of the end. It is hoped that the end of the fiscal year will also see the completion of this dual project.

"A small crew started on the eradication of the tent caterpillar a few days ago. So far this work has consisted of the pruning of small branches that can be reached with pruning saws and hooks from the ground. Later on we will have to build ladders in order to reach the higher nests.

"On the 7th we planted 3000 black spotted trout in the Rito de los Frijoles. This species is an old native in this and adjacent streams. These trout were donated to us by the New Mexico State Fish and Game Commission and were brought in a truck from their hatchery at Pecos. The conditions were ideal for the transplanting, there being only a variation of two degrees in the water in the tanks and that of the Rito. Some of the fish went over the lower falls and were killed on the rocks below, and we may have the proposition on our hands of building a suitable obstruction above the falls to prevent this, if it continues.

BANDELIER, CONTD.

"Mr. Lyle E. Bennett, who has been the Landscape Architect on the construction here since the inauguration of the Emergency Conservation program, was transferred to Mesa Verde National Park during the month. Prior to this time, his time was divided between Mesa Verde and Bandelier. The summer program at that Park, however, is of such proportions that it became necessary for him to give it his undivided time. I was sorry to see Mr. Bennett leave, as he is a very capable man in the landscaping line. His place is being filled at this Monument by Jared Morse, who comes from Denver. Mr. Morse is a man with experience in National Park Service work. 'Chuck' Richey made a short visit here at the time of the transfer.

"The weather has continued exceptionally fine throughout the month. However, the dry weather is beginning to be felt in this locality, especially by the local ranchers who need plenty of rain in order to insure good crops and good grazing for the stock. The precipitation, so far, has consisted only of small sprinkling showers, too small to hinder or stop any of the construction work. Almost every day looks as if rain was in the offing, but so far we have had practically only clouds.

"Some of the CCC boys, who have pugilistic leanings, have arranged for an evening of boxing bouts with men from other CCC camps in the area, to be held at Santa Fe on the night of June 2nd. There are five bouts scheduled, each of which will have a participant from the Bandelier Camp. They are to be opposed by picked men from several of the other camps according to the divisions of weight available. This camp seems to run a rather high percentage of men skilled in the manly art.

"Two tennis courts - one a clay court and the other an asphalt court - have been built by the boys for evening recreation. Also several horseshoe courts are in process of construction. These courts are never idle from the time supper is over until dark. The baseball diamond is getting hardened down after repeated waterings, but there seems to be a lull in these activities at the present. However, a series of games is being worked up with other camps and local town teams and there will, no doubt, be considerable activity in this sport shortly.

"Next day: After complaining about lack of rain in a previous paragraph, I went home intending to finish this report in the morning. Last night the heavens finally let loose and a total of 1.67 inches of rain fell during the night. It rained steadily for several hours, with little or no wind, but with an abundance of lightning and thunder. How general the rain is, I am unable at this time to ascertain, but I believe that it took in a considerable territory. The ranger station roof sprung two leaks and it was a case of getting up and setting out drip pans. I think the rain will help our roadway considerably, as it needed packing and wetting quite badly. Sincerely yours, M. O. Evenstad, Acting Custodian.

- - - -

BANDELIER CONTD.

During former travel seasons the floor of the Frijoles Canyon could be reached only after a walk down a trail one-half mile long. Even under these conditions some 5,000 visitors yearly visited the ruins of Bandelier. Now that there is a road to the floor of the Canyon and people know they can ride by car clear to their destination what is this going to do to travel there? We can be sure of one thing, and that is that travel will greatly increase. Just how much that will be is an unknown quantity. An increase from 5,000 to 12,000 is not too much to expect in view of the proximity of Bandelier to Santa Fe, a tourist center.

- - -

TUMACACORI NATIONAL MONUMENT: George L. Boundey, Custodian

"Dear Mr. Pinkley: We have had a total of 1035 visitors for the month. Each year when the schools are closing the teachers bring their pupils to the mission for a half day of lunches and sight seeing. This accounts for a goodly number of the visitors this month.

"This country is experiencing a very severe drought, the cattle are dying by the hundreds as many of the dependable springs are drying up. The Indian neighbors have been holding the spring ceremonies in the fields for the past several weeks but the utter lack of rain has kept them from planting. About the only real activity in this country is among the treasure hunters, the hills are filled with them and the cattlemen say they are using that little water there is left in the springs and are trying to drive them out.

"Another project to give local labor a chance to earn food will start here the first of June; it will be a real blessing to the people in this vicinity.

"The cactus bloomed early this year and the hills are being searched from end to end for the fruit. It is surprising how many things growing on the desert are suitable for food. We tried the new growth on the prickly pear and it makes one of the finest salads we ever ate.

"Mr. Frank Kittredge, Chief Engineer of the National Park Service, and Engineer Attwell paid us a short visit the middle of the month. A crew of Park Service surveyors also stopped at the Mission on their way to one of the southern Monuments, I was away at the time. Am sorry to have missed them. Robert Rose, Assistant Superintendent, Southwestern Monuments, with Engineer Attwell, visited the Monument one day last week. As ever, George L. Boundey, Custodian.

- - -

TUMACACORI CONTD,

George fails to mention that he and his family have had some rather tough luck lately. Mrs. Boundey was in the hospital at Tucson. George, Mother Boundey and the two small boys were enroute to Tucson to see Mrs. Boundey when a car driven by a man in somewhat more of a festive mood than automobile drivers should be, collided with their car. Mother Boundey escaped with some cuts and scars from which she is recovering; the boys were scratched and shaken up considerably, while George suffered rib and knee injuries which for a time forced him to have his leg in a cast and get about with the aid of crutches. The car was badly damaged in the wreck. The Boundeys are optimistic in all of this misfortune. They are cheerful, thankful for escaping with no more serious injuries than they received, and are recovering from the experience in a fine way.

- - -

AZTEC RUINS NATIONAL MONUMENT: Johnvill Faris, Custodian

"Dear Boss: The fact that 'time marches on" is firmly impressed upon us by a glance at the calendar and realization that May 26th means another monthly report. It hardly seems possible that we are embarking on the tourist season with the other problems at hand. A check of the visitors for last May shows 398 compared to 669 for May, 1934, or an increase of 271 over the corresponding month of last year. It is hard for me to realize this change since I have taken very few parties through this year, but with this matter in the hands of Mrs. Guy Rogers I have little worry as to the treatment accorded each visitor. Mrs. Rogers reported for duty May 11th and has been in the harness ever since.

"Our activities, of course, are centering on ruins repair, with our main effort being concentrated on our north wall and the drain ditch. Both of these items are nearing completion and it is only a matter of a few weeks until the great kiva will be the center of attraction. In clearing away debris from our north wall we were very much surprised to find the condition of the wall in a most deplorable state. We had anticipated (with the experience of the American Museum excavations as a precedent) very little repair work necessary on these high walls. However, just opposite proved true and we have reconstructed almost our entire north museum wall with cement. This was done by digging down to solid foundation and setting up our wall in cement on the original wall foundation. As you are aware, this is still some six to eight feet above actual floor level of the first floor rooms. Dr. A. V. Kidder, Earl H. Morris, and Jesse L. Nusbaum, in surveying our ruins repair, were very pronounced in their desire to see this wall cleared to the actual floor level. Of course, such procedure is impossible at the present time and no plans are made with the present set up to even attempt such. If an additional sum is allotted this will be one of the first features to be developed and will add greatly to the spectacular effect, since to add six or eight feet to the present wall would make its general impression quite pronounced.

AZTEC CONTD.

"Wall restoration is now in progress along the northwest portion of our ruin and this area too we find in a disgraceful state of repair. A condition most trying along this wall is a very irregular layer of green stone which, to reproduce, is most tedious and trying. Taking the entire situation as a whole, however, we are very much impressed and encouraged with our ruins repair program. It is distressing to realize the limitations placed on us by our ruins repair allotment. Had we been able to anticipate some of the difficulties mentioned, we would have probably doubled this sum in our original request and would then be lacking for adequate money.

"With Chief Engineer Kittredge on the ground this problem of the areas surrounding kivas was discussed and we settled upon a plan whereby a capping can be given these areas, yet the tremendous debris will not be present and under such capping as we propose a circulative system will be carried out whereby any moisture that may penetrate or collect by the various means will be more or less taken care of by air currents and evaporation. I have great hope that this will save money in ruins repair since much damage can be traced directly to the presence of debris beneath the capping. In the northwest portion of our ruin several kivas are being treated in this manner and it is hoped before long to have them in working order and available for study and research as to the feasibility of this type of repair.

"In protecting our museum against flooding it was decided to remove the cause rather than try to correct the existing conditions. To have placed a drain carrying off such water as might be centered in our museum entrance would have been expensive and in a few years obsolete. After study and consideration of all angles it was decided to clear out the debris forming the area of drainage and at the same time repair these walls to where any possible danger of collapse would be eliminated. We are working on this at the present time and besides removing this unsightly mass of debris, which was not in its entirety original refuse, we are creating a much more impressive entrance and laying the way for a continuing our museum rooms farther east, should such ever be advisable.

"The final approved plans have been received for our roofed kiva and materials have been ordered for this structure. By the middle of June we hope to have this completed.

"The Great Kiva has been placed in shape for further repairs and is now in such condition that we will start on actual laying of the walls by the last of the week. The great problem on the kiva restoration will be in the roof itself. Under date of May 24th, Andrew Hutton, Forest Supervisor of the San Juan National Forest in Colorado, issued us a permit, free of charge, wherein we are allowed seasoned timbers. Granting this permit was certainly most gracious of him and is greatly appreciated by our Service. Even with this advantage it is quite a problem to get

AZTEC CONTD.

seasoned timbers, "snake" them out to loading facilities, and get them into place without high cost. Of course every precaution will be used to safe-guard expenditures but this particular item is certainly one on which we are incapable of estimating costs.

"We are particularly fortunate in having on the grounds and surveying our repair, both Dr. A. V. Kidder and Jesse L. Nusbaum. These men, with their wide experience, gave us many suggestions that are of high value in this work. Mr. Morris of course, in his genial manner, makes the work most pleasant and we certainly appreciate his supervision in our problem.

"Speaking of problems, we have always been more or less at a loss as to the proper accounting for the large number of kivas present in the Aztec Ruins. The work of the past winter and spring has added to this to the extent of eleven kivas. At present we have knowledge of fifty one kivas in the Aztec Ruins and the number yet to be disclosed will probably raise this figure several percent.

"The installation of our water softener is being completed and for all of our Kiva repair we will use this softened water, in an endeavor to note the advantage it has over our hard water of the past. It is certain this water is quite objectionable and naturally to improve upon it gives just that much advantage. Then too, through a period of years, the effect of the hard water on our plumbing fixtures will more than offset the expenditure for the softener.

"We are next Monday opening bids on team and truck hire and hope that this procedure will not effect the efficiency of our work. I can see disadvantages to truck hire on bids since it is only on rare occasions and for few hours at a time that our work demands trucks and it would easily be possible on the date or for the several hours that we need a truck, that the low bidder would be in Albuquerque, Santa Fe or some other port trucking fruits and vegetables. In this case we are at a loss as to the proper method of hire since oftentimes a delay would result in more damage than the output for truck hire. I Hugh can give this matter his attention we would appreciate information as to the procedure in just such cases.

"The team hire will be, of course, more or less regular and will not present the above type of problem to any extent.

"Your office is in receipt of my letter asking for additional funds and I trust it has received favorable consideration. If it were possible to have a Public Works board present so we could present the

AZTEC CONTD.

situation, not only as we think it may exist, but as research and excavations prove it does exist, I feel certain the matter would receive their consideration and the amount asked for would be given. I did not make any detailed statement as to the expenditures in my letter since Earl H. Morris gave that consideration in his letter of May 24th to the Director.

"It is indeed gratifying to witness the manner in which some of our more advanced craftsmen look on our work. Dr. Kidder and Jesse Nusbaum and Earl Morris have been most obliging in their comments and in their suggestions for future repairs. This, added to the cooperation and assistance we are receiving from the Departments within our own organization, is forming a foundation which should give us results of the highest type. We were particularly glad to have Associate Director Demaray and his party visit us and we only regret it was not possible for you to accompany the party. We hope they were satisfied with the results of our Civil Works and the progress of our Public Works and trust that the desire to see the final picture will bring them back for another visit.

"With our best wishes to the force there from all of us here, I am Cordially, Johnwill Faris, Custodian.

- - - -

That increase in the number of visitors by 70% over last year at Aztec doesn't surprise us. The Civil Works and Public Works projects have done wonders in beautifying the Aztec Pueblo and its setting. There is always great interest in the community in the activities of the Monument. Some archeological finds that have turned up in the normal course of operations have also played a part.

Arrangements for contracting the new museum and administration building are almost completed.

- - - -

CHACO CANYON NATIONAL MONUMENT: Hurst R. Julian, Custodian

"Dear Boss: Continuing the report for April; there were 217 for that month while 14 states were represented. An imposing list of distinguished visitors are seen on the records.

"On April 11 Mr. G. D. Macy, State Highway Engineer, was at the Chaco with Mr. Vogt of El Morro, and Engineer Hamilton. Mr. Kittredge was here April 22. Earl Morris on April 27, and on April 30 Mr. Morris returned with Dr. Kidder and Mr. Gladwin. The narrative report from Chaco

CHACO CONTD.

for April was included in the regular April Report of Southwestern Monuments to the Director.

"For the month of May there were 235 visitors. Fifteen states, Washington, D. C. and England are represented on the register. The distinguished visitors include the party which was with Mr. Demaray.

"The wire and fence posts which were sent to us have been hauled to the Canyon, and there is a small crew at work doing the fencing. In all probability we will be able to put up all the fence that we have on hand and have several hundred dollars left over from our labor fund. However, we are not particularly worried about this state of affairs as we can drill holes along the fence line where the posts will be eventually set in the solid rock.

"Considerable comment has been made on the matter of the unusual burial which we have in the museum. It seems that the practice of removing the head and placing it in the abdominal cavity was not generally followed in the southwest.

The newly created Soil Erosion Service has been flatteringly interested in our erosion control work in the Chaco, and have requested copies of our plans for the future. Several parties of Soil Erosion Engineers have been in the Chaco during the past month. Their interest included the archeological evidence of the importance of watershed protection.

Dr. Hewett was in the Canyon last week making preparations for the summer school. The plans are for the continuation of the excavation at Chetro Ketl.

Possibly there will be no "Fourth of July Celebration" at the Canyon this year, as Gallup has planned a rodeo for that date. Our Indians will probably be in town for the rodeo, and there will be no healing ceremony at the Chaco. Last year there were something over six hundred people in the Canyon for the ceremonies, and they brought their beds, their food, and their drinking water in some cases. In the future, however, there will be an abundance of water as we have completed our new well.

"This being a rather uneventful month, I fear that I shall be compelled to resort to comment upon the state of the weather in order that I may have a full length report. The weather has been excellent, but there is a need for moisture. The roads are so dry and hard that they can not be worked, and the high winds have pitted the dirt surfaces to the extent that it is unpleasant to travel the east and west sections of the road. Sincerely, Hurst R. Julian, Custodian."

CHACO CONTD.

Chaco with the ground water too far below the surface of the ground and de Chelly with its ground water at or near the surface present two of the greatest problems in erosion in the monuments.

This calls to mind an interesting experiment being carried out at the Boyce Thompson Arboretum near Superior about 45 miles from Casa Grande National Monument. Here a Fly Camp from a Forest Service CCC Camp is carrying out experiments on native and foreign grasses. Some very sturdy African grasses are among those that thrive luxuriantly under average moisture conditions. The purpose is to discover and develop hardy grasses which will make excellent grass cover. Restoration of the grassy and browse vegetation is one of the great problems of erosion control in the Southwest.

- 4 -

PIPE SPRING NATIONAL MONUMENT: Leonard Heaton, Acting Custodian

"Dear Boss: Again we prepare our Southwestern Monument report to let you and the Service men at Washington know what the men in the field are doing and have done this past month. So I add what little there is from this Monument.

"Weather has been hot and dry with a few cloudy days, which looked stormy but the wind always came up and the clouds were blown away. Everything is suffering for the need of water. Reports come in that the watering holes are getting almost too dry for stock to get a drink. I don't doubt it by the way the cattle are coming in to Pipe Springs for water. I would say that there are close to 2000 head here now and probably more will be driven in if rain does not come soon.

"The travel record shows the following figures:

Record No. 1		Record No. 2	
N. P. S	2	Local travel team and wagons	12
Arizona	26	Horseback riders	63
California	19	In cars	438
Utah	63	No. 2, Local travel	513
Washington, D. C.	4	No. 1,	119
Nevada	5	Total for month	632
Total, other than local visitors	119		

An increase of 287 over last month which is due to the fact that the Schools of nearby towns had class field trips this spring and Pipe Springs was included in some of these trips, bringing our visitors up to a high mark.

PIPE SPRING CONTD.

"The following is a brief report of the water division problems that have been under consideration during the past month:

"On May 5, Park Engineer L. E. Cowell, Mr. M. E. Hall and Dr. E. A. Farrow arrived here about three-thirty PM. The afternoon was spent in discussing ways and means of making dividing devices and of measuring the water. It was agreed that Cowell would make, or have made, two small weirs of sheet iron and come back May 7 and the water would be measured and that Mr. Hall would do what surveying of the division box that is necessary. The Indian Service is to get the sand and gravel, and bring three of their CCC men to help with the installation of the box. The Park Service is to furnish the cement.

"On the 7th, Cowell and Hall put in the measuring weirs and got the following: At about three PM the reading of the Tunnel Spring was taken. The weir was 2 inches wide and the depth .12, giving a flow of 10.094 gallons per minute, which is an increase of 2.394 gallons per minute over Rose's measurement last September.

"We then stopped up the water that comes through the Fort and waited for 30 minutes or so before taking the reading of the Big Spring. This weir was 3 inches wide. It gave a flow of 37.296 gallons per minute. This reading was at four twenty-five PM. This is an increase of 3.856 gallons per minute more than Rose had measured. A total of 47.39 gallons per minute as against 41.14 gallons per minute, or an increase of 6.25 gallons per minute.

"On the 8th, men were started on the excavation and preparation of the ground for the forms and at eleven AM, May 10th, the cement was started into the forms and by four PM it was all finished. The Indian Service relaid their pipe line connecting to the division box with 2 inch galvanized pipe on May 16th. At that same time I had the Park Service outlet attached to the 2 inch cast iron pipe to carry the water to the upper end of the camp grounds and other places where needed. May 22nd I turned the water into the Division Box to test out our pipe line and found that we were not going to get very much water up to the camp ground trees through the line. The other outlets are all right.

"Practically all the trees that were set out last spring are growing even though the cattle did get in and eat them off a time or two. Another problem that I am working on is the milkweed that is in the meadow. I am having them pulled up every week or so to see if we cannot get them killed out before they kill the grass. I expect it to be a long fight, but here's hoping we win.

"I am making a new arrangement for my museum and I hope to have it completed and the material labeled in the next two weeks. Sincerely yours, Leonard Horton, Acting Custodian.

PIPE SPRING CONTD.

"In measuring the water at Pipe Spring last Fall, Bob Rose took a measurement for the Tunnel Spring at the outlet of the Upper Meadow Pool into which the water flows. He listed a number of losses and estimated them at about 30%. These were:

1. Evaporation
2. Growth of vegetation
3. Seepage

He stated that his 7.7 gallons per minute where he had to measure it at that time, would be close to 11 gallons per minute after the Tunnel Spring opening was cleaned up and improved. Leonard states the recent weir measurement of the water gave 10.094 gallons per minute, a close check indeed on the estimate and the amount of loss assumed.

On Bob's estimate that the 7.7 would be about 11 gallons per minute after this cleanup and improvement that have been done this winter, he stated the total useable water output of the Monument would be about 44.44 gallons per minute. Weir measurements reported by Mr. Heaton give 47.39 as the actual measurement of water, or 2.95 gallons per minute more than Bob got last Fall with his rectangular box, stop watch, tube, buckets and other quickly assembled equipment he used to get a close approximation on how much water was actually under discussion.

The division of this water by three way simultaneous flow, 1/3 going to Indians, 1/3 to Park Service and 1/3 to cattlemen, gives rise to new problems on how actually to accomplish the use of the water in irrigating the trees and grass on the Monument.

- - -

WHITE SANDS NATIONAL MONUMENT: Tom Charles, Custodian

We have the following report which shows some of the trials and tribulations of a dollar a month man in Southwestern Monuments. Too, we don't want to forget that recently his 85 cents a month was raised to 90 cents. White Sands is somewhat of an adopted child of Tom Charles'. Somehow it takes a few of these dollar a month and dollar a year jobs to show that there's still a mighty lot of fine work done by men in our Service for the love of it. Tom's report follows:

'Dear Mr. Pinkley: This has been a hard month on the "baby". "Milk" was cut off on April 26th, and as the cow-men express it, when they mean the calf, "It looks a little drawed".

WHITE SANDS CONTD.

"There has not been enough money on this White Sands Monument since April 26th to pick up the broken bottles, Mrs. Charles and I have tried to keep track of the biggest "parties" and follow them within a day or so to gather up the broken glass, tin cans and such articles as might cut bare feet. Within a few days the broken glass would be covered up with the creeping sand and as many of the young people go barefoot in the sand, this broken glass is very dangerous.

"We had only a partial count this month. There were eight school picnics, ranging in number from 150 children of the Weed School , 50 miles away, to 12 of the Hope school graduates, 110 miles away. In one party, 30 couples had an all night picnic with midnight supper on the Sands. I do not think it was a church affair for one of the men told me next morning that they tried to pick up all the bottles so they would not get broken.

"The special parties that we know of had a total of 432 visitors. We counted one Sunday, May 6th, from 10:30 A M to 6 P M and had 298 people. Our last road count showed 86 cars through the Monument daily in daylight, or something over 10,000 monthly visitors.

"Despite the "weaning" process this "baby" has gone through in the past month, it was one of the best months ever experienced. It was in the last days of April that we had the big "Coming Out" party with 776 cars, 4,642 visitors. (Bill Robinson, head of the state liquor control, says his man got - count of 5,210 people on that day).

"It seems to me that the number of people was not the big feature of that party. The big thing to me was the fact that 5,000 people could gather in a new monument for 6 to 10 hours with no accident, no disturbance, no inconvenience, no complaint. In fact with only words of praise and enthusiasm. It speaks well for all the communities surrounding these Sands and it speaks even more for that remarkable organization, the Alamogordo Chamber of Commerce which sponsored the party.

"Albert B. Fall was the principal speaker of the occasion. It was a sad sight for Judge Fall's friends to see him helped from the car by two men and supported on each side when he started to speak, and finally compelled to sit down while he finished his address. The Great White Sands has always had Judge Fall as one of its most ardent supporters and it was probably that friendship for this national attraction which prompted the Judge to come to the party. His friends gathered from four or five states and from all surrounding towns for the occasion. One family came from Tulsa, Oklahoma, one from Raton, New Mexico. Governor R. C. Dillon, Judge E. L. Medler and several others came from Albuquerque and Former Governor George Curry and a party of friends came from Hot Springs. These hardened pioneers who had worked in the mines or on the cattle ranges or

served in the ranks of the Rough Riders with Judge Fall, crowded around his car, tears streaming down their faces as they shook his hand or reached past other old timers to pat him on the shoulder. The Judge said he feared this would be the last time that he would be at such a gathering, because of his physical condition. He was certainly among friends and both he and Mrs. Fall were extremely happy and wrote back to the Chamber of Commerce, thanking that organization for the opportunity to meet their old friends.

"Judge and Mrs. Fall have lived in this county since 1882. He was known as the 'poor man's lawyer and friend' and for that reason was for years a political power.

"Following the big picnic, the Weed school came in a body in some ten trucks and cars, bringing the teachers, the Board of Directors and parents. The village of Weed is in a rural neighborhood of the Lincoln National Forest and many of the school children had never been out of that vicinity and but few of them had ever seen the White Sands. The Alamogordo Chamber of Commerce provided fifty gallons of ice cold lemonade and the Mayor of Alamogordo sent a man and the town truck out with barrels, lemons, sugar etc., and a man to help serve. It was one swell party for those children from the heart of the forest.

"Our next event of interest was a farewell banquet for O. Fred Arthur, Supervisor of the Lincoln National Forest here for 16 years, who is being promoted to a position in the Regional Office at Albuquerque. The party was for Chamber of Commerce members and the Forest Service group. It was rather unusual that every chair was occupied. The principal speakers held up the forest and the White Sands Monument, side by side, as Alamogordo's outstanding attractions and leading industries. It looked to me like the White Sands was "horning in" on the party. The Lincoln Forest has been established for nearly 25 years and the expenditures there were over a half million dollars the first six months of the year. The "baby's" nurse certainly shrank from the comparison.

"These parties were hardly over until Governor Hockenhull asked me if I would accept the county chairmanship to raise the Otero County quota of $300. for a New Mexico exhibit at the Chicago Exposition. Senator Coe Howard, who is State Chairman of the World's Fair Commission had already notified me that he wanted an extensive exhibit of White Sands at Chicago, so I felt this was no time for me to shirk so I went to work.

"The County was divided into the 16 voting precincts, the quota for each being based according to the vote at the last election. The Alamogordo quota was $124.10. The Chamber of Commerce accepted the obligation and made arrangements for a street dance and carnival on May 23rd.

WHITE SANDS CONTD.

"FOUR big dances were advertised, one for the Old Timers, the Anglos, the Spanish Americans and one for the colored population, We had to give up the Negro dance, however, when we found out that the colony had three churches and no dance halls, and that they had never held a dance in Alamogordo.

""Hog-calling, fortune telling, doll racks, shows, confetti stands, white elephant sales, raffling, games of chance and the 'Fan Dance' were the orders of the evening. The result was that the Chamber of Commerce made $225.89 instead of their necessary $124.10. Senator Howard writes that he will be here the last of the week with blue prints of the Chicago display and that we shall have an extensive White Sands exhibit.

"Today we have Mrs. Elizabeth Bowering and her son C.M.T. Bowring of London, England, visiting the Sands. They at least tickled our fancy by raving over them and declaring that the White Sands areone of America's leading attractions.

"So, milk or no milk, the baby seems well and active and a popular youngster, Yours truly, Tom Charles, Custodian."

Here's more about Tom Charles and his adopted child that came in today:

""'The plot still thickens around the White Sands Monument. We didn't go out there Sunday, I spent the forenoon with Coe Howard, who has charge of the Chicago exhibits, planning our display at the Century of Progress show, I have been out Friday with the Assistant Sup't. of the Southerrn Pacific, trying to work out a 'Tours' system.

"Monday I was out there and learned that the night before there was one party of 24 young people over from the Hatch-Jornada country, that there were also some five or six other parties out there. So far I have no estimate of the day's business.

"Monday night Mrs. C. and I went out with a most remarkable group 34 4-H clubbers from beyond Childers, Texas. They had driven 505 miles to see the Great White Sands. They had one truck and three cars. They had planned the trip through our local County Agent. They camped there all night and two hours over the next morning. They voted, almost unanimously that the Sands was the greatest attraction they had seen. They hadbeen to Carlsbad Caverns, Juarez, Old Mexico, El Paso and many other places. Walt Attwell wasn't in it with those boys when it came to driving over the hills, There were none too high or too steep for them. There are lots of

parties out there these moonlight nights. I do not know who they are but they always leave some tracks, such as fires, bottles, orange peels, etc.

"I am quite thrilled over the White Sands exhibit at the Fair. I am enclosing a rough sketch. The New Mexico building is between the Airways landing and the Government Building. It has the Florida tropical Garden($250,000) clear across the rear of the building. The State's location is ideal and the Sands will have 1/3 of the big table at the right of the entrance.

"Why do we not get a report on our water samples, do you know ? Tom Charles."

NATURAL BRIDGES NATIONAL MONUMENT Zeke Johnson, Custodian

"It's always good to have a line from Zeke up in the Natural Bridges country. We're glad that he is on the rolls beginning June 1, to care for the travel there.

"Dear Frank: I am here in the Lake (Salt Lake City) today. I came up on the 24th after Mrs. Johnson. We will drive back to Blanding on the 30th and will be on the job at the Bridges June 1st.

"I have made several trips out there this month and have entertained, or helped entertain, 219 visitors -more than we used to have in a whole year. There were 120 in one party, the biggest crowd ever there at one time. One bunch of 38 got there one day ahead of me, and talk about rough necks ! They were rolling rocks off the top of the Bridge and had cans and paper scattered all over the flats. Well, was I glad to help them get things cleaned up !

"Someone needed my coffee pot, big aluminum camp kettle, and frying pan more than I did for they disappeared during the winter; also three short steel drills went the same way. We had them cached under the lodge. Everything else was all OK.

"I surely hope that I can be put on the job May 1st next year, for I had to leave my road work several times to come out with the crowds that were coming out, and a good thing that I did. I have spent all the money allotted me for the road and never completed four miles. The State officials tell me that work will continue soon, but I don't know. But I am in hopes something will be done. It looks as if we will have plenty of visitors at the Monument this season and the road is in very poor shape part of the way. However, I will do the best that I can for all concerned. Yours very truly, Zeke."

EL MORRO NATIONAL MONUMENT: E. Z. Vogt, Custodian.

"Dear Frank: I had decided to write my monthly report Sunday morning but noting quite a few cars going by to El Morro, I saddled up my Model A and went out to show the visitors around. Mrs. Vogt and the children joined me later with a chuck full of food and two interesting friends, ex-Army people from the Jemez Mountains. All visitors were contacted and shown over the Monument and I was awarded by satisfying steaks cooked on oak coals in a dutch oven, which seems to lend a tang to camp cooking which no other way of cooking gives. While we were eating the apple pie baptised lovingly with whipped cream, Jo Anne, aged 11, and Patty, aged 9, disappeared. Soon we heard them calling to us and directly over the stone fire place in the pine tree cove we saw them on a narrow rock ledge fully 50 feet above the ground.

"Their daring climb alarmed us but it lead to a discovery. Jo Anne noticed that on the very slanting ledge going up that there were several very old carved nitches in the cliff, remains of an old Indian trail to the ledge. This made her wonder why the old Indian dwellers had taken the trouble to peck out steps to a stone landing which led no farther. Then she found a lichen-covered pitroglyph, something like a circular maze made of nine circles, with a smaller one to the upper right and connected and with a diamond design leading off to the upper right of the larger maze. The last stroke of each maze pointed towards the north in the general direction of the principal water hole in the cove. The larger maze is 15 inches across and may be what many call the water sign. These carvings, many centuries old, and so high above the ground, are plainly visible from below from certain places, but no one had even thought of looking that high. As far as I know, no one had ever climbed up there. After the pic I climbed up but found it gave me a 'once-is-enough' feeling as it is very dangerous coming down.

"During the month we have found traces of two other carved trails so very dim yet unmistakable, once one sees and studies their convenient placing for climbing. These trails led to dark crevices in the cliff, high above the head, holes some 30 feet above the ground, which have not been entered yet as some of the steps are entirely obliterated by the flowing rain water over them for centuries. I plan to build a tall ladder for reaching these places and to carry a field glass with me for scrutinizing the cliff walls more closely. The hidden and yet unfound records of the past, especially Indian and perhaps even Spanish, will keep leading us on for many years.

"We have had lots of surprises and compliments about the new road from Ramah to El Morro which we completed this month in 15 days intensive work. The McKinley County cat and grader well manned over a course quite straight but missing lava out-croppings, built up a good grade which is drained by culverts placed by Navajo and white labor. The actual money cost of this 14 mile road was $1250 and it is the first road leading from Ramah to El Morro which has ever been built. One can

EL MORRO CONTD.

now drive without changing gears and with fair comfort, tho of course it is not a surfaced or oiled road.

"After finishing this piece of road we managed to get the use of the grading outfit for work to the southwest and financing it through Indian Service help, private donations, and $300 from Valencia County. We flat-bladed a road 25 miles southwest to Atarque on which culverts, hauled through the kindness of the Forest Service, are now being placed. It was a lot of fun staking out this road through the close timbered country to Atarque which was founded by the first Spanish settlers in 1882, but which never has had anything but two high centered, groan-producing ruts leading to it. The people at these Mexican ranches 20 and 25 miles from El Morro were almost alarmed at the great size and noise of the caterpillar as it dug into the dirt and made road as it went. At Pinitos where there is a 10 kid school, all Spanish, the teacher and all the children, boys and girls, followed along for several miles to watch the work and once when the tractor stopped to be cooled off by a drink of water they asked to ride. So we gave them all a chance to ride the vibrating monster. I offered to take them back in my car but they gladly walked to their poor little adobe school, greatly delighted with their wonderful experience.

"At Atarque the advent of the machinery was like a circus coming to town. Everything stopped. All four rooms of the schools dismissed. One man came on ahead horseback to tell us that the women of the town were getting up a fiesta dinner for us while the rest of the village waited at the foot of the hill to see how the machinery would push the rocks and dirt away. The meal those good women got up for my greasy crew of cat and blade men and three axe men who went ahead of us to help make clearing was an achievement which will live long in the crevices of my memory. Really those empanadas, chili con carne (made from the hand kneaded chili pods) the huevos fritos, not to mention three cakes and four kinds of pudding almost wrecked the outfit. The Mexican women assembled and served this food at one house and stood by to see that we did our darndest. That night they gave us a dance and we swung the senoritas until midnight.

"From Atarque the road was continued 6 miles farther to our Lake which is a great sheep watering place, a fishing and swimming spot, and is on the course of a proposed road to Salt Lake in Catron County which would ultimately join up with Highway 60. Coming back from Atarque the road was bladed over to connect with Road 52 which comes from Quemado, Adams Diggings, and Techado so that the stock men as well as the new settlers down there could come to El Morro and bring their friends. The work on these approach roads has greatly increased travel to our Monument and we believe will be the foundation of a surfaced road later on.

EL MORRO (CONT'D.

"You have written us about the small amount still available in May and June for improvements. We intend to use this for maintenance of trail, improving trail, and for moving the rangers cabin around to our proposed Administration Building site. As you promise an early visit I would like to let the moving of the cabin go until you get here as I am sure your letter to the landscape men will meet with their approval. Then when you come we can actually select the site where the small building can be unobtrusively tucked away in the trees, Thus the ranger can contact all who enter the Monument as he can see them as their cars approach and be of more service than he can possibly be with his living quarters where they are now. The domestic water has been hauled from my home anyway for 2 years.

"I am glad to receive the appointment of Alfred Peterson as permanent ranger. I have written to him and he promised to be here from his studies at the University of Arizona not later than the first. It will give me a great feeling of relief to know that he is always there ready and smiling to meet all comers and to look after the valuable records entrusted to us at this Monument.

"Some of the trees we planted under the CWA program in the fill we made in front of the camp cove have died but there appears to be enough of the conifers living to add to the scenery. The oats and clover are growing nicely and will help the grama get started. The jack rabbits hold nightly fiesta there on that green area and slink in towards dusk to fill up their already ample bodies. Our restrictions about wild life leave me in a quandary as to how to proceed to save the oats from the jack rabbits.

"The Pedro Romero name appearing with the date of 1580 I think is one of the names of the men with Chamuscado who headed up the Rodriguez expedition about that time. I intend to write Dr. Bolton at Berkeley about this name and date and get the names of the others who made up the expedition. This name is just below and to the right of the Onate 1606 inscription, and it seems to me to be the very oldest on our cliff. During the month I have received Lansing Bloom and Prof. Donnelly's History of New Mexico which helps me in my history studies. Also Villagrans History of New Mexico, 1610, printed by the Quivira Society. No doubt all the members of the Monument force have received copies of the announcement of 'Traders to the Navajos', the story of the remarkable Wetherhills by Miss Gilmore. I am sure going to save up to buy this book which I have been hearing about for a long time.

"The very enjoyable visit of Major Toll of the Yellowstone and his party made up of Messrs. Cable, Montieth, Ahearn from Washington, the two Harveys of the Harvey system, Roe Emery and son of Denver, and Mr. Shirley of the Grand Canyon, came unexpectedly. We met them at Grants and

showed the party the Ice Cave region and the possibilities, and then to El Morro after which all went to Gallup where we were guests of the Harveys at El Navajo for dinner. Major Tolls' report of the Ice Cave is complete and well done. We are disappointed that it seems not possible to take that country into the Park Service tho we certainly fully realize that in doing so we would detract from our El Morro which is the only place of its kind in the world. The Major is right in all he says and he truly sets forth the best interests of the Service in his report to Director Cammerer, the copy of which you sent me. I do not think that the fight for preservation and protection of the ice and the woods should stop, but that the Park Service should head that up and shape it up if possible and see that the state of Forest Service protects this region from further damage. A letter from Mr. Nusbaum tells me that there is a Park Service man in the state now working on such matters. I hope he will examine this place soon and get the place in safe hands.

"General conditions here are good for the live stock man, farmer, and Indian. It is true that wool buyers as always look at one with a deprecating expression and funeral look when approached on wool prices. They look at one with a disdain which as much as says 'why in the world didn't you stay back east driving a laundry wagon or selling peanuts where you belong, instead of coming out west to raise sheep'. The steer buyers may be a bit more cheerful but as far as those Boston wool buyers are concerned I've never seen a happy one yet. They try to discount the actual price by tear stuff. However, I believe that despite the fact that the market has somewhat settled that Navajos and Zunis will get 20¢, and that the better wools will bring 25¢ if not sold too soon. Steers are still standing around eating grass the cows ought to have, so cow men are not feeling so good tho they are thankful here in the foothills for better feed conditions than they have ever seen at this time, a unique condition it seems as other parts of the state are very dry. Lambing among the Navajos has been around 90 percent while the Zunis have saved them all, around 100 percent. Others with larger outfits of ewes have lambed around 80 to 90 percent. Farmers are watching their corn grow and are poisoning prairie dogs through the Biological Survey's help. Many new settlers from California, to the southeast of us 10 to 20 miles, are taking up mile square homesteads and setting out in true pioneer fashion to build themselves a home through force of axe and spade. The FERA is making a timely survey of conditions among the newcomers, many of whom are very poor.

"I had the pleasure of meeting the new Superintendent of the Mesa Verde the very day I met Mr. Demaray at Gallup, an accidental meeting all the more pleasurable. I tried to pry the party loose from their schedule to show them a Medecine Sing of more than 1000 Navajos I had run into about daylight while in search of a Navajo sheep herder, but they felt they couldn't leave their program. I also met Mr. Langley of the Landscape group at Winslow one day when I went over there to make contact with Secretary of Agriculture Wallace. Mr. Wallace traveled so fast with his party I was

EL MORRO CONTD.

never able to catch up with him tho I once saw his dust. I wanted to talk about that 160 acre tract adjoining us on the north which needs the help of the Submarginal Land Corporation so that it may be added to our Monument area.

"Don't forget to visit us this month. We are counting on it and we would like a wire if possible to let us know when you arrive so as not to miss you. With regards to all, E. Z. Vogt, Custodian."

- - -

With all the road improvements E. Z. speaks about it will be interesting to find out the effect this will have on the travel to El Morro during the summer.

- - -

TONTA NATIONAL MONUMENT: (Recently transferred)

On May 14th Assistant Superintendent Rose and Associate Engineer Attwell visited the Monument and made a study of the Summer's traffic problems.

On the 21st Engineer Attwell returned with an engineering crew. The stone monuments on the north boundary which were placed in 1881 by a Mr. White, were found. The highest one was 10 inches above the ground. This engineering crew will make a topographic map of the present headquarters area before they depart.

The tourists registering show that about 400 visit the ruins each month. A check last week showed that only 1 out of each 5 visitors who drive to the Monument actually leave the car, probably because they see no indication of a ranger most of the time to guide them on their trip to the cliff dwellings.

- - -

CHIRICAHUA NATIONAL MONUMENT: (Recently transferred)

Chiricahua is showing signs of road activities. Engineer Clark has had a crew continually on the Monument making topographic map of the area. Engineer Stewart last week completed a small topographic map of several areas that are under discussion for immediate improvement.

Superintendent Pinkley accompanied by Engineer Attwell visited the Monument on the 11th, looking particularly over the Massai Point terminal of the new road.

CHIRICAHUA CONTD.

On Decoration Day Engineer Attwell, Assistant Landscape Architect Langley, and Landscape Inspector Dan Hull drove to Chiricahua to make development plans for the future.

The new ECW Camp, NM2, is constructing their new Camp. They will build fire trails and do other important work.

So the Wonderland of Rocks has come to life!

- - -

SUNSET CRATER NATIONAL MONUMENT: (Recently transferred)

See the Supplement for an account of a visit to Sunset Crater by a party of high school pupils and their superintendent from Texas.

Sunset Crater is easily reached from Flagstaff over roads most of which are in excellent condition. A fine display of volcanic geology and of inspiring beauty make this Monument of unusual interest. Studies of small archeological sites both above and below loose volcanic cinders have made possible the approximate dating of an eruption of Sunset Crater.

- - -

WALNUT CANYON NATIONAL MONUMENT: (Recently transferred)

During the last few weeks Walnut Canyon has received the attention of the Engineering Department and the Branch of Plans and Designs. When this Monument was transferred, we acquired a major problem of a Monument already having just a little less than 10,000 visitors annually.

- - -

SAGUARO NATIONAL MONUMENT: (Recently transferred)

There is no formal report for Saguaro. Travel will be at its greatest during the winter months. It is going to be interesting during the coming winter months to study on the ground the travel, its daily distribution, and the general extent of peoples' interest in that remarkable area.

- - -

GILA CLIFF DWELLINGS: (Recently transferred)

Gila Cliff Dwellings is in the Silver City region of Southern New Mexico, a locality popular as a summer vacation land. During the coming month we should be able to have some reports on this area.

- - -

MONTEZUMA CASTLE NATIONAL MONUMENT: M. L. Jackson, Custodian

"Dear Pink: Our books show that we have had 984 visitors for the month against 823 for the same month last year. This is an increase of about 19 percent which looks better than our last month's report where we showed a 15 percent decrease. A big part of our visitors are out-of-state people as we have not had any campers and very few picnic parties.

"Among the notable visitors for the month were Charles Mayo of the famous Mayo Clinic, and associated doctors. The party was accompanies by several of the doctor's friends who drove here in two big Buick sedans. They all assured us that they enjoyed the Monument and would recommend it to their friends.

"Mr. B. M. Kinser, a retired contractor from Eustis, Florida, and Dr. H. A. Kelly, the only surviving member of the so called Big Four who made it possible to open the Johns Hopkins Hospital which later developed into the Medical School, were with us this month. Dr. Kelly concentrated his efforts in the fields of Obstetrics and Gynecology. He is also a recognized authority in several branches of surgery and well informed in all phases of natural history. But more than that he is a very lovable character. We enjoyed Dr. Kelly's and Mr. Kinser's visit immensely and hope to see more of them.

"Ranger Frank Fish, wife and daughter Shirley came up from the Casa Grande Ruins in the middle of the month. Mr. Fish has a temporary appointment here but ran into the work just like an old head and from all reports is going over with a bang. Needless to say we like Mrs. Fish and are all in love with the baby, but so far she has turned down all our advances to get friendly.

"Robert Budlong, the ranger at Casa Grande Ruins, came up with the Fish family. I was off at the time and did not get to see him, for which I am sorry, as I wanted the pleasure of showing him through a real cliff dwelling. Come again, Bud, and we will be here.

"It is well known that Montezuma, the Aztec Chief, had no connection with Montezuma Castle. Recently Edmond Naquatewa, affiliated with the Museum of Northern Arizona at Flagstaff, who has been working with Mrs. Colton on the origin of Hopi clans through legends, informed us that the Bear Clan of the Hopis, allegedly, were the builders of the Castle. The Indian name for the Montezuma Castle is Ventazoma. The similarity between the pronunciations of Ventazoma and Montezuma leads us to believe that the name Ventazoma could easily have been corrupted by the early settlers of the Verde Valley into Montezuma. Edmond is coming back in the near future and we hope to obtain more and accurate information concerning this legend. This was Edmond's second trip to the Castle. His first trip was made when enroute from the Phoenix Indian School, where he ran away in 1902, to Hopi country. Edmonds is obviously a self-educated Indian but nevertheless, very intellectual. Sincerely yours, M. L. Jackson, Custodian!"

- - -

CASA GRANDE NATIONAL MONUMENT: H. F. Palmer, Custodian

"Dear Mr. Pinkley: May is gone and we hasten to tell you what happened before 'Bob' Rose comes looking for us with a gun for holding up the monthly report.

"Our visitors report is rather disappointing because there were 664 less people visited the Monument this May than in May, 1933, the total being 1740 as compared to 2404 last year. These 1740 came in 468 cars. 1179 or 67% were from Arizona. 197 or 11% from California, 48 from Texas, and Illinois was fourth on the list with 34; the remaining 282 came from 34 states, D. C., Alaska and three foreign countries, Mexico, England and Switzerland. Our Educational Staff, consisting of one Ranger and a temporary helper with the occasional assistance of the Park Naturalist and Superintendent, personally conducted these 1740 visitors through the ruins of Compound A on 240 trips; they explained the Museum to the 1740 with 219 lectures.

"In addition to these 1740 who were actually contacted and given Educational Service, there were 468 people who drove in and used some of the facilities of the Monument, such as picnic grounds and comfort stations, but who were not given Educational Service, making the total visitors 2208.

"Our picnic area since its improvement under Public Works, grows more popular every day. We now have a delightful place with plenty of shade, tables and water and people are taking advantage of its conveniences. It is used by the public schools and by fraternal, civic and church societies for the holding of their annual picnics.

"The weather for the first half of the month was unseasonably hot but toward the month end it cooled off and there was slight precipitation. The year so far has been unusually dry and farmers are considerably worried over the shortage of water behind the Coolidge Dam.

"The average maximum temperature for the month was 98.9 degrees; the average minimum was 58.67 degrees, giving an average temperature for the month of 78.78 degrees. The maximum was reached on the 10th and 11th when the temperature reached 109 degrees; the minimum was 47 on the 3rd. The total precipitation for the month was only .13 inches; there were 26 clear, 2 partly cloudy and 3 cloudy days.

"A small crew of 8 men furnished by the County from FERA funds was used part of the month clearing and grading for a fence on the south and west sides of the Monument. The Indian Irrigation Service has built up a bank all along the south side and part of the west side with the cleaning of the silt from the canal and has encroached upon from 8 to 30 feet of the Monument; the fence has been set in off of our line enough to clear the toe of this bank at the widest point but boundary posts have been set on this bank on the actual boundary every 400 feet. This will establish the exact boundary in spite of the fence being set in. These boundary posts are 6 feet long, 2 feet above ground and 4 feet below ground, set in cement.

CASA GRANDE CONTD.

The fence to be erected will be a 45 inch woven wire with 2 strands of barb wire on top, all on steel posts. It was purchased by the State from the balance of our CWA funds at the end of the CWA program with the intention of using FERA labor to erect it. To date the line has been cleared, the corner and strain posts located and the grading completed. Everything is now in readiness to start erection of the fence. This fence will simplify protection problems immensely by cutting off all entrance to the Monument area except through the main entrance. The engineering for this project has been handled by Mr. Attwell and his crew and Field Headquarters have furnished us a foreman to supervise the erection.

"Considerable repair work has been done on the old residence in Compound A. It has been planned to remove this building for several years. It sets in Compound A amongst the prehistoric ruins and is entirely out of place and should be removed, but there are insufficient quarters on the Monument to house personnel now. Consequently, even though it detracts from the appearance of the Monument and mixes the modern with the ancient, it is impossible to get along without it. It has been neglected for several years because it was thought money should not be spent on it as long as it was eventually to be torn down, but as long as we are compelled to use it now and for some time to come, it has to be put in liveable condition. The roof was leaking badly and has been replaced; the walls had eroded badly at the base and there were places where there were holes clear through. These have been repaired; celotex will be put on the ceiling to protect the occupants from the intense summer heat as there is nothing over their heads now but a thin roof. Ceiling the rooms will provide a dead air space between roof and ceiling that will make the rooms much cooler.

"The new residence being constructed under PWA is progressing nicely. All the walls are up, the roof is on, the partitions all in and lathed, the metal reinforcing has been placed on the adobe walls and the plasterers are now applying the stucco and coating the interior walls. The building is to be completed by July 1st and the contractor is well up with his work and will no doubt complete on schedule.

"A model of two cremation burials, which was prepared by the Berkeley Staff, was received during the month and is now reposing in our Museum. A case with glass front and top will be constructed for this display. It will add considerably to the interest of our Museum and assist us in getting over this story of the ancient burial method to the visitor.

"As the days lengthen and get hotter we get many late visitors. Although most of these visitors are local people who could come during regular hours, we have arranged our work shifts so that a man is on duty until dark to give them service.

CASA GRANDE CONTD.

"Ranger Frank Fish was transferred to Montezuma Castle during the month and Ranger Robert Budlong is now stationed at Casa Grande. 'Bud' has absorbed a lot of archaeology during the past several weeks and is now passing it on to our visitors. He says there is not much difference in meeting these people who visit our Monument and keeping them entertained and interested and pleased than there is in doing the same things for a Senator's constituents. Anyway 'Bud' is doing a fine job and sometimes it is hard to tell whether the visitor gets the biggest kick out of being conducted by 'Bud' or whether he gets a bigger kick than they out of conducting the visitor.

"Secretary of Agriculture Wallace stopped in unexpectedly on Decoration Day and stayed with us about 45 or 50 minutes. Not knowing until his name was on the register who he was he took just the same service as the regular run of visitors, but he seemed entirely satisfied.

"It has been a satisfactory month from every standpoint except number of visitors and we are looking forward confidently to a busy summer season. Cordially, H. F. Palmer, Custodian."

- - -

Just as this report is being closed we had a pleasant visit by Major Marshall Heppin, Airways Inspector of the Department of Commerce, Washington. Major Heppin stated that he had flown over the Casa Grande, had seen it in "two dimensions" many times and now was pleased to have a chance to see it from the ground in "three dimensions". Upon leaving he suggested that he would return soon and meanwhile we would study up on Einstein and present it to him next time in "four dimensions".

- - -

ENGINEERING REPORT: Walter Attwell, Assoc. Engineer

"Dear Boss: More of the month of May has been spent in the office than in the field. The closing out of CWA projects, now FERA and SERA with the Chiricahua NCW and the PWA program has made a large volume of detail work.

"The final construction reports of the archeological and general work in the 15 different monuments had to be assembled. Some photos and maps were added and others were written here in their entirety.

"Local and State FERA officials were met and programs worked out where the monuments could secure crews. Only one FERA crew is working at this time. It is employed placing the south and west boundary fence at Casa Grande. Other projects are scheduled to start on June 1st.

ENGINEERING REPORT CONTD.

"The boundary at Casa Grande was surveyed by Engineer Stewart's crew. They were successful in finding every monumental stake, although most of them were buried.

"Topography has been taken and several maps made at Chiricahua, so ECW Camp NM2 will be able to prepare the Monument for the Labor Day Celebration. Superintendent Pinkley and I visited Chiricahua on May 11th, and climbed to Massai Point to look over the proposed road and amphitheatre.

"On May 17th, Assistant Superintendent Rose and I went to Tonto where Engineer Ray is running out the Monument boundaries and properly entering the roads, trails and improvements on the map.

"On May 30th, I returned to Chiricahua with Assistant Architect Langley and Inspector Dan Hull of State Parks, to lay a program for the CCC Camp NM2

"Howard Stewart who has been assisting with engineering for the past six months in the Southwest, has been promoted and is now located at Wind Cave National Park. Sincerely, Walter Attwell, Associate Engineer."

"P. S. Homer Parr reports at last. Now since Engineer Stewart was blamed for lowering the elevation of Capulin Mountain some one thousand feet, Homer feels he should not mention it. But it is an ill wind that doesn't do someone some good. Superintendent Freeland, as soon as he learned that Stewart lowered points a thousand feet at a crack, immediately wanted Stewart to work in his Cave. It is believed that Carlsbad Caverns may at last now have a competitor.

- - -

LANDSCAPE ARCHITECT'S REPORT (Bandelier): Jared B. Morse, Assistant Landscape Architect

The report that follows was prepared for the Chief Architect of the Branch of Plans and Designs by Mr. Morse. Mr. Morse is the new Landscaper who has recently taken on the duties at Bandelier.

"I hereby submit the monthly report from April 25th to May 25th, 1934, for Bandelier National Monument.

"Eight thousand, eight hundred feet of road, including back sloping and filling, is finished. The cuts and fills have been covered with top soil and are now ready for fall planting. Approximately twenty five miles of the entrance road is being maintained weekly.

LANDSCAPE ARCHITECT'S REPORT CONTD. (Bandelier)

"In the process of road construction a certain amount of damage was done to trees and the area adjoining the road. All trees, which in our judgment, were beyond repair, were removed and the rest given the treatment necessary to make them look as natural as possible. From station 83 to 88 the road was cut into the solid cap rock. A great deal of time was spent to remove all loose and raw faced rock in order to give a natural, vertical seam appearance. The present effect is pleasing and will be enhanced by planting.

"All detours and service roads as well as borrow pits have been obliterated.

"The guard rail wall is finished to the end of the retaining wall as originally planned. The last section of the wall seems more satisfactory although throughout the entire wall trouble occurred in cutting the stone. This was due to its extreme hardness and incoherence of the horizontal strata.

"More than a mile of tourists' trail, from the proposed Administration area to the Rio Grande River, has been completed, including drains, culverts and two stream crossings. The appearance and construction of the retaining walls are exceptional.

"Due to the presence of great numbers of tent-caterpillars which threaten to defoliate the deciduous trees in the canyon, an eradication program was started May 18th. Several men were equipped with long handled pruners to cut down and burn all tents within reach. This work will be finished in approximately ten days.

"Work on the guest house and rangers' quarters is progressing satisfactorily and will be complete by June 15th.

"Mr. Blinks and I have completed the camp ground area plan and we are now studying a proposed utility area and administration area plan. These plans should be in the mail before June 15th. Mr. Blinks is an extremely capable man and has offered his services freely. Sincerely, Jared B. Morse, Assistant Landscape Architect.

- - -

ENGINEERING REPORT: J. B. Hamilton, Asst. Engineer

The following report from Jim Hamilton tells how things are progressing in his district. While there have been some storms and a little cold, wet weather, he states that work has not been interrupted.

Aztec Ruins National Monument:

"Ruins repair has occupied everyone's attention at Aztec this month. The drainage trench, restoration of falling and fallen walls and the restoration of the great kiva have been the most active projects in the field. The roofing of the original ceilings and the roofed kiva and the capping of the triangular spaces about the other kivas have received some attention, chiefly in the ordering of materials and in correspondence about plans.

"The drainage trench about the roofed kiva is about completed. Instead of circuling the roofed kiva as planned, it was extended westerly from behind (or north of it) across the court. It is in wet ground all the way. Old kivas eight or ten feet down are encountered every once in a while.

"Hundreds of square feet of wall have been restored mostly along the north and west sides of the ruin. The foundation concrete on which to support the walls of the Great Kiva have been poured and masonry work has started. The concrete over the triangular spaces about the kivas among the rooms of the ruin has been removed and dirt excavated so the roofs with an air space beneath can be constructed. Reinforcing steel for these roofs and the roofs over the original ceiling, also the roof over the roofed kiva, has been ordered and should arrive soon. In excavating the room at the east end of the museum in the ruins much interesting archaeological material has been uncovered.

CANYON DE CHELLY NATIONAL MONUMENT:

In response to Mr. Kittredge's telegram to Mr. Cammerer telling of Mr. Collier's wish to put Indians to work in Canyon de Chelly, surveys and plans for erosion control and trail building were ordered, that work might be started with as little delay as possible.

"From the 7th to the 11th I was at the Monument making a reconnaissance of trails and erosion control. On the erosion control problem I was accompanied by Mr. Hugh M. Calkins, Regional Director and Mr. M. E. Musgrave, Chief of Research, both of the Soil Erosion Service. A report of the Erosion Control reconnaissance and the trail reconnaissance was mailed to San Francisco on the 11th from Gallup.

"I spent from the 18th to the 26th at the Monument staking trail and drawing plans for it, which were sent to San Francisco from Gallup on the 26th. Some lines for erosion control work were laid out on a map but

not staked as it was feared a flood might take them out. Lists of tools, materials and supplies were made out and left with Indian Superintendent Hunter to order. He will circulate bids but not order until the money is authorized.

"Three of the young men who worked on the mapping last winter under CWA were back part of the month to monument the triangulation points used. T o of them left for better jobs on the 24th and Mr. Kittredge sent two men from San Francisco to stake trails, erosion control, etc.

"I expect to return to the Monument the 1st of June to continue with plans for trail building and erosion control. It is hoped that work can start shortly thereafter. All necessary signatures should be collected by that time. J. D. Hamilton, Assistant Engineer.

Assistant Chief Accountant H. L. Wooten, accompanied by Mrs. Wooten, and Edward L. Cotter of the Accounting Division, were Headquarters visitors on the twenty-second and twenty-third of the month. On the morning of the twenty-third they proceeded to Grand Canyon National Park.

On the evening of June 1st, the Headquarters and Casa Grande National Monument personnel were the dinner guests of Mr. and Mrs. Walter Smith of the Vah-ki Inn just around the corner from our entrance gate. This fine chicken dinner and the good things that went with it, was served in the attractive patio enclosed by the Main Building and the Guest Rooms.

Alfred Peterson stopped in on his way to El Morro for his summer duties as ranger there. Due to recent improvements in approach roads to El Morro and described in the report of Mr. Vogt, we might say that the attendance there will be hard to predict. We are looking forward to the effect these improved roads together with the fine trail over El Morro rock will have on travel and on the new problems that will have to be met there by the ranger. For interesting accounts of what the trail over the Rock has to offer in archeology, history and scenery, see reports of Mr. Vogt for this month and last.

Some of the office force with a leaning toward statistics, have found that the Six Year Program now being prepared for twenty-five Southwestern Monuments is running into 400 or more individual justifications. This will require for seven copies, some six or seven packages of thin Manifold paper. Just to run that much paper through a typewriter would be quite a task aside from having to write carefully organized and prepared material in the spaces provided.

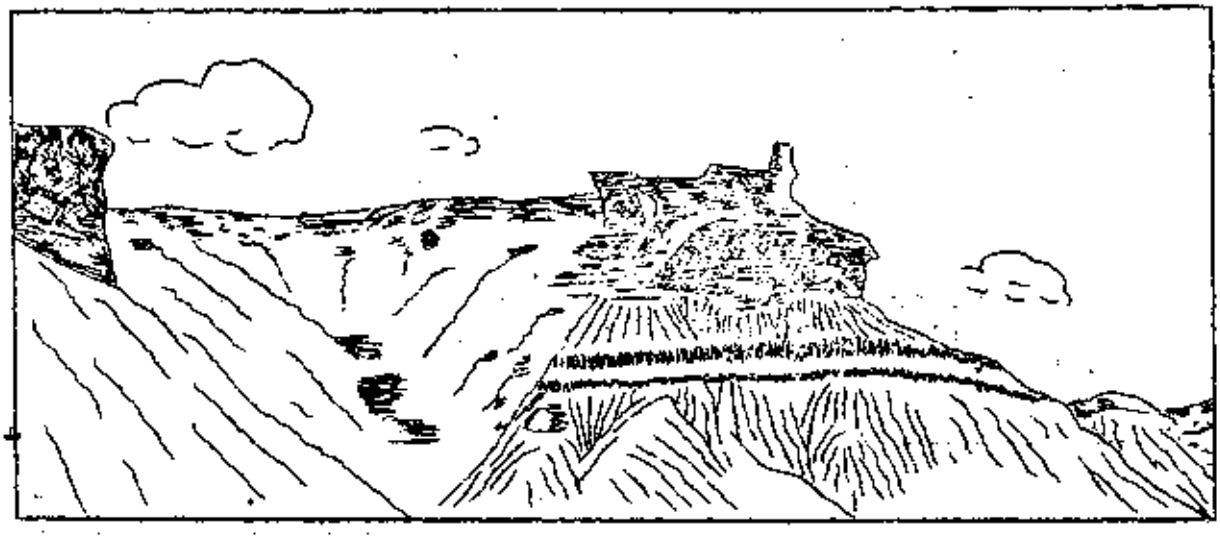
The reports from individual monuments, the Engineers and the Landscapers, and the Business Summary Notes with which this report begins and is concluded, will show that we have had a very busy and interesting time in Southwestern Monuments for the past month. With new national monuments to look after, and with travel to some of the old line monuments an unknown quantity due to construction of new roads and trails together with improvement of old ones, our problems are never quite the same from year to year. The travel season for northern monuments is now coming into full swing. With heavy travel during the summer in northern monuments and with the winter peak we always have in those of the southern part of our district, and with Civil Works and Public Works programs coming in here and there, we have a pretty good time, all in all, the year round.

Cordially,

(Signed) FRANK PINKLEY,
Superintendent.

Asst. Supt.

U. S. DEPARTMENT OF THE INTERIOR - NATIONAL PARK SERVICE



Snow Lady - First Forest

PETRIFIED FOREST NATIONAL MONUMENT
Holbrook, Arizona

June 1, 1934.

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

Dear Mr. Director:

Again we send you our narrative report of activities in Petrified Forest National Monument, this time for the month of May, 1934.

GENERAL:

With the ending of the CWA projects late in April, the preparation of necessary reports, and other clerical work completed, we have been able to devote more time to the regular activities of this monument. We note that most of the automobiles passing through the monument take the drive through the First Forest over the newly completed road there which circles the Eagles' Nest Rock. This is fast coming to be one of the most popular exhibits.

Travel still shows a decided increase over last year, the increase now being 49%. An increasing number of these tourists are now traveling over U. S. 260.

WEATHER:

The weather has been variable during the month. The dry spell, together with high winds, had almost dried up the range in the Forest, so that the heavy rains the last three days of May were greatly welcomed. Statistics follow:

High temperature, 91 on the 12th.
Low temperature, 34 on the 2nd and 3rd.
Mean maximum, 83.4 degrees.
Mean minimum, 48.2 degrees.
Total precipitation for the month, 1.45 inches.
25 clear days, 4 partly cloudy, and 2 cloudy days were recorded.

ADMINISTRATIVE:

Office work has been kept well up to date. The monument has been inspected regularly throughout the month. On May 5 I met Associate Director A. E. Demaray and party at Holbrook in the morning and they resumed their journey east on the train from Adamana at 1:30 P.M. that day. They saw a surprisingly large part of the monument during that brief time. With Mr. Demaray were Mr. Charles L. Gable and Mr. C. D. Monteith of the Washington Office and Mr. Howard Hayes, Operator in Sequoia and Glacier National Parks. Mr. Frank Pinkley, Superintendent of the Southwestern Monuments, spent the nights of the 18th and 22nd at the Forest on his way to and from Chaco Canyon National Monument in New Mexico.

PUBLIC WORKS PROJECTS:

Under Public Works, work has continued on the test well at Headquarters as F. P. 129.14, Water and Sewer Development. Another attempt was made on the 5th to effect a shut-off of the apparently inexhaustible flow of highly mineralized water which has been our main difficulty all along. On cleaning out the hole it was evident that a complete shut-off had not been secured. However, I felt that a pumping test should be made so we borrowed 520 feet of 3½" pipe with the necessary pumping cylinder, sucker rods, et cetera, from the Indian Service, and these were placed in the well.

The pumping cylinder was set at a little more than 500 feet deep in the hole, somewhat less than 250 feet from the bottom of the casing. The water normally stands 130 feet below the top. After exhausting the 370 foot head, the pump was operated hourly through one full day and the volume carefully measured, which showed an inflow of only 70 gallons per hour. Previous to this the quantity of the undesirable water seemed to be unlimited, the head at 130 feet below the top hardly being altered with steady bailing of

approximately 240 gallons per hour. Therefore, it is apparent that a practical shut-off has been effected. It is my opinion that this water is migrating some distance through the sandstone and not coming under the casing, as the taste is not nearly so objectionable as formerly. If a strong flow of good water is encountered by further drilling it is thought that it will either force this small flow back or that it will do no damage.

The 3½" pipe and pumping cylinder were removed and drilling operations were started at noon, May 28, at a depth of 744 feet. At this time, May 31, the hole is at a depth of 808 feet. We propose to drill until potable water is encountered or the funds are exhausted.

LABOR SITUATION:

The labor situation remains about the same with many families on the local relief rolls.

BUREAU OF PUBLIC ROADS, PUBLIC WORKS:

The steel and concrete overpass at the Santa Fe Railroad near the Rio Puerco is complete and has been opened to traffic. The connecting road between this overpass and U. S. 66 is complete as to grading and draining and a mile is surfaced with one course of crushed gravel. The grading and betterment of 4 miles of U. S. 260 is completed and is being surfaced with crushed gravel. The surfacing of the monument highway with 7" of crushed gravel is about 75% complete.

E. C. W.:

Lieutenant E. F. David arrived the night of May 30 with a "fly camp" of fifteen men to establish the main CCC camp at the Rio Puerco. This camp is expected about June 11.

RANGER AND MUSEUM SERVICE:

Ranger Naturalist M. V. Walker is on duty in the museum daily and by staggering other shifts the museum is kept open from six o'clock in the morning to dark. No person has ever been denied admission to this museum during daylight hours, and frequently the ranger on late shift conducts parties through the museum by flashlight.

James B. Felton entered on duty as seasonal ranger on May 5. The number of people given personal museum service during the month was 5,263. The number of autos stopping overnight in the campground at Headquarters was 42, and at noon for luncheon under the ramadas, was 63. There has been

very little vandalism and very good service has been given to the public considering our small force of rangers.

NATURE NOTES by M. V. WALKER:

Nature Notes for May is made up largely of a preliminary check list of the birds of the Petrified Forest. All records are based on sight observations. For identification we have used Florence Merriam Bailey's book on "Birds of New Mexico", published by the New Mexico Game and Fish Department, 1928. This list will follow at the end of Nature Notes.

A mammal of interest is the Antelope ground squirrel, observed near Headquarters and along U. S. 260. They take their name from their habit of carrying their tail curled up over the back, when the white underside gives the animal the appearance of a white rump patch like that of the Pronghorn Antelope.

A seldom seen snake was found over near the Painted Desert. It was one of the King snakes, Lampropeltis triangulum (sp?). Two lizards, Cnemidophorus and Sceloporus, visited the museum during the past month, and a common toad, Bufo sp?, was observed near Headquarters.

The great show of wild flowers that were blooming about the first of May are now all seeded, but in their place we now have coming on many of our "summer" flowers, such as Composites, Primroses, Ragweeds, and Amaranths.

Preliminary check lists of Flowers, Mammals, Reptiles, and Amphibians, are now under way, and will be reported from time to time.

Following is a list of the various birds seen in the monument, with the scientific name after the common name:

1. House Finch.....Carpodacus mexicanus frontalis
2. Horned Lark.....Otocoris alpestris occidentalis
3. Rock Wren.....Salpinctes obsoletus obsoletus
4. Blackbird.....Euphagus cyanocephalus cyanocephalus
5. Cowbird.....Molothrus ater ater
6. Meadow Lark.....Sturnella neglecta neglecta
7. Sparrow Hawk.....Falco sparverius phalaena
8. King Bird.....Tyrannus vociferans
9. Marsh Hawk.....Circus hudsonius
10. Burrowing Owl.....Spootyto cunicularia hypogaea
11. Mocking Bird.....Mimus polyglottis leucopterus
12. Cliff Swallow.....Petrochelidan albifrons albifrons
13. Gambels Sparrow....Zonotrichia gambeli
14. Green-tail Towhee..Oberholseria chlorura

15. Poor-Will.....Phalaenoptilus nuttalli nuttalli
16. Vulture.....Cathartes aura septentrionalis
17. Mourning Dove.....Zenaidura macroura marginella
18. Yellow Warbler.....Dendroica aestiva morcomi
19. Humming Bird.....Selasphorus platycercus
20. Red-tailed Hawk....Buteo borealis calurus

TRAVEL:

Travel through the monument during the month was slightly less than for the corresponding month of last year. Due to the heavy travel throughout the winter we still show an increase over last year. A table follows:

For May, Petrified Forest section,	cars 2,617,	people 7,623
Previously reported. . . . . ,	" 13,136,	" 36,431
Total to date. . . . . ,	" 15,753,	" 44,054
For May, Painted Desert section. ,	" 3,665,	" 12,927
Previously reported. . . . . ,	" 12,594,	" 50,644
Total to date. . . . . ,	" 16,259,	" 63,571
Grand total for the month. . . . ,	" 6,282,	" 20,550
Grand total same month last year ,	" 7,622,	" 23,217
Grand total to date. . . . . ,	" 32,012,	" 107,625
Grand total same date last year. ,	" 23,768,	" 72,451

All states, the District of Columbia, the Canal Zone, the Hawaiian Islands, the Phillipine Islands, and the foreign countries of Canada, China, Australia, India, Germany, Japan, Mexico, and Uruguay were represented.

SPECIAL VISITORS:

Assistant to the Secretary of Agriculture, Paul H. Appleby, Washington, D. C., Dr. L. I. Hewes, Deputy Chief Engineer of the Bureau of Public Roads, San Francisco, California, and Regional Forester H. W. Pooler of Albuquerque, New Mexico, were here on the 24th. Harry Langley, Assistant Landscape Architect, spent the 24th and 25th in the monument on official inspection and discussion of various projects. Chief Ranger Lenhert, Carlsbad Caverns National Park, was a visitor here on the 13th. Mr. Key of Rotary International, Hongkong, China, was conducted over the monument on the 26th. Dr. and Mrs. Chas. L. Camp, and party, went through on the 25th. Norman E. A. Hinds, University of California at Berkeley, passed through on his way to the Grand Canyon on the 20th. Dr. Julian Steward, connected with the research department of the Division of Education and Forestry, spent the morning of the 23rd with us.

Very truly yours,

Chas. J. Smith,
Superintendent.

SUPPLEMENT
REPORT FOR MAY
SOUTHWESTERN MONUMENTS, June 1, 1934

In the organization of this Supplement the first thing of genuine interest and value to Southwestern people we find among our material is this announcement of the Museum of Northern Arizona. Due to the interest and sympathy the National Park Service has in promoting Indian arts and crafts, this notice is published here:

"THE MUSEUM OF NORTHERN ARIZONA AND THE HOPI PEOPLE

cordially invite you to attend their Fifth Annual Exhibition

"THE HOPI CRAFTSMAN"
July second to July seventh, nineteen thirty-four
Museum of Northern Arizona, Flagstaff

"The Museum of Northern Arizona believes that the Indian has an important contribution to make toward our mutual civilization - his art, unique and beautiful, purely American - is a direct link with the prehistoric past. He is a creator of design and a master of abstract form. We have welcomed the art and the folklore of all nations and they have enriched our culture, but the art of our own native American has remained unappreciated.

"Through neglect we have allowed his craftsmanship to degenerate until his art is almost lost to us. It is not too late to help, to offer encouragement that is reviving his pride of workmanship.

"With the approval of the Indian Bureau, the Museum commenced its work five years ago with the Hopi, an isolated pueblo group, with few opportunities and a wider range of arts than any other Indian group in the United States. These villages are located in the Painted Desert some 100 miles from Flagstaff.

"An exhibition is held once a year for one week, in July, Flagstaff's busiest summer season, in the Museum of Northern Arizona.

"It has a four-fold object:

(1) To encourage the manufacture of objects of artistic and commercial value which have fallen into disuse and are becoming rare.

(2) To stimulate better workmanship

(3) To encourage the development of new forms of art of purely Indian design.

(4) To create a wider market for Hopi goods of the finest type.

"A series of many prizes are offered for all types of articles judged to be of artistic value.

""The Hopi Craftsman" exhibition is a scientific experiment, not a commercial enterprise. Indian material is sold for the Indians without profit to the Museum. The exhibition is supported through private subscription from the public spirited individuals desiring to assist the work.

MARY-RUSSELL F. COLTON,
Curator of Art and Ethnology"
-- enough

Those of us who have been fortunate to visit this exhibition are enthusiastic about the good it accomplishes. People in our Service desiring excellent Indian goods at reasonable cost might assist this good cause by writing of your wants to the Museum. These Indian goods could be sent parcel post to your address. Better yet would be to arrange your trip through Flagstaff to correspond with the time of this exhibition and pay it a personal visit.

While we're still in the vicinity of Flagstaff, we will include the following item of interest, clipped from the Arizona Republic, clipping dated May 25, and which concerns two of our newest Southwestern Monuments:

"FLAGSTAFF, May 25. - Members of the junior and senior classes of Forsan High School in Howard County, Texas, passed through here today in their school bus on an annual outing trip over most of the Southwest, covering thousands of miles.

"The party of students, numbering 28 juniors and seniors, was being directed by L. L. Martin, superintendent of the school. From here they will go to the Grand Canyon, making a stopover there, and begin their homeward trek by way of Phoenix.

"Starting last Friday, the students have visited El Paso, Juarez, Mexico, Carlsbad Caverns, Elephant Butte, and while in this district saw Meteor Crater, the Ice caves at the base of Sunset Crater, and the ancient cliff dwellings in Walnut Canyon. Their trip lasts two weeks.

"Forsan was described as being about 20 miles south of Big Springs, Tex., and "so small" that few maps show it. But Superintendent Martin believes in having his students complete their high school education with a real education in travel, it was pointed out. The long tour at the end of the school year is an annual event, and next year's jaunt is tentatively scheduled to Mexico City."

The Civil Works Program now being a matter of history, the time of accounting is at hand. One little portion of a letter from Acting Director Tolson of the Washington Office should be made known to the Southwestern field for it was only through this sincere cooperation of all of you that this program was successfully completed:

"We wish to commend you and all those who have assisted you for the fine way in which the Civil Works Program in the Southwestern Monuments has been carried on. H. A. Tolson, Acting Director"

We now turn to an item from Chaco Canyon National Monument in which "Mr. and Mrs. Hurst R. Julian announce the arrival of George Robert on May 25. The weight : 7½ lbs." This is the lightest and youngest member of our force.

Some time ago announcement of the receipt of the Mooseberg Collection at Casa Grande National Monument was made. Those to whom this report is sent will be interested to know that practically every piece in this collection is on display at the museum on this Monument. The material is in excellent condition, is carefully catalogued by the donor, Mr. Mooseberg, and it adds immensely to the value of the collection housed in the Museum. Excellent cremation burials, thick walled vessels, some rather tall, thin walled pottery, are more interesting features of the exhibit.

Mr. Mooseberg has been very generous in conditions of acceptance of this collection. His excavations were carried on most systematically and the great detail would make publication of his material valuable.

During the month Ranger Frank Fish, Corabeth, and "the Minnow" changed their residence to Montezuma Castle. While we would all say Frank and Corabeth are missed around headquarters, we might also say we all miss "the Minnow", a youngster of one summer.

All Southwesterners will be glad to have excerpts from a recent circular from Houghton Mifflin Company, 2 Park St., Boston, announcing the appearance of a new book "TRADERS TO THE NAVAJOS"

"Dear Reader:

"The wetherills of Kayenta are known to everyone who is interested in the Navajos and in archeological and ethnological exploration of the Navajo country.

"John Wetherill carried on the first excavations of Cliff Palace and of many other Mesa Verde ruins. He discovered Betatakin. Wherever he has gone national parks have seemed to follow - for Mesa Verde is a national park, Betatakin and Kietsiel are national monuments, and so also is Rainbow Bridge.

"His wife, Louisa Wade Wetherill, is equally well known for her close and understanding relationships with the Navajos ever since the days when she and Hosteen John first settled on the reservation. Asthon Sosi, the Navajos call her, - Slim Woman; and sometimes she is known as the Little Mother of the Navajos.

"TRADERS TO THE NAVAJOS by Frances Gillmor and Louisa Wade Wetherill tells the story of the Wetherill family; how they came to the Southwest, made friends with the Indians and won their complete trust; of their amazing explorations and discoveries among the ancient ruins of the Cliff Dwellers; of the folk lore, myths, ceremonies and legends which were told them; and of the intimate life of the Navajos of today which they share.

"Into the final writings by Frances Gillmor went the tales told around the fireside at Kayenta by Hosteen John and the Slim Woman; went also the tales told around hogan fires by generations of Navajos, tales which have been collected and written down by Mrs. Wetherill.

"Twenty-one years ago, Theodore Roosevelt, after a visit to the Navajo country said: "If Mrs. Wetherill could be persuaded to write on the mythology of the Navajos and also on their present-day psychology, she would render an invaluable service. She not only knows their language; she knows their minds....They trust her so fully that they will speak to her without reserve about those intimate things of the soul which they will never even hint at if they suspect want of sympathy or fear ridicule."

"In TRADERS TO THE NAVAJOS she has done exactly this. The result is a book that will endure as the most fascinating that has yet been written on the Navajo Indians.....

"CONTENTS

"The Moving People--Hearthfires and Signal Fires- Cliff Ruins in the Snow - To the Country of the People - Facing the Wind - The Hogan Song - The Clan - Seeking a Living Earth - Peace on Many Faces * The Old People and The Rock Rainbow - The Smoke of a Burning Hogan ⁋ To the Place Where Water Runs Like Fingers Out of a Hill - The Little Mother of the Navajos - Asthon Sosi's Paiutes - The Year of War and Death - "We'll Go On---" Dancing East of the Sunset - The Pollen Blessing - Bibliography - Note on the Bibliography."

"A Tribal endorsement of 'Traders to the Navajos' together with a few of the thumb-print signatures and names of the signers:

"We, the undersigned, members of the Navajo tribe, have known Asthon Sosi, Louisa (Mrs. John) Wetherill, for a great many years. We believe that there is no other living white woman who has as complete knowledge of our people, their customs and traditions, as she, and we have full confidence that she will not say or publish anything about our people but what are facts and truth.

"Ushclishnie So -- Big Mud
Clee do Yohonie - Didn't see the horses
Kay Yoothnie -- Lost his shoe
Hatalie Detonie -- Thick Chanter
Bitsee Gal clichee Beyaz --Red Band around her hair's son
Bedayteen Beyaz -- Four horned sheep's son
Clizie do enonie -- The one who won't eat goat
Uskan etso --- ---Big Yucca Fruit
Nea decloie -------Fuzzy Face
Uschlishnie -------Mud
Joh nez holonie ---The man who has mules
Bego eskish -------Gap between his teeth
Utenie ----------Doer of deeds
Clizie detelthie --Kicked by a goat
Ushinie Kisesie ---- Little Salt
Dogie Begay -------- Moustache's son
Huskie ---------- Angry one
Neskahie Yazzie ---- Little Fat
Adakie Yazzie ------ Little Gambler
Ha Goie Begay-------Where are you going's son
Dodetso Holonie ----Has Pouches
Kitsealie ---------- Broken Pottery
Dogi sacod ---------Scattered whiskers
Awalia ---------- The man who went to jail
Toh Deschoene -------Bitter water
Senillie Begay ------Son of the man who looked like a bunch of rags thrown down
Tse Nastuie ---------Wild cat hair
Cliesie Bedogie -----Goat whiskers
Toh ba distaze ------ He slept by the water.

If we were to add The Boss to this list it would be made one more in number by "Natany". Dealing with Mrs. Wetherill and Hosteen John, this is a little more than a notice of a book just out; it is news of our own Southwestern Monuments folks and news the others of our Service and of the Southwest will be interested in, and read with pleasure and pride.

While we are still on these remarkable items on Navajo National Monument, let us read this interesting account which Hosteen John himself relates:

"THE NAVAJO STORY OF KEET SEEL AND BETATAKIN

"The Navajos tell Mrs. Wetherill that our prehistoric people left Canyon de Chelly many generations ago and that they separated one band crossing the Lukachukai to the San Juan River and to the Mesa Verde. They then went down through the McElmo Canyon to the Hovenweap and from there down th north side of the San Juan to the Grand Gulch and Clay section in Utah, and crossed back across the river to Navajo Mountain in Northern Arizona. From there they settled Tsegie Canyon. This group of people had the round kivas of the Mesa Verde type. (The supposition is that they began making their red pottery while they were in the Clay Hill district where they found the yellow ochre of which the most of the red pottery is made in this district.).

The other party followed along the foot of the Lukachukai and Corrizo mountains building in the canyons of the head branches of the Chinle and following down the Chinlee to the San Juan River and up the different branches to the South. They followed up the Kayenta Creek (named Laguna Creek by Kit Carson, but afterward changed to Kayenta, after all the lakes had been washed out) They had a great many settlements in the Kayenta district. They followed up the Kayenta into the Laguna Canyon (now known as the Tsegie) (They built both cliff dwellings and open sites. They built both of rock and turtle backs. Where they built of turtle backs there is now just a mound of earth with a few broken pieces of pottery scattered around.) This group had no round kivas. The square kivas they did have were not below the other rooms of the house as is the case of the round kivas. They were the same as the other rooms but had the firepit and the ventilator shaft. The ventilator shaft was the door of the room with the deflector between the door and the firepit. The people of both groups became so few in number through intermarriage; war with outside tribes and starvation that the few that were left of both groups joined together and moved on the top of the Black Mesa where they build another home that the Navajos call Keet Zeel on account of the amount of broken pottery, From there they moved to Orabi and founded the oldest inhabited village in the United States.

"Some of you may not know what a turtle back is, so I shall try to explain; On an open site they first built a foundation of two or three layers of rock. The turtle back is a brick made by taking a long bunch of grass and rolling it in the mud made of the sand that is found everywhere. This is laid on the rock foundation and rounded

off on top while it is still wet. The first layer is allowed to become almost dry, then another layer is laid on. This is continued until the wall is of the desired height. The building is then finished up in the regular way. The turtle back is about five inches in width and from fourteen to eighteen inches in length, and from four to six inches in thickness. The best sample we have of the turtle back building is Inscription House in Netsa Canyon, one of the upper branches of the Navajo Canyon."

The account just read makes history. While investigating earlier surveys made in the region, the following letters turned up. These letters are written back in 1909 by Wm. B. Douglass, Examiner of Surveys, to the Honorable Commissioner, General Land Office, Washington. These have an important bearing on the history of Navajo National Monument particularly.

"Hon. Commissioner,
General Land Office, Washington, D. C. March 3, 1909.
Washington, D. C.

Sir:

I have the honor to report my attempt to make a segregating survey of certain prehistoric ruins and a natural bridge (reported by me in letter dated September 11, and October 7, 1908) in compliance with your instructions dated October 20 and November 18 and telegraphic instructions dated November 25, 1908. As a part of this report I transmit herewith a map showing the location of all ruins and natural bridges located by me in the San Juan Basin, Utah and Arizona.

"I left Bluff, Utah, on Dec. 2, 1908. My outfit consisted of three men, 4 saddle horses and 8 pack horses. There being no forage at this time of year it was necessary to pack grain for all horses. The first night out there was a heavy fall of snow, This so impeded our progress that I did not make Oljato, Utah until Noon Dec. 4.

"Here I found conditions very discouraging. Mr. John Wetherill, the sole resident of Oljato, on whom I was depending for a guide, was out of provisions and compelled to leave at once for supplies, I was also informed that the usual fall of snow made travel difficult and dangerous and results doubtful. Determined however to make the attempt, I engaged Sam Chief, a Navajo Indian as interpreter and guide. Sam was reputed to speak two languages. Later I found to my sorrow they were both Navajo.

"I left Oljato Dec. 5th, and reached the southern end of Ke-en-to Mesa, in Arizona on Dec. 6 where Sam pointed out a ruin

of little consequence. A search revealed another and smaller ruin. With some difficulty I made Sam understand the location of the ruins sought. He stated we could not reach them now. But on the morning of Dec. 7th I made the start.

"We met in the afternoon other Navajos who corroborated Sam's statement. Knowing now that a survey was impossible I decided to return my outfit to Bluff, remaining myself at Oljato to make another attempt to reach the ruins and bridge taking with me only a guide. I reached Oljato Dec. 8th. That night Mr. Colville, a partner of Mr. Wetherill arrived from the south, reporting all trails blocked by snow, and stating it would be impossible to reach either ruins or bridge before spring. I therefore came out with my party, advising you of my failure by wire on Dec. 14, 1908.

"On this trip I was able to collect data approximately locating both ruins and bridge. I am not certain that the bridge is the same one of which I was informed by the Paiute Indian "Mike's Boy" as I was unable to get him as a guide, he having gone to his winter camp far west of Bluff. I believe however it is the same. It is located in the Navajo Indian Reservation, Arizona, on Navajo Creek, about 5 miles south of the Navajo Mountain.

"The ruins form 6 groups marked on the map by letters A to G, all in Arizona Navajo Indian Reservation. A and B, the most important ruins are in Canyons on the south side of Skeleton Mesa. A is a single building said to contain about 150 rooms and believed to be the largest ruin north of Mexico. It is in an unnamed canyon tributory to a branch of To-wan-an-chee Creek. Ruins B, next in importance are 5 in number, located in the Do-quo-she Bo-Co (Checo Brush) Canyon, tributory to the same Creek. These ruins are said to contain about 40 rooms each.

"Smaller ruins, marked C, are located at To-ha-nish-u-sky (Bubbling) Spring at the head of To-wan-an-chee Creek, and ruins D on the same Creek near pools where it seems to terminate in a wash known as Laguna Creek. These four groups which I shall call the Bubbling Spring Groups, are of principal importance.

"Group E at the head of Tsagy-at-sosa Canyon, group F at the head of Moonlight Canyon, just south of Monument Valley, and group G at the head of Navajo Creek are not thought to be worthy of segregation unless in connection with other objects of interest.

'As to the Natural bridge it might, perhaps, be best to obtain more definite information as to both its location and its character before reserving it.

"I particularly wish to call your attention to the desirability of an immediate withdrawal of the land embracing the Bubbling Spring groups of ruins for the reasons hereinafter stated.

"In this connection I quote from my report to the U. S. National Museum, dated Feb. 27, 1909 and addressed to Dr. Walter Hough, Curator of Anthropology as authorized by you Jan. 21, 1909.

'My information leads one to believe that ruins A and B will form an important contribution to the study of American Archaeology and for this reason should be excavated under the immediate direction of the Smithsonian Institution. It will probably be the last opportunity to explore important ruins that have not been marred and robbed by the pottery hunter. But to assure the finding of a virgin field excavations should begin in the spring. I have reliable information of a pseudo-scientific expedition, planning to excavate here in the summer, which is principally concerned in securing a priceless archaeological collection. If these buildings are to be preserved, and I shall strongly urge it, what great additional value and interest will be theirs if the Government not only own the buildings themselves, but also every article that comes from them, with accurate data as to its exact location in the building and the conditions under which it was found'

"The Indian Agency with its force of Indian police, is too far removed to afford adequate protection to these ruins. But the withdrawal under proclamation of the President, with the assurance of prosecution of trespassers, would I think deter the most ardent pottery hunter from excavating here.

'It may not be amiss to briefly call your attention to the scientific value of these ruins.

"These pre-historic structures are on the border line between barbarism and civilization and show the dawn of architecture. These people without a radius, constructed circular towers; without plumbs they built vertical walls. In their many storied buildings they solved problems of stresses without knowledge of mechanical laws. With lintels they relieved the strain over windows and doors as does the builders of today in all buildings. Peculiar interest attaches to all this when we remember that anthropological maxim that the human race passes through all stages of development in its rise from the paleolithic age to one of highest culture, and that in the study of these lowly types we learn the history of us all.

"Prof. W. H. Holmes, chief of the Bureau of Ethnology in an address on 'Contribution of American Archaeology to Human History' states that the American field is the study of 'aboriginal culture and the development of civilization'.

"The unsolved problems of this study is the establishment of a definite chronology and the determination of the origin of this aboriginal culture. The people most closely connected with the cliff dwellings is the Hopi Indian.

"Dr. Hough tells me they have traditions of great buildings of their ancestors to the north of their present location. You will note on the map their proximity to these ruins to the south.

"It is believed that a careful study of these ruins might result in a verification of this legend.

"For the forgoing reasons I respectfully recommend the immediate withdrawal of the land on which these ruins are located, and their segregation by a survey in the field as soon as the season opens.

"I will add that the land in question is uninhabited and is non-agricultural in character. It is covered with a dense growth of scrub timber of no value.

Very respectfully,

Wm. B. Douglass
Examiner of Surveys."

- - - - - - - - -

A second letter of Mr. Douglass' follows:

"Hon. Commissioner,
General Land Office.

Washington, March 8, 1909

Sir:

In compliance with your verbal request I have the honor to suggest the following as the description of the land necessary to be withdrawn for the protection of the Bubbling Spring groups of ruins reported on by me in my letter dated March 3rd, 1909.

"In the Navajo Indian Reservation, Territory of Arizona; latitude 36° 30' to 37°00' N; longitude 110°15' to 110°45' W. of Greenwich, beginning at a point one (1) mile due west from a spring known in Navajo language as the Te-ha-mish-u-shy and in English as the Bubbling Spring; thence north eight (8) miles; thence east ten (10) miles; thence south

sixteen (16) miles; thence west ten (10) miles; thence north eight (8) miles to the place of beginning.

"This description embraces about twice as much land as it will be necessary to permanently withdraw after a survey has been made.

Very respectfully,

Wm. B. Douglass,
Examiner of Surveys."

- - - - - - - - -

A third interesting letter by Douglass on this subject follows:

"Hon. Commissioner,
General Land Office.

March 22, 1909

Sir:

"In my letter dated March 3rd, 1909, recommending the withdrawal and segregation of certain important pre-historic ruins in the Navajo Indian Reservation, Arizona, I called attention to the inability of the Indian police to protect these ruins on account of their remotness.

"In a conversation with the Chief Clerk I suggested the name of Mr. John Wetherill of Oljato, Utah, as a good custodian in case the recommended withdrawal was made.

"I wrote to Mr. Wetherill on the subject, and transmit herewith his reply, dated March 7, 1909, agreeing to act in that capacity without compensation.

"Mr. Wetherill conducts an Indian trading post known as Oljato, which is also a post office receiving a weekly mail from Bluff, Utah. This post is about one mile north of the Utah-Arizona state line, and is the only white habitation for miles, as well as the only point where supplies can be obtained. It is about 40 miles by trail from the ruins and an excavating party would be apt to use it as a base of supplies. Mr. Wetherill remains here throughout the year and his Indian trade keeps him in touch with the surrounding country. The two practical ways of reaching the ruins would be from Bluff, Utah or from Gallup, New Mexico. The Bluff route would require a stop at Oljato for water. At Gallup, Mr. Wetherill's business connection would enable him to learn of any party leaving there. For these reasons, he would, in my opinion, give the best protection to the ruins, and I respectfully recommend his appointment as custodian on the withdrawal of the land, which I am informed has been favorably considered.

"I also advised you in my former letter of a pseudo-scientific party with strong political backing, planing to excavate these ruins. They are chiefly concerned in getting a priceless collection of pottery. Working under an educational institution they use raw and untrained students. Their excavation in this field would be detrimental to the interest of science, and would cause a miscarriage of that most desirable feature of the Government preserving for scientific study in connection with these aboriginal buildings all articles taken from them.

"For this reason I respectfully recommend that all applications for permission to excavate be referred to the Smithsonian Institution for report before any favorable action is taken.

"I would also suggest that tourists be required, for the time being, to obtain permits before visiting, to guard against unauthorized excavation on a small scale.

Very respectfully,

Wm. B. Douglass,
Examiner of Surveys."

- - - - - - - - - - -

This completes some pretty interesting history on Navajo and Rainbow Bridge national monuments. We hope Hosteen John will come out with more of this history which becomes more valuable as the years pass.

- - - - - - - - - - -

Because of the far-seeing thoughts of policy contained therein, we feel that excerpts from a recent letter from Neil M. Judd of the Smithsonian Institution to the Washington Office will be of keen interest to all concerned about the future of the Southwest's archaeological treasures. This will show us that a long distance viewpoint on antiquities preservation and utilization has not yet been completely established except for those areas already under the administration of the National Park Service. Parts of that letter follow:

". . . . . The suggestion meets with my earnest approval irrespective of the term by which the areas may be designated. As a matter of fact, I prefer to regard all National Park Service reservations as research areas - areas whose flora, fauna, geological or human history, protected from despoliation, can locally be studied to best advantage.

"But I infer from Mr. Pinkley's letter of the 10th instant that he has in mind primarily those lesser areas on which stand the ruins of prehistoric Pueblo villages. Sites of exceptional paleontological interest, as Dinosaur National Monument, would seem equally desirable as future research stations. "Future' I use intentionally.

"As a nation we are very prodigal of our prehistoric remains. Every other American republic and nearly every European country may exercise the right of eminent domain when objects of antiquity are found on private property. Our own antiquity law applies only to Federal lands. Except as they may be protected by the National Park Service, how shall we preserve any of our ancient Indian ruins for exploration by the more broadly trained students of fifty or a hundred years hence? The extent to which mere relic hunting, often under the guise of science, and commercial digging for curios is pursued throughout the United States today is well known in your office. Prehistoric remains are definitely limited; data such as the qualified archaeologist depends upon are definitely expendable. Hence my concern for the student of the future. . . . .

Sincerely yours,

NEIL M. JUDD,
Curator, Division of Archaeology,
Smithsonian Institution."

- - - - - - - -

SOUTHWESTERN MONUMENTS M MAY SUPPLEMENT

Stenographic work and mimeographing this report have been the work of all hands around the office. "Woody" who is doing ranger duty with us is now calling for this last page of the Supplement, so we must close it for this month.

Some custodians are waiting until the last moment to prepare their monthly reports and send them in. If you will make an effort to get your reports prepared and mailed to this office before the morning of the 26th, we will have all reports in by the 28th or 29th and can get the reports assembled, stenciled and mimeographed by the 3rd or 4th of the following month. So don't forget to jot down for June 25th on your calendars, "monthly report to be mailed to Southwestern Monuments, Coolidge".

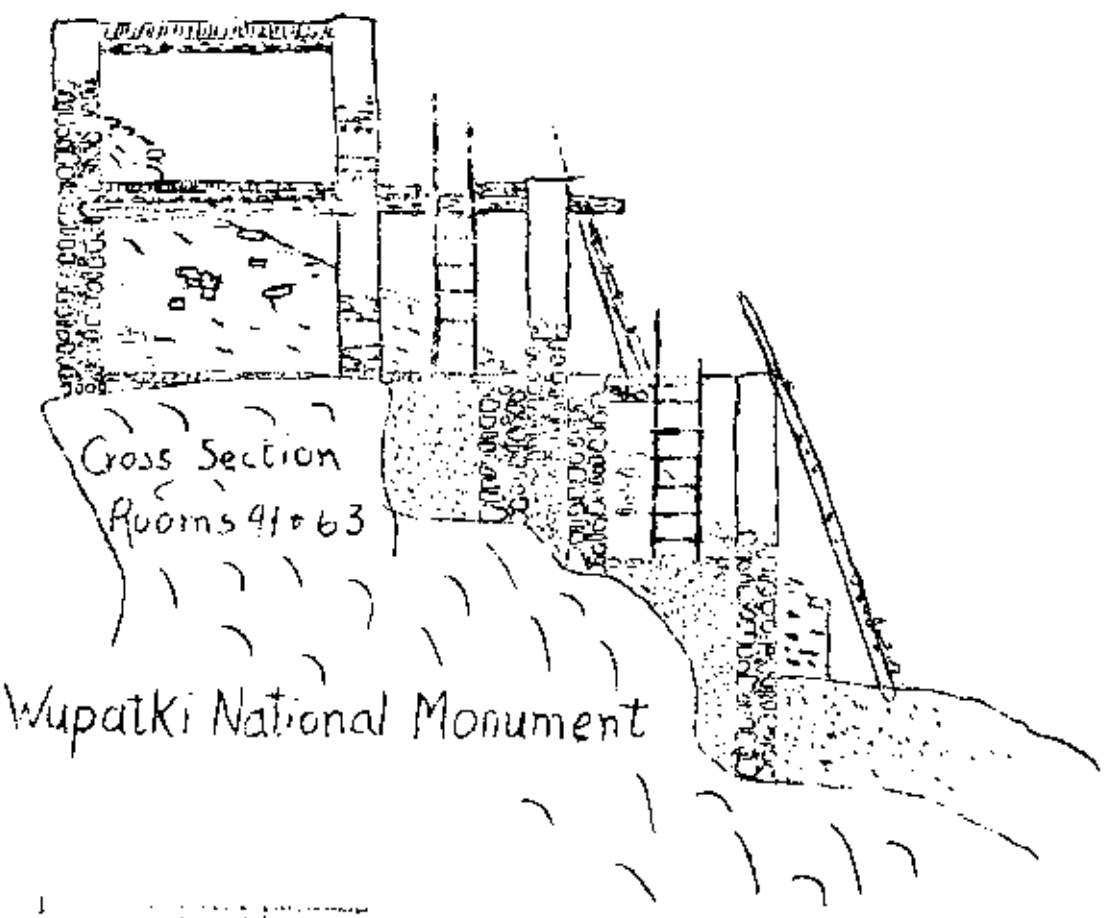
Cordially,

(Signed) R. N. R.
R. H. Rose.

THE BOSS

Southwestern Monuments

Report for June, 1934



SOUTHWESTERN MONUMENTS
REPORT FOR JUNE
1 9 3 4

I N D E X

Aztec Ruins	29-31	Pipe Spring	12-13
Bandelier	3-4	Tumacacori	29
Capulin	28	White Sands	6-9
Casa Grande	21-26	Wupatki	5
Chaco Canyon	10-11	The Boss	32-36
Chiricahua	39-40	J. B. Hamilton	37
El Morro	16-21	W. C. Attwell	38
Montezuma Castle	13-15	R. D. Sias	39
Navajo	27	J. B. Morse	40

Conclusion ---41

T H E S U P P L E M E N T

Be-ta-ta-kin Ruin Discovery, (John Wetherill) ..... A-B

Mazes (Quotations from references) ..... C-G

Dogs, Skeletons, Etc..... G

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
SOUTHWESTERN MONUMENTS

Coolidge, Arizona, July 1, 1934

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

Dear Mr. Director:

A very busy June is disappearing around the corner and the following report will present an account of what has been happening during the month among 25 Southwestern Monuments. First, we will outline some general activities not related to any particular monument, then follow with the reports from custodians telling what has been going on in their various bailiwicks.

At the time of preparation of the report for last month we were in the midst of preparing our Six Year Program. This work carried over into the first few days of June before it was completed. Justifications for 25 monuments ran into sizeable volume before we were through.

Added to the Six Year Program, there came the call for final estimates for the fiscal year 1936. These were prepared and sent to the Washington Office during the month.

One June 4, news broke upon us that CCC Camp SP-6A of Tucson was ours and that it was to be moved to Chiricahua National Monument becoming our CCC Camp NM-2A. The Boss and Chief Clerk Hugh Miller made a trip to Chiricahua on the 6th, returning the 7th, on business pertaining to the organization and work program of this camp.

On the 12th, Asst. Sup't. Bob Rose left for Chaco Canyon National Monument on business connected with the close of the Public Works Program, equipment inventories and other matters. He returned to headquarters on the evening of the 17th.

The Boss left headquarters on the 14th meeting Mr. Vreeland on the ground at Navajo National Monument. After reviewing problems there, he circled around to Aztec, Bandelier and thence home. Enroute to Navajo he included Montezuma Castle where Ranger Frank Fish and family have been during the month and found them enjoying their new assignment very much. The Boss will give his own account of his field trip later in this report.

For several weeks requests have been coming in for information circulars on Montezuma Castle National Monument. Some 2000 of these have been

prepared, most of them going to Montezuma Castle for distribution to visitors. These circulars are appreciated by people who like them as a souvenir. Upon arriving home, these information sheets give a brief review of the story of the Castle and serve to fix the more important highlights correctly in the visitors' minds. Several hundred of the circulars were sent to Miss Grace Sparkes, Secretary of the Prescott Chamber of Commerce. She writes that their "Official Greeter" finds them of great value. This man meets all out-of-county and out-of-State people and informs them of the interesting things to see in that part of Arizona. Miss Sparks has just ask for an additional supply for distribution to visitors to the "Frontier Days" celebration to be held early in July.

For some time the subject of a manual for new rangers and other members of our personnel, has been under discussion. This manual would contain a well written article on each of the monuments together with such general information and instructions as would be appropriate. From the various letters and articles in monthly reports and other files, much of value is already available. Two articles entitled "Some Problems on Guided Trips" and "Some Problems on Public Speaking" which you will find attached to this report, were mimeographed with this special manual idea in mind.

We were pleased to have Dr. H. L. Shantz, President of the University of Arizona, visit us at headquarters for about an hour and a half on the 10th. Matters pertaining to personnel and developments at Saguaro National Monument were discussed. Early in the month we also had the pleasure of a visit from Carl A. Moosberg of the Department of Agriculture at Sacaton who is the donor of the Moosberg Archeological Collection on display at Casa Grande.

The most important personnel matters during the month consisted of the appointment of Mr. Earl Jackson as Custodian of Bandelier National Monument. Earl was on the Archeology register of the Junior Park Naturalist list of eligibles. He has had several seasons experience as temporary ranger and is not new to us. He completed requirements for the degree of Master of Arts at the University of Arizona in June. We want to take this occasion to welcome Earl in our organization. Reference to the report from Bandelier will show Earl is rapidly getting the drop on his problems there.

Each winter the Heard Museum of Phoenix conducts a series of special lectures for people interested in Archeology, History, Geology, Art and other subjects. An invitation has been extended to us to supply one of these programs taking as our subject the activities of the National Park Service in the Southwest.

The employment of Miss Mabel Blake as emergency stenographer at headquarters was approved for one month while approval on the employment of Mrs. Viola Turner as Public Works Clerk-Stenographer at Aztec was received.

By June 30th all office work was current but was so only because we worked long hours, nights and Sundays, took no days off for several weeks, and employed an emergency clerk during the month. Without this clerical assistance, it would have been impossible to have work current with our Six Year Program, final estimates for fiscal year 1936, business matters pertaining to two CCC Camps, necessary trips afield previously referred to, keeping up matters relating to the regular appropriations and closing the books for June and the Fiscal Year just past. I think the fine spirit of cooperation and willingness of all to see us through the month with its volume of work is deserving of mention and is appreciated.

This month by way of a welcome we are going to lead off with Earl Jackson's report from Bandelier:

BANDELIER NATIONAL MONUMENT: Earl Jackson, Custodian, Box 669, Santa Fe, New Mexico.

"Dear Mr. Pinkley: - I arrived at Bandelier National Monument on June 21, and took up my duties as custodian on June 22. The last few days have been spent primarily in getting acquainted with that portion of the Monument readily accessible from the Park Service office and the parking area. This month's report cannot be as complete as it is hoped to make those of the future.

"During the first half of the month no accurate travel record was kept; however, from June 16th to June 25th, inclusive, we have a complete travel record which shows visitors for the ten days included to be 662. Proportionately, we would reckon travel for the month to be 2052.2 (of course we could drop the .2) In June of 1933 Bandelier had only601 visitors for the whole period, but that, of course, was before the days the road entered Frijoles Canyon.

"Roads of the district are all passable and in fair condition, but are quite dusty and corrugated. The first light rain of the month fell on the 24th, settling the dust for a few hours and relieving the oppressive heat of mid-day, but not of sufficient duration to help much in reducing or preventing fire hazards. The Rito de los Frijoles is said to be the lowest in many years, having practically ceased running at that unusually beautiful waterfall, the Lower Falls.

"Two fire calls were answered during the month by the C.C.C. fire crew, which is by now quite a well-organized unit. Both blazes were started as lightning fires. The first, on June 1, was a burning snag, was reported at 4:00 P.M. and suppressed by 6:00 P.M. The second was reported on June 17 from the lookout at St. Peter's Dome, sighted near the Los Alamos road on the Ramon Vigil Grant at about 2:00 P.M. The fire crew found a burning snag caused by lightning. The fire was out by 6:00 P.M.

BANDELIER CONTD:

"Mr. Pinkley arrived here on the 22nd, joined on the 23rd by Mr. Attwell, and they spent two busy days going over active and projected development in the Canyon. Herbert Chase, the new C.C.C. Camp superintendent, arrived on the 23rd for a preliminary sizing up of his job.

"Our visitors seem to have the habit of bestowing themselves upon us in large groups. On June 17 a party of 125 nurses from the Indian School at Santa Fe were in. This group came before I arrived, but on the 23rd came a group of 45 students from the University of New Mexico Summer School Session. They were all live wires, and made a long trip up the Canyon to Ceremonial Cave. Here, most of them made the arduous climb up the four flights of long ladders and enjoyed the view in literally breathless interest.

"I have to break down and confess I might find myself severely handicapped trying to meet, talk to, guide, and entertain a run of two thousand visitors a month, were it not for the help of the C.C.C. Camp. Two are helping me on special occasions like Sundays and holidays, while one helps most of the time during the week. With this valuable assistance I have the chance to greet and talk to almost everyone who comes, and know that all will receive some service.

"While rummaging through the files this evening I have run across that for which I was almost desperately seeking, a large envelope left by the late Edgar Rogers containing a number of pamphlets and scientific papers setting forth practically all the available scientific and historic data on the pueblo aborigines of this district. In no time now I can have some well organized sets of information to confide to and hurl at the tourist.

"People are still having difficulty finding enough signs leading to Bandelier. I believe most of the confusing points along the road have been located, and within a week we expect to have signs up which will end the trouble.

"First impressions of the Ritl de los Frijoles Canyon, which struck me the other day for the first time as I suppose they would the average tourist, were 100% favorable. The road leading down the slope to the Canyon floor is excellent, the frowning cave-pitted cliffs and green tree-studded floor of the Rito are beautiful, the drinking water is superlative,-- but I must sign off or be accused of trying to be a poet. I must say, however, that the people of this country around Santa Fe are exceedingly hospitable and friendly, and appear to want to help this monument grow. Until next month, Sincerely, Earl Jackson, Custodian."

for July is going to be. If Earl's count for 10 days can be taken as an index, I think we can say the travel is going to be at least three times what it was in the old days of the 5/8 mile trail. In all probability, as it becomes more generally known that the roads are open to the floor of the Canyon, the index is going to swing to 4-to-1, or even 5-to-one.

- In regard to people visiting the canyon, their length of stay, the number desiring to camp over night, and etc., Earl has a new field for work and observation. Specifically, is the fact that people can reach the Canyon floor by car in a matter of minutes going to make them want to stay much longer than before ? Are there going to be campers every night to warrant a regular schedule of campfire talks and entertainment ? Is the daily turnover of campers going to be 80%, 100%, 50%, or some other figure? These are facts we need to know before we are masters of the situation, and the new road to the Canyon floor makes them entirely different from the days of the trail, but just how different ?

WUPATKI NATIONAL MONUMENT: Dr. H. S. Colton, Custodian, Flagstaff, Arizona

"Since the C.W.A. projects ended on the 12th of April, no one has been stationed on the Monument. There is no ranger or Resident Custodian, and the Monument is open to vandalism. Since there is no one appointed to see that visitors sign in the registration books that are placed at Nalakihu and at Wupatki, and not everyone signs. One hundred visitors signed at Wupatki alone in May which means the travel count would have been a great many more. The book has not been looked at for June. All pencils placed by the book are stolen as fast as they are supplied, even when tied with a string. The Custodian made two visits during the month and members of the Staff of the Museum of Northern Arizona made several other visits. So far, no vandalism has been reported.

The Museum of Northern Arizona has made an exhibit of Wupatki material in a store window next to the Monte Vista Hotel with a striking drawing of Wupatki in pastel by Virgil Hubbert, as a background.

The Custodian recently explored the country across the Little Colorado fromWupatki and discovered a point of a mesa covered with hundreds of petroglyphs, some of the finest in this part of the Southwest. He has sent Milton Snow, who was photographer on the C.W.A. Wupatki Project and who is now employed by the Museum, down there to make a series of photographs as a record. The pictures range from Basket Maker through the Pueblos to Navajo. Unofficially, we are calling the point, Inscription Point. There are three important places near Highway 89 containing some of the finest petroglyphs in the Southwest. These are Picture Cove near Crack-in-rock, Picture Rock near Willow Springs on Highway 89, and this newly discovered place. What can we do about it ? Harold S. Colton, Custodian."

WHITE SANDS NATIONAL MONUMENT: Tom Charles, Custodian, Alamogordo, New Mexico.

"Dear Boss: - We were counting on a vacation this month, so far as visitors were concerned but they have still been coming in an uninterrupted stream. The only difference that we can notice is that on the hot days they hold their partiesmin the evenings or at night instead of in the heat of the day.

"The summer evenings are delightfully cool at the Sands. It seems strange that one can go out and climb up on a big sand hill at Sundown and find it cool where only a few hours before the same place was scorching hot. These travelling scientists tell us that this fact is due to the exceptionally rapid evaporation there. One of them, this month, claimed that there is amonia in the sand and that it is really a natural refrigeration plant. It is a fact, at any rate, that even in the hottest part of the day the Sands are damp and cool a few inches below the surface. One day this month I took two thermometers along with me to do a little experimenting. At the top of the ground it was 110 degrees F; at the bottom of an eight inch hole about a foot from the other thermometer it was 23 degrees cooler, and down at the bottom of the hill at the water's edge it was 70 degrees, or 40 degrees cooler than it was on top of the hill.

"On account of the cool evenings at the Sands many groups gather there almost every night. Most of them take their lunch; many stay until midnight, and some roll down their beds and sleep in the cool sands until morning. They invariably report a peaceful rest for they have the assurof neither snakes or insects of any kind.

"We took a picnic supper to the Sands one Sunday evening this month and found 13 carloads, 65 people there eating their lunch. On the 12th of June, 75 young people of the M. E. Sunday School had a picnic there. Twenty five or thirty of the Girl Scouts were out one night this month; The District Court officials, in session in Otero County have spent several nights at the Sands, one time there were 38 in the party. The New Mexico School for the Blind gave a farewell party there the first of the month, numbering about 100. The Superintendent of the School claims that no place else can the blind children turn themselves loose with such freedom. Here they may run and jump from the top of the tallest hills without fear of injury. It is a new life to them.

"We have been especially interested in our scientific visitors this month. Early in the month Dr. and Mrs. A. H. Wright drove in from Cornell University, Ithica, N. Y. The Doctor was in search of something with a name as long as this sheet. He said that for identification I might call it "Dr. Brown's Pugnosed Snake". About six or seven of these snakes have been seen in the United States, one of them being at "Walter's Lake" near the White Sands, 1927". The snake is small, harmless and nocturnal. The

WHITE SANDS CONTD:

Doctor did not report as to his findings but the description sounds like this pugnosed snake might be out here with our white mice which are also nocturnal.

"A few days after Dr. Wright's visit Alice Ottley, Botanist from Wellesley College, Massachusetts, with two assistants spent several days with us. These ladies were deeply interested in the unusual plant growth in the Sands. They purchased almost every different picture of the Sands that they could find, took samples of the flora, then drove on bound for Mexico City.

"Mrs. Grace A. Walker of Pennsylvania was another interesting visitor. A well known traveller, lecturer and singer, Mrs. Walker has visited practically every place of interest in the world, having gone twice around the world on lecture tours. After visiting the Sands she writes back: "Words cannot express our surprise on viewing this 9th wonder of the World, the White Sands National Monument. I enjoyed the Sands by sunset and by moonlight--I was simply enthralled by this beautiful white way. I have never enjoyed a moonlight picnic as I did this one on the White Sands. I shall return."

"There seems to be a notion extant that the public determines the policy of these national monuments. If so, then we are slated for a "swimmin hole" at the Sands. Last week a group of boys dug a hole down two feet to water, fixed 'em up a regular beaver slide. They would run and play over the soft dunes until they would get to fever heat and then cool off in the pool. It looked inviting, we must admit. But swimming pool or no swimming pool, the youngsters always enjoy the White Sands. They cry to go back and they are never willing to leave.

"But there is always "a fly in the ointment". These crowds leave trash and decayed food at the favorite camp ground. It is constantly getting worse. The Chamber of Commerce is getting in full swing with the distribution of their "gadgets" - a small cellophane sack of White Sand attached to a card of description on which is printed "no snakes, flies or other insects." When the Chamber of Commerce first put out their statements they were true but last Sunday I found a plate full of spoiled meat tucked away in the shade of the table. I discovered that the statement about flies was not true. Something has to be done. It looks as if I am going to have to ask the Chamber of Commerce to withdraw their gadgets or some way must be worked out for the Park Service cleaning their kitchen a bit.

"Well Boss, our last child was married last week. An incident proved to me that a prophet is not without honor save in his own sand hills. The girl wanted to be married out in the prettiest spot of the snow white sand dunes, just as the Moon came over the mountain, but the boy said "No, I've been raised on White Sand." So, what a beautiful piece of publicity we

WHITE SANDS CONTD:

had to forego. But what matters ? We had six children; they have doubled and now we have twelve. We had the pleasure of putting the six through all of the grades - 48 years, then all of them through high school - 24 years- then 26 years of college--a century run. It is worthwhile, every day of it, even though the last boy did not want to be married out at the White Sands. But there is still some consolation. Our two year old granddaughter frequently comes over from Las Cruces with her parents and as far as she can see the White Sands she cries, "Granddaddy's Sand Pile". It is a rule that she may stop and play there and last week when her father refused she cried most of the way into town. The grandchildren are still loyal. Yours, Tom Charles."

We wonder if Tom won't also have to take back something about snakes too ? While it would be intensely interesting scientifically, to find "Dr. Brown's Pugnosed Snake" in White Sands National Monument, it would be a little hard on the advertizing!

Referring to Van Denburgh's "The Reptiles of Western North America", Vol. 2 (1922), pg. 777, we find "Pug-nosed Snake" as the accepted common name for these snakes. Up to that time five specimens were known. Of these, three were reported from Arizona, one from near El Paso, Texas and the one Tom refers to from the shores of Lake Walters near White Sands.

In regard to the explanation as to why the Sands area quickly cools as soon as the Sun disappears, there are other interesting angles. In the study of Physics we find various principles that might be expressed as follows:

"Low absorbers of heat are low radiators"

"Low absorbers and low radiators may be excellent reflectors"

"High radiators are high absorbers"

Let us speculate a few moments on the meaning of these statements. Most of you are familiar with how a snow-covered area will reflect a dazzling glare of sunlight even in zero weather. One can get parched and burned from this glare of reflected light from the snow, yet the snow itself will be so low in temperature as not to melt at all. Further, you are most of you familiar with how a match can be lighted with a reading glass, or a mirror concave in surface in shape, yet neither the lens nor the mirror get as hot as a burning match, or even change much in temperature. It is even possible to reflect brilliant light from a smoothly polished surface of ice, or to make a lens that will converge light and heat into a spot. The great ice fields of polar regions reflect a great portion of sunlight reaching them back into space.

WHITE SANDS CONTD:

This explanation would largely apply to the White Sands. The white gypsum sands are high in their quality as a reflector of light and heat. This means that a great part of the light and heat energy striking these sands during the day is reflected back into space. During the day this reflected light and heat makes it uncomfortably warm for people on the Sands.

Now, while the Sands will reflect this great amount of heat and light and make people uncomfortable on them in the daytime, this does not mean that the sands themselves become "sizzling hot", for like the ice and snow-covered regions on a zero day, they can reflect this heat and light without the Sands themselves rising to excessive temperatures. With most of the heat being reflected back into space there is not enough retained by the sands to penetrate and heat them at any great depth. This would explain why Tom got quite low temperatures in those shallow holes which he dug. Too, doubtless as Tom suggested, evaporation of underground water will contribute somewhat to the cooling. This would be a factor particularly where the sands, gravels or other formations permit of circulation of air.

It is interesting to speculate on what difference it would make if the White Sands were coal black and had to be called the "Black Sands". How would temperatures and other conditions be affected ? This one thing would be true. Black materials like black cinders or lampblack are good absorbers of heat. After a long stretch of warm sunny days, a great deal of the heat and light energy would be absorbed by these black areas leaving little to be reflected back into space. Absorbing this heat energy, the "Black Sands" would rise to high temperatures. Days on end of this would probably mean the Sands would hardly radiate enough heat during the night to account for all received during the day, and after a few summer months the sands would become warm at considerable depths. Too, after sundown, the rather highly heated "black sands" would have absorbed so much heat as to take perhaps several hours after sundown before temperatures would be comfortable. Where on White Sands the sands are cool immediately after sundown, on Black Sands it would be several hours before crowds could enjoy themselves. Too, on "Black Sands", Tom would find it pretty hot 12 to 24 inches below surface at midday where on his White Sands which are fine reflectors, he finds it delightfully cool.

These points are discussed at length to show that the principles of Heat Engineering and Physics applied to the problem will show that those conditions of "Delightful temperature immediately after sundown"; "Cool at midday some 12-24 inches below ground surface"; "Picnicers can spread their dinners on sands after sunset and find Sands comfortable to sit upon"; - these principles show us that these conditions are what are to be expected. Other special factors such as Ammonia, etc., may enter, but I believe these specialized conditions aren't absolutely necessary and that

WHITE SANDS CONTD:

the mere facts that Tom's Sands are WHITE and not "black", and that light colored surfaces such as the Sands are excellent REFLECTORS of heat and POOR ABSORBERS will just about explain all of the problems about temperatures thus far brought up. (R.H.R)

CHACO CANYON NATIONAL MONUMENT: J. L. Patterson, Acting Custodian, Crownpoint, New Mexico.

We have the following good report from the Chaco:

"Dear Mr. Pinkley: - As Custodian Julian is on annual leave this month's report will be an amateur attempt.

"Weather conditions here have been almost perfect. A heavy rain fell during the last days of May and a few light showers in June have relieved us from any excessive heat. Approach roads are all in good condition. Assistant Sup't. Rose visited the Monument on the 14th and 15th and arranged for supervision of the Chaco during the Custodian's absence. Mr. Rose assisted in a survey of C.W.A. tools and equipment at this time.

"A small drain ditch to carry off rainfall has been dug back of the reconstructed rooms in Pueblo Bonito which are being used as a museum and an office. During the recent heavy rains the water collected back of these rooms and ran through the walls flooding the office and depositing mud on official files and, worst of all, on some of Hurst's cherished books. A Navajo workman was employed for two and one half days cutting unsightly weeds from the courtyard and the are a adjacent to Bonito.

"Our Public Works Program was brought to a close on June 7th as only a small balance of our appropriation was left on that date. This project was the first step toward the building of the much needed fence for the protection of the Monument from overgrazing. A shipment of posts and wire was hauled 65 miles from the railroad point of Thoreau and stored on the Monument. As the boundary line crosses high mesas and deep canyons it will be necessary to construct some roads and trails in order to get fencing material to the points where it will be used. These roads were located and campsites selected with reference to water and fuel supplies. About two miles of line were cleared through brush and a heavy growth of Juniper trees. Approximately one mile of posts were set extending east from the corner between Sections 2 and 3 on the north boundary line. As soon as funds are made available we are all ready to go to building fence with little loss of time on account of further preliminary work.

"A group of FERA workers are on the ground today and will begin erosion control work along Chaco Arroyo on alienated lands. This work will be much appreciated by the Service as the first projects undertaken will look to the protection of Kin Kletsoi and the trading post at Del Arroyo.

CHACO CANYON CONTD:

"This month our visitors numbered 204 coming from thirteen states. Only one foreign country was represented on our register but visitors from Japan are not frequent so Mr. Watanabe of Sappovo(?) Japan gets special mention. Dr. and Mrs. J. H. Stewart of the Department of Anthropology, University of California at Berkeley, arrived on June 1st and went through the museum and the ruins on the following day.

"Ranger Gay Rogers of Aztec accompanied Mr. and Mrs. Wm. H. Hunt of Cleveland Ohio on a visit which will be long remembered by the writer as one of the most enjoyable in his experience. A recent visitor (a woman of course) remarked "Just to think that we would have missed seeing these wonderful ruins if that lovely little lady at Aztec had not insisted that we go to Chaco Canyon". Team work is what counts. Some day we're going to send a party to Aztec just at lunch time and have them insist on Gay showing them all of those 500 rooms and 2 kivas.

"An interesting visitor was Jake Edway, an educated Navajo who, as a boy, worked for Richard Wetherill on his homestead which originally included the sites of the Bonito and Del Arroyo ruins. Edway had not visited the Canyon for many years and expressed surprise at the extent of the erosion which has taken place. He described the Chaco Arroyo as being , in his boyhood days, about two feet deep and six or eight feet wide. Now it is thirty feet deep and in places two hundred feet wide.

"A letter from the Acting Director advises us of the gift to the Park Service of the tools and minor equipment left at Chaco by the National Geographic Society's expedition after excavating Pueblo Bonito. Needless to say, this donation is highly appreciated.

"I am seriously concerned about the condition of the high wall on the north side of Bonito. During heavy rains considerable water runs under this wall and finds its way into what is apparently an unexcavated room below the present floor level. I believe that this condition should be remedied soon and steps taken to protect this high wall by better drainage and perhaps by a pier set on solid ground below. I am digging (during spare time between visitors) a small surface drain as a temporary measure until such time as some more experienced person can examine the wall. Respectfully submitted, J. E. Patterson, Acting Custodian."

Calling himself an amateur at report writing at the beginning, I think we'll agree that Mr. Patterson calls attention to some pretty interesting and important happenings in the Chaco. Fighting the development of meander loops in the Chaco stream is an interesting and important problem. It appears that in recent years the stream is torrential at intervals during and following rains whereas in years past the waterflow was more moderate

AND LASTED over a greater portion of the year. It is interesting to see a geologic process which materially modifies a region so much even over 25 to 50 years time. Checking such rapid erosion and stream meander development will be a real problem.

PIPE SPRING NATIONAL MONUMENT: Leonard Heaton, Acting Custodian, Moccasin, Arizona.

"Dear Boss:- In reporting for this month I want to say that I was away a week at Navajo Lake attending the annual Scout Week in Camp which began June 18th and closed the 23rd. It is worth anyone's time to take a week off with the boys in Camp as it is conducted under the Boy Scout Camping Program. And what an inspiring sight it is to see those 12 year old boys, 328 of them, stand at attention when Old Glory was raised and lowered each day. I am sure that the Good Old Flag will have defenders as long as there are boys being taught as are those in the Scout movement of America.

"The Travel record is as follows:

Record #1 (Other than local)		Record #2 (Locals)	
N.P.S.	10	By cars	496
Arizona	46	Horseback	57
N.F.S.	2	TOTAL	553
California	20		
Utah	22		
Texas	6		
Iowa	1	TOTAL #1	107
TOTAL	107	" #2	553
		TOTAL FOR MONTH	660

"Travel last month was 632 which gives us an increase of 28 over last month. I feel that the people are showing greater interest in the place this year than last, especially local people as there has been several donations made to the Monument of pioneer value and age. One of these gifts came from the decendants of Anson P. Winsor, of his picture. You will recall that Mr. Winsor was the man that was in charge of the building of the Fort and lived here for several years.

"We have not completed the division of the water as yet the reason being that the division plate is being made up at the San Francisco Office and we have not yet received it, nor have we heard from Mr. Cowell as to when it will get here.

"I have had the water running through the pipeline as mentioned in my last report, carrying out some of the irrigation. My fears that it would be impossible to get the water to the campground were relieved when Engineer Cowell came out on May 30th and made measurements for the plate and we are

PIPE SPRING CONTD:

making the Weir so that the water will go over it at four inches below the surface of the ponds. This will give us the head necessary to get the water to the upper end of the camp ground. From the way that Mr. Hall left the division box and said what the height of the water would be, I knew that our water would not go where we wanted it to. We will now overcome that difficulty with the tall weir which will be made of sheet brass.

"The Indian Service has had delivered here 5 miles of 16 gage sheet-iron pipe, tarred to carry the 1/3, or cattlemens' water to the south side of the Reservation. I gather from talk that the pipe will not be put in by the cattlemen, one of the reasons being that they feel that the pipe will not last more than 3 to 5 years in this mineralized soil and another reason they advance is that the Indian Service they say told them that the pipe would be galvanized, screw-jointed, and be 4 inches in diameter.

"Well, the pipe is here and the tar under the hot sun is running together and lessening the value of the pipe for large pieces of tar will be broken off when it is moved.

"We have had some good rains on the 5th and 6th, and some more on the 24th of the month but still more is needed to fill up the water holes on the desert. The feed was almost burned up and many cattle were getting so poor that they would not last much longer. With the rains we have been having, they will come through in fine shape for the Fall market.

"Mr. Langley stopped in for a few minutes on the 23rd on his way back from Tonoweap and asked about the FISH. He said he would ask the Govt. hatchery at Springdale, Utah to get us some more. Well, I hope he can get them as I have now not more than 25 in the three ponds. Sincerely yours, Leonard Heaton, Acting Custodian."

We're glad to see the interest of local people aroused in the old Fort, Winsor Castle, as Leonard states. In that locality pioneer history seems to live in the minds of the people to this day. The placing of old historical museum materials in Winsor Castle for display will increase peoples interest in the place. We're hoping for a residence to be allowed at Pipe Spring for at present the best we can do is to supply living quarters in the Old Fort. That's undesirable to say the least, but will have to hold until the housing problem is solved.

MONTEZUMA CASTLE NATIONAL MONUMENT: Martin L. Jawkson, Custodian, Camp Verde, Arizona.

Dear Pink: - Montezuma Castle is getting to be itself again. We have

MONTEZUMA CONTD:

had 1698 visitors for the month compared with 1448 for June, 1933, or an increase of 17 percent. Our out-of-State count for this month is also higher than usual for this time of year. The report that some research work has been done here is bringing in quite a few visitors and that is as it should be. However, this puts us right jam up against a stone wall as to giving the visitor the service to which we think he is entitled. This is for the reason that two thirds of the visitors are looking over the newly excavated Ledge Rooms and the other third up in the Castle, making it a physical impossibility for a ranger to conduct both parties through at the same time when they are several hundred feet apart. In years past we have been in a position to press one or both of our sons into service during the summer months whether or not we had any funds with which to pay them. But now neither of these are available any more, and with the added work brought on by the newly excavated rooms we are entirely at a loss to know how we are going to deliver better than about 50% services for the next 60 days which will be our peak time in number of visitors.

"Superintendent Pinkley of the Southwestern Monuments spent part of the afternoon and the night with us during the month. Most of the afternoon was spent in inspecting the work that is going on here along with some proposed work. We did have an opportunity to take up some administrative matters in the evening. We have thought of a lot more things since he left, so come again, Pink..

"Associate Engineer Attwell, his assistant, Borden, and Construction Foreman Harry Brown arrived on the 4th to begin construction on our three stall garage along with preparing for other projects that have not yet been approved. Attwell and Brown put in a couple of days running down employment agents to get their men from and finally found that they would have to go to Prescott, 65 miles, to get them. But 65 miles doesn't mean a thing to Walt and Brown, so to Prescott they went. However, Walt said that 65 miles was entirely too far to drive just to hire a few men so inorder to make the trip worthwhile, appeared before the County Relief Board and persuaded them to send out 15 F.E.R.A. men to work on the revetment wall along Beaver Creek. The men are to be on hand the 1st of July. Jackson."

We now have a word from Construction Foreman Harry Brown on the progress of the work. "My dear Mr. Pinkley:- Just a word in regard to the work. The garage building is progressing nicely. We are delayed somewhat for lack of material but if we get confirmation on the contract for material from Washington within the next day or two we will be alright. The walls are about 50% completed.

"The revetment work is beginning to shape up. We will have completed by the end of the month about 200 feet of the bank revetment. I believe that it is solid enough to withstand any floods that they may have here. Before we can start on the dyke revetment we will have to have the engineers

MONTEZUMA CONTD:

give us the grade and line. I am expecting Mr. Attwell any day now for this work.

"Is there any way to hurry the Landscapers into approving the trail and steps to the ruins.? I would like to get that job started as soon as possible. Very truly yours, Harry F. Brown, Foreman."

Mr. Jackson adds an extra sheet to his report with the following:

"On the 7th, Brown had a bunch of laborers at work on the foundation for the garage and on the 11th, the stone masons were put to work. Ath this time the walls are about two thirds completed. Plans were gotten out for the steps to the ledge rooms but have not yet been approved.

"Landscape Architect Langley made us a short visit during the month and has since made some good recommendations concerning the water situation here. We are hoping he will feel better on his next trip as we have managed to cover up the white dirt that we dumped into the arroyo in front of the Castle during the recent C.W.A. work. While Langley agreed that the arroyo should be filled, he complained very bitterly about the white dirt marring the landscape.

"Norman Jackson was working as extra ranger during the first part of May. He was showing visitors through the Castle at the time of Dr. H. A. Kelly's visit (Dr. Kelly's visit was mentioned in my last month's report. He was connected with the Johns Hopkins Hospital that later developed into the Medical School of fame). The Doctor has since forwarded to Norman a very interesting book "Birds of New Mexico" by Dr. Florence M. Bailey who is an authority on the birds of the Southwest. He also sent a year's subscription to "Bird Lore", the official organ of the Audubon Society. Both the book and the magazine will be a great help to us in classifying the birds of the Monument and we all join Norman in extending our thanks to Dr. Kelly.

"Ranger Fish is inclined to think that the Castle put one over on us in that we have been believing that all the material used in the construction of the building was carried up from below. He has found a stratum of clay in the formation that is in the same level as the Castle and insists that they used this clay in their mortar and saved the labor of carrying that much up from below. I am inclined to agree with Mr. Fish and believe that you will back me up saying that in doing the repair work on the Castle several years ago that we found numerous instances where the Montezuma inhabitants had taken several shortcuts to save labor.

"Engineer Attwell, accompanied by Mrs. Attwell and son Jim, were in to see us again on the 18th, and while here, authorized us to spend $4000

MONTEZUMA, CONTD:

on the revetment wall along Beaver Creek. Men were immediately put to work on this wall. The work here seems to be progressing nicely, and to date have found nothing to start an argument about. Jackson".

We wonder if some of the increased travel count at Montezuma might not be due to the plainly visible Park Service signs erected at Flagstaff, Prescott and just out of Phoenix, directing people to Montezuma Castle National Monument ? These signs give the tourist assurance that he is headed in the right direction where formerly, if he was persistent enough he might have found a filling station operator who could give him directions that could be followed. Of course these signs mean little to those of us who know every little road in the Southwest but they surely do to the motorist who is quite uneasy in launching off on a 50 to 75 mile trip over unsigned roads.

--

EL MORRO NATIONAL MONUMENT: E. Z. Vogt, Custodian, Ramah, New Mexico.

"Dear Frank: - In looking over my last monthly reports to You I have decided that they are the worst that I have ever written. There seems to be no rhyme, reason or regulation to my wandering fancy when it comes to pecking off what I have to say. So I have reformed, and hereby promise to keep myself more closely to Monument subjects.

"The month is that one hardest month of the year for moisture conditions. The roads are dry and dusty and are more travelled than at any time of the year. The grass is losing its Spring verdure and the sky remains unresponsive, though cumulus clouds and east winds on some days fill us with hope. While cattle and sheep are suffering in many parts of the state, in this favored region of the mountain foothills I would say that, despite the drying up of wells and weakening of springs and parching of grass and weeds, we are still in a strong position. Compared to other years I have seen in my 30 years in New Mexico, it's not so bad. In fact, in this isolated spot, perhaps 100 miles wide, there is nothing to worry over for another 15 days and by that time we thing the Summer rains will come along.

"Visitors continue to increase at the Monument. More parties are coming all of the time from El Paso, Las Cruces, Silver City and other southern points including Tucson and Southwern Arizona cities. Also many more are coming from Highway #66 via Grants and the Ice Cave. The last week or so, we have had many college folk including teachers, professors and students, not to forget the Indian Service, Forest Service, and Soil Erosion Survey people, including Mr. Hugh Calkins, head of the important Soil Erosion operations on the Navajo Reservation. Some evenings there are as many as four or five parties camped in our coves and sheltered nooks.

"Ranger Peterson has been very busy showing people around our Monument. Most of them take the trail trip of 1½ miles which includes the petroglyph

EL MORRO CONTD:

and Spanish Inscriptions area. It is difficult without a headquarters building and parking area to group people into parties. While the first party is viewing the inscriptions with the ranger, several other parties arrive and start out to explore for themselves. There are a few who have read about our Monument, or who are with people who have been here before, and they get an adequate idea of the place. Some see but the trail; others the Inscriptions on one side only, while to our surprise, others drive in and view the cliff thinking that there is nothing to be seen at all but the great multicolored sandstone cliff. The efforts of Mr. Peterson and myself to contact all the people and not have them leave without getting a fairly complete idea of what it is all about, are sometimes rather frantic and wearing. We do not like to have anyone leave without pleasant memories and a definite desire to return with their friends and other visitors.

"The road from El Morro all the way through to Gallup, is now completed, while the road to Marque and the South Via Techado has been more improved. Several short bridges and more culverts are serving the traveller and your Custodian has about arranged for the County FERA organization to take over additional work on all approach roads with a plan for up-keep.

"The only piece of road now offering a serious handicap to our visitors is that 12 mile Nature Road from the end of the Forest Service road 30 miles south of Grants to the Monument. We are hoping that either the State or a C.C.C. Camp may come along this summer and complete this pine forest drive into a graded highway. As far as surfacing is concerned, we know that is a long way off we know, but just as we have been trying to get the grading done for 20 years, we will now agitate and scheme for surfacing even though it may take that long to get the gravel and oil. We are not losing sight of the interesting possibility of having the Petrified Forest, Zuni, El Morro, the Ice Cave and Acoma, all lined up on a beautiful road which would lead to these premier spots of varied and unique interest, a drive of 150 miles which would not be matched in all the world.

"Resident Landscape Architect "Chuck" Richey and wife, Ruth, came last Sunday and spent that day and night with us, and part of Monday. We picnicked at El Morro and slowly examined all the features needed to be discussed. Finishing our stone-carved trail, the areas in front of the Inscriptions to accommodate 50 people, approximately, each, the erecting of natural rock and brush barriers in front of the escrituras, the stone steps up to the Governor Martinez Inscriptions, 1726, were considered the projects which might be undertaken at once if we get an approval of FERA work. The slight erosion that has started from the prehistoric hand-and-foot trail cove to the south of the water cove concerns us greatly, but Mr. Richey thought that a dam built to catch the run-off water and shoot it under the ground through an 8-inch pipe into a hole which might be chisel-

EL MORRO CONTD:

ed through the concrete dam into the reservoir, would at least stop the rush of water. The water from the reservoir we plan to draw off regularly through siphoning it out over our filled area now showing green with oats, yellow clover and incipient grass and weeds.

"The administration building, parking area, camp grounds, residence, together with a water well, we think should be brought into being soon but perhaps it will take means from the Public Works Administration to do this.

"On June 12th I went to Atarque and brought up Juan Chavito, half Hopi, half Spanish, and general all around worker, and with him and my son who is back from his year in high school at Santa Fe, started work on moving the blacksmith and tool house we built against the ranger's cabin during the C.W.A. Program. With 1000 feet more lumber which we bought we have about finished moving the old lumber around to a hidden spot near the new and only entrance to the Monument and have almost completed a garage and tool house 20 by 26 feet with a partition in it. All of the nails were salvaged and used so we did not have to buy any new nails.

"Mr. Richey liked the site we had selected to build this useful building and indicated hard by the place he would like to tuck the ranger's cabin when we move it. Thus far, I have not been able to get anyone yo make me a bid to jack up the log cabin and pull it around 1/2 mile to the new site. We think that we will be able to get it moved without taking the logs apart and rebuilding it.

"On June 18 Mr. Richey and Inattended the Convention of the Highway 66 Association and were the guests of the Board of Directors along with Assistant Superintendent Lloyd of Grand Canyon, and Superintendent White Mountain Smith of Petrified Forest National Monument. Messrs. Richey, Smith and Lloyd spoke at the meetings though I managed to avoid the honor. In the evening at a banquet, General Hay, Soldier of Fortune and Irish Wit, was the principal speaker.

"During the week before, I went to Santa Fe with the special train of road boosters who invaded the Capital . Some 200 strong, our train attacked the capital with bannered parade, "Finish 66", led by a Hill Billy String band. In the House of Representatives we cornered the five members of the State Highway Commission and the chief engineers, and the need for finishing and oiling Highway 66 was clearly presented to them. Out of a clear sky I was called upon and I did my darndest to unfold the need of an adequate road over good riding surface to the 1000 miles of wonderland from Santa Fe to California, including all our parks and monuments in that vast stretch. Some pledges were made to us by the State Highway officials which we hope will be carried out without much delay.

"The yucca flowers have now withered on our ruins and higher areas, but the grass looks greener at the Monument than at other places, owing to

its protection. The presence of pingue which causes the death of thousands of sheep and some cattle in New Mexico, was detected on our mesa top, though it is so closely akin to snake weed ("yerba de la bibora") that but few detect it.

"The jack rabbits hold nightly feast on our oats and scarcely turn their heads or lift their ears when the coyotes howl down in the valley on these moonlight nights.

"This is one of the rare times of the year and one of the rare years when one can point out to our visitors the three generations of pinon nuts. Some of last year's nut bearing cones remain on the trees alongside of nutladen cones, green and sticky with glistening pitch, now the size of apricots, these to bear next fall, while overhead on the very tips of the branches perched on slender spikes one can point out the little cones no larger than a pea forming now for the coming year's product.

"We still look forward to a visit and fresh person-to-person lineup from you but you seem to visit everyplace but here. We hope the day will come when they will give you additional help you should have in the office so you can come up here and enjoy a regular climate and a cool breeze once in awhile. With regards to all, E. Z. Vogt, Custodian."

RANGER ALFRED PETERSON'S REPORT ON EL MORRO:

Alfred Peterson, better known as "Pete", spends the summer months showing visitors El Morro and the Inscriptions, and it is good again to have the usual word from him:

"Visitors: - For the first 23 days of the month there has been an average of about 13 visitors per day, with the number increasing with the approach of the end of the month. The indications are that the number of visitors may equal or exceed, the averages for the summer of 1931 which was the big summer of my experience at El Morro. For this period we have 296 visitors from 16 states and England.

"On Sunday June 17, 75 people visited the Monument. Needless to say, not all of these people received ranger service. They began to come in droves about 10:00 A.M., and continued arriving at irregular periods until the Ranger bid his last party good night after 7:30 P.M. when, hungry and more than tired, said ranger had some much needed nourishment.

"We have had a number of camping parties, the largest group being four parties composed of five cars carrying 13 people, each of which wanted an exclusive spot in which to spend the night. They were finally tucked in various coves, nooks and sheltered places, but none used the little cave - Clan Shell Cave-, the favorite roosting place of Chuck and Ruth Richey. Chuck and Ruth were with us again on Sunday June 17th.

"One charming young lady, on June 23rd, handed the ranger two pictures

of inscriptions and said, "Please autograph these and be sure to put on U.S. Park Ranger." Said I in surprise, because it was the first time I had been approached as an autographing celebrity, "What do you mean, Autograph?" and her mother said sweetly, "Why, put your name on them". I've stayed told ever since.

"Taking visitors from our new entrance which is so far from the Inscriptions, over the mesa before seeing the Inscriptions, is not practical nor is it satisfactory to visitors as often as it is merely acceptable. Example:- one party, expecting to make the round in a half hour, found themselves still not seeing inscriptions when over an hour had passed (and the pace had even then been too fast for some members), with the result that they saw three or four inscriptions and missed the bulk of them in their haste to be on their way. This means that the main feature was practically missed. One lady experienced an "altitude nose-bleed" making this trip.

"Wild Life:- Jack rabbits and cotton-tails are more numerous than ever. If natural enemies do not check their increase within the fenced area, they may become a problem. They are consuming a lot of new growth on the freshly seeded area where the large arroyo was filled during the CWA work. The cliff swallows have numerous little adobe houses clinging to the underside of ledges along the cliff, and many bluebirds and some mockingbirds, add a most cheerful note to the Monument in general.

"Miscellaneous:- The weather is very dry and the local people need water for domestic and stock use. Many of these people are reported to be very much displeased with the orders prohibiting hauling water from our rincon as had been their custom in years past. The dry weather, however, leaves the roads in good condition, and we think now would be a good time for the Superintendent to visit this Monument.

"I have made no mention of special visitors as the Custodian has taken care of that point. In fact, the greater part of the visitors are noteworthy, because they have the intelligence to appreciate the features of the Monument as well as the intestinal fortitude to leave the main highways and follow the by-ways to the points of interest of which they have been informed. P.S. Sunday, June 24th, brought 49 more visitors to El Morro, which makes the total number for 24 days in June, 345, with six days to go to complete the month. Alfred Peterson, Ranger."

-29-

NATURAL BRIDGES NATIONAL MONUMENT: Zeke Johnson, Custodian, Blanding, Utah.

"Dear Frank: - All is well at Blanding and the Bridges. Not many people are coming now. June is always our off month. The Associated Civic Clubs of Southern Utah representing 14 counties, are holding a meeting at Kanab on June 23rd. The big object of this meeting is to work for the road connecting Blanding with Western Utah Via Wayne County Wonderland. They have

written me to be sure and be there as they want more information on distances and estimated costs and many other items pertaining to route and crossing the Colorado River. They seem to be very insistent that I be there so I have about made up my mind to go. I will put Junior on the job for 4 or 5 days. I feel that I ought to be there for this connecting link seems to be one of their major and pet jobs, and all of the counties are working for it. The Survey continues on the road to the Monument and sounds like work on the road that I started will soon be going again.

"It is very dry and windy, looking some like rain today(15th). The Chamber of Commerce here has offered to pay my gas expense for the trip to Kanab and insist that I go. Are you coming over to see me this season ? I hope so, for I feel that you owe me a visit. P.S. One of my greatest ambitions is to see the road connecting Mesa Verde, Natural Bridges, and Southern Utah parks put through, and believe me, I am working for it, and when it is all completed, I will have felt well paid for my efforts. Yours very truly, Zeke Johnson."

Zeke writes us 12 days later on the 27th as follows: - Dear Frank: - Well, here I am in Salt Lake City, after having attended the meetings of the Associated Civic Clubs of Southern Utah at Kanab, in company with the President of the Chamber of Commerce of Blanding, MR. J. E. Adams, and our wives. We had a very enthusiastic gathering of the 14 counties who are all boosting for that Blanding-Hanksville road.

"We came to Salt Lake City and have met Mr, Harry Finch of Ogden, State Chairman of Federal Roads, who was down to Blanding just prior to my leaving. He assures us that the engineers now at work will continue to survey to the Natural Bridges. We have also visited the State Capitol with the unemployment officers and the State Road Commission and they assured us that the work on this new project which I started, would resume operations after July 1st with at least 50 men so of course you will know that I feel very happy over the outlook. I am returning to Blanding tomorrow.

"Just before leaving the Monument for this trip we had some very fine showers which made everything look beautiful and the water supply has never been better. We have had a great many interesting visitors, in fact there being more out here this year so far than ever before. Letters are being received everyday about the best time to visit the Monuments.

"Say, Frank, do you have an extra typewriter kicking around your ranch? If so, please ship to me as Mrs. Johnson could be a great help with my correspondence. Very truly yours, Zeke Johnson. "

CASA GRANDE NATIONAL MONUMENT: H. F. Palmer, Custodian, Coolidge, Arizona.

Immediately following is the report of Mr. Palmer for June which leads off with an analysis of travel and visitors compiled by Ranger Robert Budlong:

[illegible] SERVICE
at
CASA GRANDE NATIONAL MONUMENT
June, 1934.

*

During the month of June a time-clock was installed at Casa Grande National Monument, each party of visitors was assigned a "trip number" on the register, and a separate slip of paper bearing the trip number was stamped with the hour and minute each trip through the ruins and museum commenced and ended.

From the 172 complete trips through both ruins and museum, the following table has been prepared, the column on the left indicating the time the parties started, and the column on the right indicating the percentage of the 172 trips starting between the hours indicated:

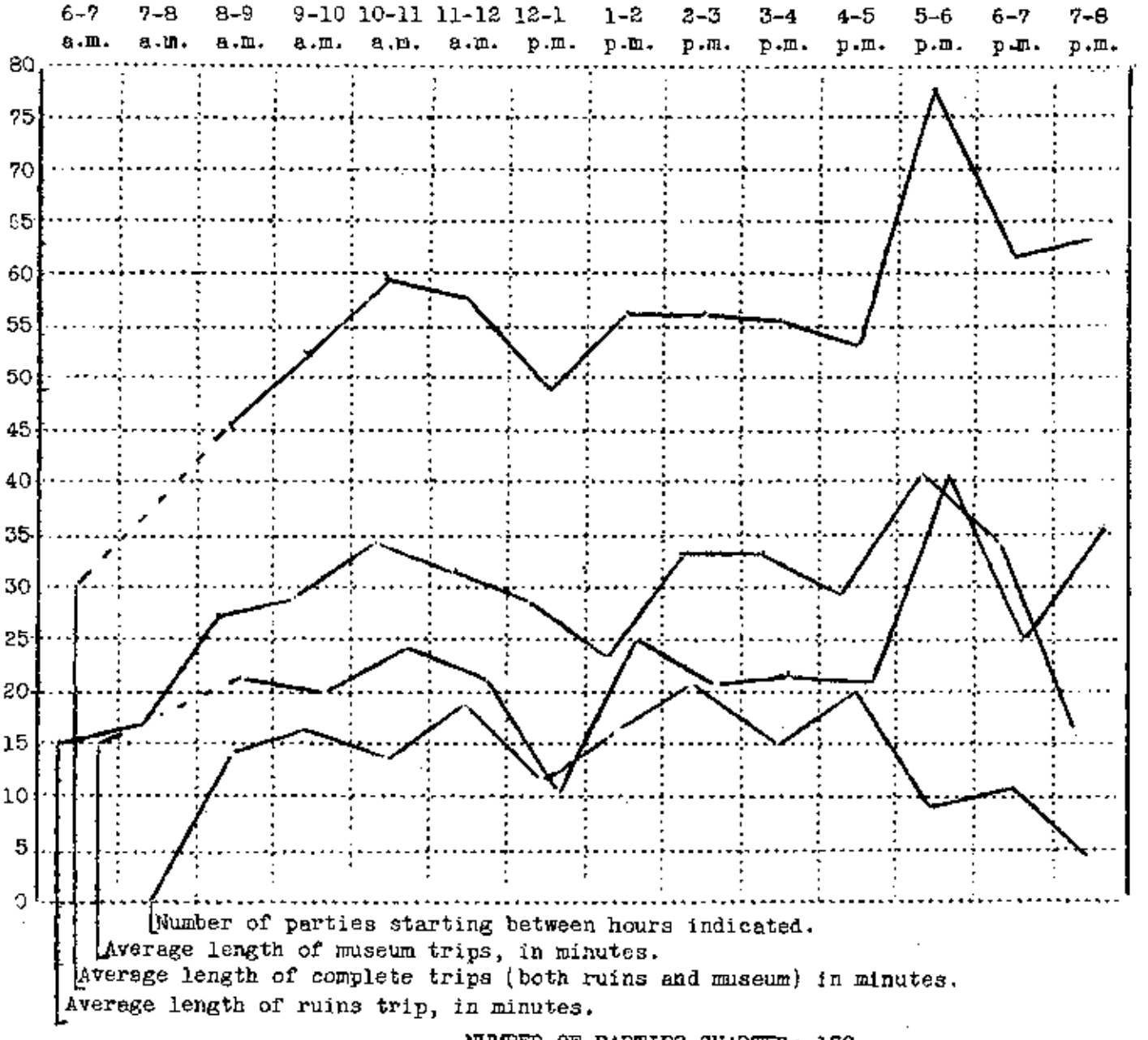
2 p.m. to 3 p.m.	12.2%
4 p.m. to 5 p.m.	11.6%
11 a.m. to 12 noon	10.5%
9 a.m. to 10 a.m.	9.9%
1 p.m. to 2 p.m.	9.9%
3 p.m. to 4 p.m.	8.8%
8 a.m. to 9 a.m.	7.6%
10 a.m. to 11 a.m.	7.6%
12 noon to 1 p.m.	7.0%
6 p.m. to 7 p.m.	6.4%
5 p.m. to 6 p.m.	5.2%
7 p.m. to 8 p.m.	2.3%
6 a.m. to 7 a.m.	.6%
7 a.m. to 8 a.m.	.6%

Average time devoted to complete trip through both ruins and museum..... 55 minutes.
Average time devoted to ruins trip only..... 28 minutes.
Average time devoted to museum trip only.... 23 minutes.
(The last two figures were obtained from the 172 complete trips, and, in addition, the numerous trips made by groups visiting either ruins or museum, but not both.)

Of the 172 complete trips, 15.116% were started before or after the hours of 8 a.m. to 5 p.m. The latest trip necessitated service until 9:10 p.m.

The graph on the opposite page has been prepared from these 172 trips, each horizontal line representing 5, the vertical columns representing the hourly intervals during which the trips started.

CASA GRANDE NATIONAL MONUMENT



NUMBER OF PARTIES CHARTED: 172
June 14, 1934 to June 28, 1934.

A study of the graph develops several interesting points:

The "low" areas, indicating the hours during which the least number of trips started:

8 a.m. to 9 a.m.
10 a.m. to 11 a.m.
12 noon to 1 p.m.
3 p.m. to 4 p.m.
After 5 p.m.

The "high" areas, indicating the hours during which the greatest number of trips started:

9 a.m. to 10 a.m.
11 a.m. to 12 noon
1 p.m. to 3 p.m.
4 p.m. to 5 p.m.

The coinciding of few parties and brief trips through both ruins and museum between the hours of noon and 1 p.m.

The sudden falling-off in number of parties, occurring between 5 and 6 p.m., and the great increase in the average length of both museum and ruins trips during this time.

The sharp decline in length of ruins trips, compared with increase in length of museum trips, together with the decline in the number of parties starting between 7 and 8 p.m.

Of course, this is for but half of the month of June, one of our hottest months. The temperature was high during this month, the mean maximum being 100°F. in the hour from 5 to 6 p.m., during which hour but 5.2% of the trips started, and this was the hour during which both ruins and museum trips were the longest.

While it is too early to draw any definite conclusions from this report, this data is given for the period of June 14th to 28th, inclusive. Similar statistics will be given in subsequent monthly reports.

*

This month we have an increase of 265 visitors over the same month last year. There were 1434 visitors during this month, compared with 1169 during the month of June, 1933, an increase of approximately 22%. These 1434 visitors came in 418 cars from 34 States, Washington, D.C., the Philippine Islands, England, Scotland, Wales, Canada, and Mexico. Arizona was first,

... on the total number of visitors, California ...
with 13%; Texas third, with 6%; and Illinois fourth, with 2%. These visitors received personally-conducted tours in every case, there being 295 Ruins trips through Compound A, and 265 Museum lectures. We had 507 other visitors who did not visit ruins or museum, but who used the picnic grounds, campground, and playground, or who merely drove into the grounds, looked at the Casa Grande without getting out of their cars, and drove away. We had an average of 5.1 persons per trip. A large "get-together" picnic was held during the month by people from Kansas, and there were several other large picnics held.

The summer months at this Monument constitute our "off-season." The visitors during the month of June were, in the majority of cases (especially during the last half of the month) of a rather low grade. We had a great many tourists driving antiquated models of automobiles, who said they observed the sign "Free Guide Service" and could not pass by anything that was free; there were many groups of young people on school vacation whose greatest interest appeared to be the entertainment of their companions by would-be witty remarks; there were many people who desired "only five minutes to see everything"; and the usual number of visitors who had been here once before and were bringing friends, but who did not desire guide service, since they knew all about the ruins from their previous trips, and would prefer to explain it to their friends. They received guide service, and the rangers spent most of the time correcting misstatements of facts made by the individuals who had been here once before and knew all about the ruins. On the other hand, there were many parties of highly intelligent persons, who were attentive, keenly interested, and a great pleasure to conduct through both ruins and museum. The percentage of such persons, however, appears to be much lower during the summer months than during the winter months.

The weather has been both hot and dry, with but .35 inch of rainfall on the 23rd of the month. Mean Maximum temperature for the month was 100.79°F., mean Minimum temperature 59.02°F., and mean temperature 79.90°F. Maximum temperature for the month was 110°F., on the 10th; and Minimum temperature 46°F., on the 7th of the month. There were 25 clear days and 5 partly cloudy days.

* *

Work on the new employee's quarters being built under the Public Works program has proceeded satisfactorily during the month, and will be completed by July 15th. All exterior work

is completed with the exception of the color coat to the stucco. Carpenters and painters are now busily engaged in finishing the interior. The contractor has done a very fine job and we are going to have a fine employee's quarters when it is completed.

A gang of six FERA men furnished by the Pinal County Welfare Board has been kept busy grading around Compound A and erecting a fence on the south and west boundaries.

The grading in Compound A was started under CWA but was not completed. It has now all been finished and presents a very much improved appearance and all water falling inside the compound walls will be drained away from the walls to the outside of the compound.

The fencing was purchased for us by the State from CWA funds and is being erected in a satisfactory manner by FERA labor. It matches our fence on the north and east sides, being 45 inches of woven wire with two strands of barb wire on top, all erected on metal posts. This fence has been needed for a long time and will stop the crossing of the Monument by people who form new roads and paths, and keep them out of our utility area.

I have the sad duty of informing you that George A. Nowlin, Jr., who has been the foreman in charge of this FERA labor, when returning from Florence, Arizona, early Sunday morning to his home in Coolidge, ran into the headwall of an irrigation ditch and was injured so badly that he died the next day without ever regaining consciousness.

Assistant Architect Langley made an official inspection trip during the month and gave us the benefit of his advice and criticisms. Engineer Attwell has been in and out several times during the month, lending his assistance on engineering problems.

J. L. L. Baehr, our janitor, has taken six weeks' leave and is spending it in Chicago and other points east. His place is being taken efficiently by another local man, but we miss "Teddy."

Our picnic area, recently improved and enlarged under Public Works, has been the scene of many picnic parties during the past month. Local organizations are using it to hold their meetings on, and every Sunday brings many people from Phoenix, Tucson, and other towns, who bring their lunches and stay most of the day. This enlargement of our picnic area is one of the most important improvements we have made here.

* * * * *

NAVAJO NATIONAL MONUMENT: John Wetherill, Custodian, Kayenta, Arizona.

From Hosteen John we have two letters; the first dated June 19th and the other June 28th. Roads and trails improvements have brought new problems in John's domain:

"Dear Natany:- You notice that I'm not using a high-powered way of spelling "Natany" but am trying to spell it in a way that anyone can pronounce.

"I have just returned from a trip to Kit Siel and Betatakin. Quite a few people have been here including a large number of the Hiking Club of Flagstaff, It was rather discouraging to see the vandalism that has gone on since I was last there. At Betatakin vandals had taken off a large number of pottery sherds and all of the metates and manos that they could carry off. At Kit Siel they have spoiled a room that had been left after it had been cleaned out to show to the tourists, with the pots, pot-rings and cedar bark rope in position. The rope and all of the pot rings had been carried off and the lintel of the door of a side room removed. The trash of the room that had been used as filling was scattered over the floor of the exhibit room. Two of the potnecked Sipapu had been dug out by people thinking they had found pots. And much more destruction has been carried on that will develop after we have a change for further investigation. You'll agree that this is enough to discourage anyone who is trying to make something for the public not like anything they will find elsewhere in the world.

"We have been in luck. We have hadmour "Natany" here to see the ruins. He came back like a locomotive after a sixteen mile ride on a mule. We also had Mr. Frederick Vreeland with us. He is a man who is more interested in the ruins than any man outside of the Park Service that I have met. He is trying to do everything that can possibly be done to preserve our Western parks and monuments, keeping their natural beauty intact.

"Mr. Ansel Hall's Rainbow Bridge and Monument Valley Educational Expedition arrived here on the 16th. They are now working out some mounds of Pueblo I and II in Doguoshe Boco, one of the branches of the Tsaigie. Mr. Lyndon Hargrave of the Museum of Northern Arizona is in charge of the archeological work with Ben Wetherill to handle the excavations and to act as chief of the party! The party has its archeologists, its geologists, its biologists and other "Ologists" too numerous to mention. The party consists now of twenty-six teachers and students. They are all greatly interested in the work. They are in acountry new to them and they are very enthusiastic. We are in hopes that they accomplish much to reveal the history of the former inhabitants of the country from the Cliff Dwellers back to the Dinosaur, who was one of the former inhabitants of this same region. Yours truly, John Wetherill."

On the 28 John again writes: "Dear Frank:- I have just returned from the ruins. There has been some 25 visitors at Betatakin since you were here. The vandalism is still going on. Two of the metates have been taken

NAVAJO CONTD:

from the grinding bins. The bins had to be partially destroyed to get them out of the plaster. A lot of excavation has been going on. Someone dug out a mummy or skeleton partially mummified taking the head and the artifacts and leaving the remainder of the bones on the camp ground. I gathered them up and carried them back to the ruins. Dr. Marsh of the Rainbow Bridge and Monument Valley Expedition visited us and not knowing the former condition of the ruins he did not realize the damage that had been done as much as I did,- but he did see enough to telegraph Mr. Ansel Hall to see if something could be done to stop it. I showed him your copy to me of your letter to Director Commerer and he could see that you were doing everything that could be done in regard to the vandalism.

"If you have a copy of the Southwestern Monuments Report for April I wish you would send me one if you can spare it. I need it to complete my set of copies. With best wishes for a warm and prosperous summer, I am yours truly, John Wetherill."

(For a detailed report of the vandalism and just why it as a problem has come up at this particular time, turn to the index of this report and find "THE MONTH OF THE BOSS". In his report he explains reasons why the problem comes to the fore just now, and the temporary measures that have been adopted to meet it.)

CAPULIN MOUNTAIN NATIONAL MONUMENT: Homer J. Farr, Custodian
Capulin, New Mexico.

"Dear Mr. Pinkley:- I have the following report to make for Capulin Mountain National Monument for June 1934.

"Visitors:- A little over twelve hundred have called on the Monument this month and have viewed the dry and dusty remains of the once wet and happy volcano. I doubt if it was any dryer at the termination of the last eruption than now. Knox Borden and Bob Harris, Attwell's assistants in engineering, arrived here on the 19th of June and have been locating and establishing the Monument boundary which has been no little job as the corner stones, most of them, set in the original survey in this entire township, have been removed. These gentlemen expect to complete their work here this week. I hate to lose them-good, bright genial lads who know their lines.

"Mr. and Mrs. W. G. Attwell and Jimmy were our welcome guests on the 25th. They are always welcome at this Monument and Mr. Attwell is always giving us some good advice and valuable information.

"Working Activities:-On June 19th a FERA Work Project was begun here for this Monument. The parking area is to be leveled and walled with lava set in cement, and the entire area of the Monument fenced cattle-proof, material having been secured last April and is now on the grounds. This project will last about six weeks.

"Mr. Rose, I am sorry I did not get your kind request to make out my report a little earlier, until today (the 26th). I shall try to make it out next month about the 23rd or 24th. Very Respectfully, Homer J. Farr."

Stewart, the fellow who got away with 1000 feet of Homer's mountain, is at Wind Cave now. It is pretty fine to see Borden and Harris getting along so good on that job, except if Homer doesn't watch them they will get away with a couple of sections of the area !

This matter of fencing our monument areas is certainly worthwhile. Wild life conditions may be seriously disturbed all around, but fencing serves to keep conditions within the monuments natural.

Homer's report shows that a parking area on Capulin will serve between 1000 and 1500 visitors each month who drive out to see the Volcano.

TUMACACORI NATIONAL MONUMENT: George L. Boundey, Custodian, Tubac, Arizona.

"Dear Mr. Pinkley: - Visitors to Tumacacori for the month number 764. The month as a whole has been very hot with one slight shower on the 21st. Many cattle are dying on account of the drought, one man losing as many as 700.

"We cleaned out our well and put an extension on the lower pipe. We are using so much water for the cement work that the water level has lowered considerably.

"We are working about 100 men here in shifts of 20 each. Each shift works three days the first half of the month and three days the last half, giving them six days labor, or $21.00 a month, which is more than the majority of them have earned in years.

"We hope to make enough adobe blocks to complete the wall entirely around the Monument. As we have to furnish all supplies other than labor, the making of the adobe requires nothing but a little straw which is the item that has to be purchased.

"On account of many of the springs and water holes having dried up the cattlemen are having much trouble among themselves over the water-rights and the neighborhood is almost like an armed camp. Sincerely, George."

Showing that we don't always stick to alphabetical order, we will put (A)ztec in the "Z" position this time.

AZTEC RUINS NATIONAL MONUMENT:- Johnwill Faris, Custodian, Aztec, New Mexico.

"Dear Boss: - The depression is over ! Visitors for the month total 1435, which is the biggest June with the exception of 1930, since my term as Custodian at the Aztec Ruins. Of this number some 369 were shown through yesterday as a result of a Masonic Picnic of the San Juan Basin being held in Aztec. We were quite elated over the efficient manner with which all of these visitors were handled.

"Plans had been laid for nearly 600 people but a threatening day prob-

AZTEC CONTD:

ably caused many of them to postpone any trip. Silverton, Ouray, Pagosa Springs, and other towns all reporting ruins which, by the way, were of much more importance and benefit probably than a trip through our ruin. Everyone in the office was drafted into service and plans were made to place a guide in each room and allow the visitors to pass through rather rapidly and in large groups. The limited number arriving, however, altered these preparations to where each guide was given a group and the group members were given more or less the same individual attention that any party might receive. Many favorable comments, and not one complaint, were received.

"It is surprising what an experienced crew can be gathered from our force: Gay Rogers, Tommy Thompson, Oscar Tatman, Don Gay, Frank Kohl having all taken parties off and on and Madelene Scranton, Miss Adams, Mrs. Turner and another local girl, we can handle about any number of visitors that might come in on us.

"June has also been a month very much appreciated from the standpoint of visitors in whom we are particularly interested. On the 2nd Dr. and Mrs. Julian Steward of the Department of Anthropology, University of California, stopped in, spending Saturday night and a part of Sunday with us. It was most pleasant to spend several hours with the Doctor going over details of museum plans and future developments. We hope they enjoyed their visit here and will see fit to make us another when opportunity presents itself.

"On the 13th of June, Bob Rose was up and we enjoyed a visit with him. On the 19th Dr. Douglass of the University of Arizona, who contributed to our museum interest with his ring growth charts whereby we can determine ages of early ruins, was here. Your coming in later that same day was quite an event and if you only knew how much we enjoy having you, you would repeat the occasion more often. Both "Chuck" Richey and J. B. Hamilton came down on Wednesday to confer with you and, incidentially all our problems of Aztec Ruins were discussed.

"On the 24th, of course, we had some of the Masonic Picnic people of rather high standing in both Colorado and New Mexico.

"All in all, our visitors contacts have been most enjoyed, and with Mrs. Rogers having the situation well in hand, each visitor, I believe, has been given our regular brand of service.

"All Public Works Projects are progressing in a satisfactory manner. We were particularly grateful and relieved in finishing our drain ditch. We are planning to make frequent tests to determine just the amount of water we can get from this drain and also watch our kiva floor levels closely to determine the effect of this drain will have on them.

"Minor repairs have been made here and there on our walls, kivas and

AZTEC RUINS CONTD:

etc., clearing away all spaces surrounding the kiva for the installation of the circulatory system suggested by Mr, Kittredge on his visit here last month. Our work in the prevention of floods entering the museum is practically completed and, while the plan originally proposed was not followed, both Mr. Hamilton and Mr. Morris feel much happier over the present arrangement.

"Our major work has centered on the Great Kiva and, as you know, these walls are now assuming definite shapes as well as are the rooms on the court level. Timbers have been cut and are being hauled at the present time for the mammoth roof. The Custodian made an inspection trip to clear these timbers the 21st and we were particularly fortunate in being able to secure the cooperation given us by the Forest Service since this type of timber is quite uncommon and is particularly essential in this great kiva.

"We have been fortunate in weather conditions and little time was lost during the month because of bad weather. The general conditions in the locality are extremely dry and unless some rain is forthcoming, damage will undoubtedly result to the majority of the acreages in the valley.. Our well and pump have given us some trouble but as yet only minor features that were easily and quickly remedied. We are finding it necessary, however, to pull our rods and put in new cups since the additional burden of Civil and Public Works Administrations works have worked this machine overtime in many instances.

"Plans are being formulated for the immediate preparation of bids on our New Museum and we are awaiting the drawing of plans from either the San Francisco or the Washington Offices before sending out bids. We appreciate the information and assistance on this supplied to us by Field Headquarters and you and will make every attempt to draw up these bids in accordance with the instructions given us.

"Miss Adams, our pottery technician who has been with us since the latter part of December, was dropped from our payroll May 31st but because of the excellent work she was doing Dr. A. V. Kidder of the Carnegie Institution asked permission for her to continue during the month of June at the expense of that Institution. This, of course, we gladly did, and appreciate not only the services of Miss Adams but also the interest Dr. Kidder has shown in our monument.

"We trust that administrative matters have been handled in accordance with the policies of the National Park Service and we are looking forward to an eventful July. With best regards to everybody at Casa Grande from the force at Aztec, I am very truly yours, Johnwill Faris, Custodian."

--

In closing these reports of the individual monuments we do not have special reports on Chiricahua, Arches, Saguaro and others, but following The Boss' Month, matters pertaining to many monuments not thus far covered, will be considered.

THE MONTH OF THE BOSS.

As a sorta of closing word for the month of June and the fiscal year, I might add to this report a few words on what I have been doing during the month and some observations on what I have seen.

On the 6th and 7th, Chief Clerk Hugh Miller and myself made a trip down to the Chiricahua National Monument to see if the new C.C.C. camp was coming in and getting settled all right. You will remember that this camp is a National Monument camp and is being operated under our Service but its work will be done on a cooperative basis with the Forest Service. Forest Supervisor, Fred Winn, is the man I deal directly with on the Forest Service side and I am free to say that if the Forest Service had ten thousand of him I would be trying to join up with them. The only thing I have seen about him yet that looked suspicious was that night of the sixth when the Army clerk made him sign for a steel cot and bedding before he would let him go to bed. Hugh and I thought if they watched a Forest Service man so closely maybe we better not try them so we went down to Ed Riggs' Fairway Ranch and spent the night. You will be dropping in there too some time and you will find it is one of those places you will always be wanting to go back to, and Ed and the Missus are the salt of the earth.

Lieut. Woody, on behalf of the Army, was shaking the camp down in fine shape, and, although it was only half moved, everything was orderly and proceeding with the precision one usually expects of the army. The boys are a fine, upstanding lot and seemed contented and happy. I feel that the camp at Chiricahua is going to be a success. It was under the maximum at that time some sixty men but they promise us to bring it up to a full quota by about July 10.

Hugh and Mr. Applegate straightened out the forms and procedure for handling the business of the camp through our headquarters here at Coolidge and we all talked over the proposed roads, trails and construction projects and finally parted thinking that if the Army, the Forest Service and the Park Service couldn't run a C.C.C camp successfully no other outfit in the United States need try.

On the 14th I started a swing trip through Northern Arizona and across to Santa Fe to see how some of the boys had wintered and what the C.W.A. projects had brought forth.

I drove to the Montezuma Castle National Monument the first day, finding some long detours, which constitute a certain sign of progress, between Phoenix and Prescott and some new construction between Prescott and Jerome.

The work at the Castle was in fine shape and we spent the end of the afternoon and the evening discussing further expenditures and some clean-up work which was needed.

Next day I went up through Oak Creek Canyon, a place you must go some-

time, a very beautiful drive, through Flagstaff, Cameron, Tuba City, Red Lake, and on out to Hosteen John Wetherill's, where I spent the 16th and 17th.

The reason for this part of the trip at this time was that the problems of the Navajo National Monument had suddenly come to the fore because of the construction of a new road and trail which makes it much easier for the visitor to get to Be-ta-ta-kin Ruin at no expense for horse-hire, guides, etc. The Indian Service, through some of its C.C.C money, ran a road from the Shonto-Marsh Pass road about seven miles north to the south rim of the Tsegie Canyon. From the end of this road a trail was put down into the Tsegie and this trail runs up Be-ta-ta-kin Canyon to the Be-ta-ta-kin Ruin as well as down into the main Tsegie. It is only a mile or so from the parking ground at the rim to the Be-ta-ta-kin Ruin, so the walk is not excessive, although the climb back out is pretty stiff. Before this the visitor could only get in by saddle horse and needed a guide. This made it expensive enough to cut down the number of visitors, and in the 17 years or so since Mr. Judd cleaned up Be-ta-ta-kin Ruin we had very little vandalism. With this new method of getting to the ruins we are having a sharp increase in visitors and have had several cases of vandalism already this year. The same thing, in a lesser degree, is true of Kit Siel Ruin, which is about eight miles by trail from the new parking ground. It will not have as many visitors as Be-ta-ta-kin but vandalism has already begun.

Immediate steps have been taken to put a couple of Navajo Indians over the ruins as guards for this summer, but this is only a stop-gap method the proper solution being to go in with the regular type of personnel and give service to the visitors who are beginning to come and who will expect the regular information and educational service they get at other places.

By appointment I met Mr. Frederick K. Vreeland at Mr. Wetherill's place and for two days he, Mr. Wetherill and myself went over the various complex problems connected with the taking over and handling this type of National Monument. We made a trip to the two ruins mentioned above and finally both wired you starting the action which resulted in the two Indians being put on the job as detailed above. There are over-grazing and soil-erosion problems in the Tsegie district which indirectly touch our Monument problems. If we talk of removing the sheep and goats as a factor in the over-grazing and soil-erosion, we immediately get over into an Indian problem for the Indians thereabouts live upon sheep and goats. Mr. Vreeland proposes an interesting solution of getting the Indians to give up sheep and goats and in return charge a toll on visitors entering the district to see the ruins and selling Indian handiwork directly from an Indian hogan at the head of the trail to such visitors. This, as you probably know, is being done by the Santa Clara and Acoma Indians, but in those cases the income thus derived constitutes only a small proportion of the total income of those Indians. In our case it is a question if 300 visitors would yeild enough income to offset the loss of the sheep and goats.

We threshed such questions as these over for more than two days and I am still thankful to Mr. Vreeland for giving so freely of his time and putting himself to quite an expense to give me his outside viewpoint. We who are on the job are sometimes too close to our work and need the ideas of one who has studied the matter from further back where he gets the whole picture. In the next thousand miles of road I turned over in my mind a hundred things we discussed in these days at Kayenta.

I left the Wetherill home on the afternoon of the 18th and went down to Canyon de Chelly National Monument where I spent the night at Cozy McSparron's. Here we have another set of problems somewhat more emphasized than at the Navajo National Monument. Our Service is cooperating with the Indian Service in doing some soil-erosion protection work for the benefit of the Indians, 365 of whom are living on our Monument. We are also cooperating in the construction of a trans-canyon trail to be used by the Indians as well as the white visitors who may arrive when there is water in the canyons and they cannot come up the canyon in the usual way to see the ruins.

Taken as a whole I think the Canyon de Chelly National Monument, at its present stage of development, presents some of the knottiest problems of any of the twenty-five monuments in this southwestern district. The Landscapers are about at their wits end to work out a location for headquarters. We have studied two or three locations and objections crop up each time. I am quite frankly at my wits end from the point of administration. Visitors have been coming for years, are now coming in fair numbers and are likely to double or triple on us in any season. Running five or ten thousand white visitors up those canyons each season and trying to hold the Indians from being spoiled as they have been spoiled in some of the pueblos by white visitors, is a real big problem in itself but it is only one of a dozen which cluster around us at that Monument. There are some of the finest educational possibilities here of any place in the Southwest, yet the Educational Division is going to strike bran new problems when it begins to study the situation.

On the 19th I left Cozy's about nine o'clock and went over the mountain to Fort Defiance where I found Mr. John G. Hunter, Superintendent, away on business. I left my compliments and pushed on to the Shiprock-Gallup road where I turned north through Shiprock and went through Farmington to the Aztec Ruins National Monument. I remained here over the 20th. Mr. Faris has a flock of problems all his own, but several of them are now in the process of solution. That big kiva, about which we have all been mourning these many years, is in the process of reconstruction under the direct charge of Earl Morris who excavated it and reported on it for the American Museum. The work was coming along splendidly and the kiva is going to be a knockout from the visitor's viewpoint. Several bad walls had been saved and more of such work was planned. They were about ready to start the cement roof over the restored kiva and it will be a load off our minds to have that job out of the way. They had some of those triangular patches around the kivas

opened up and were getting ready to pour the new type of concrete cover which Mr. Kittredge has suggested. I believe that will stop the penetration of water and relieve us from the disintegration troubles we have had with kiva walls. They were also working out the final details of pouring the new reinforced floors over the old first story ceilings and that will mean another load off our minds when we get complete protection over those ceilings.

The parking ground at Aztec is still unfinished, due to the tapering of the C.W.A. project under which it was built. It still lacks the binding material on the surface of the gravel. We all overlooked the fact, when passing the plans, that, with 52 feet of distance between the ornamental entrance pylons there would be plenty of space for a cow to get in and eat the green stuff our of the island in the parking area. The cows, however, took one look at the plan and discovered that mistake. As a result Johnvill has a barbed wire entanglement which he misnames a gate and which has to be put up every night and taken down each morning. This leads to surprising remarks, as I learned from experience, and we have one more problem to solve before Aztec can be considered finished. The removal of that old barn and the erection of the new fence have done much to improve the appearance of the place and another big step in this direction was the tearing out of the old cross fences which interfered with the view across the ruins.

Leaving Aztec on the 21st, I drove to Bandelier National Monument reaching there that evening. You may not know it, Chief, but there are sometimes little differences of opinion between the Landscapers and the Engineers as to what constitutes a road and now and then there have been something approaching arguments on that Bandelier road. I had heard rumors of it here and there last winter and spring as I signed C.W.A. papers at my desk at headquarters, so I was prepared for most anything in the way of a road or a lack of it when I went into Bandelier that afternoon. You can just put your mind at rest; those boys built a good road in spite of all that argument. When I came to station 0, where that new road starts, I set the V8 in second gear and crawled along down that grade just as slowly as she would roll looking for trouble every foot of the way, - and it just wasn't there. It is as pretty a piece of road as I saw in two thousand miles of driving on the trip. The location is fine, the grade is good, the slopes are excellent, the clean-up work has been beautifully done and the whole job struck me as mighty fine.

The 22nd was spent in going over the floor of the valley in Frijoles Canyon and looking over the things that have been done or are to be done by the C.C.C. camp which we have there. The trail down canyon has reached as far as the upper falls and is as pretty a trail as you would care to see. This is a scenic and geologically educational trail and will go on down into the gorge of the Rio Grande. The alignment and drainage are good and it promises to give pleasure to many thousands of hikers in the next few years. A trail up canyon to the Ceremonial Cave is beginning to take shape and I was well pleased with its location

and construction. I hope the time will soon come when the Educational Division can put a man into the field in such cases and help us in the location of this type of trail, but I feel sure they will agree with the location when they come around to check up on it.

We went up to the Ceremonial Cave and held a session on the need and possibilities of a trail as against the present system of ladders up to the Cave. The Landscaper and Engineer decided that, from a purely proffessional standpoint the trail was feasible and would not mar the view from below. The Custodian, for Mr. Earl Jackson, the newly appointed Custodian was on the ground and getting acquainted with his Monument, was against it and of course I tried to root for both sides. We finally decided that we would consult with Mr. Nusbaum, the archaeologist for the Interior Department. Mr. Jackson did this and reported later that Jess voted against the trail idea, so, for the present at least, we have put that on the shelf.

Later on we had a session with Mr. and Mrs. Frey and agreed upon a clean-up of their out-buildings, which now occupy the front yard as it were, and the construction of one building upon an approved location up the canyon between the hotel and the ranger cabin. This plan, if it is successfully carried out, will make what I consider a very important improvement in the general layout on the floor of the Canyon.

The ranger's quarters and two outside guest rooms have been overhauled and are now nearing completion and the quarters so far as they go at this Monument are now up to a high standard.

The two big problems now confronting us at Bandelier are the educational and protection angles. Of course the answer depends upon personnel and we can't get another man on that job too soon. Expecting one man to handle five thousand visitors this season over a mile or more of canyon floor is of course expecting the impossible. We worked out an idea of using some of the C.C.C. boys to assist the Custodian and Mr. Jackson was starting to try the idea out the day I left.

I left Bandelier on Sunday, the 24th and drove to Gallup that night. The next day I spent the morning dealing with some Chaco Canyon matters around Gallup and drove down to the Petrified Forest that afternoon. The next day I came down over the mountains to the low country, completing a 2,200 mile trip.

All roads were in good shape and traffic in general was reported as heavier than last year. The weather was dry and the days were warm.

I wanted to get out to El Morro from Gallup to see the new work there but simply could not spare the time as it was nearing the end of the month and the fiscal year which caused a lot of extra work on us at headquarters.

Cordially,

Frank Pinkley,

Supt.

REPORT OF ASST. ENGINEER J. B. HAMILTON:

Weather:- The weather has been fairly cool for June and quite windy. A nice rain at Mesa Verde on the 24th missed Canyon de Chelly.

Aztec: - At Aztec National Monument the drainage trench installed to dry the roofed kiva has been completed. The latest test shows it to be drawing 50 gal. per day from under the Ruins Court. This contrasts with the 200 gallons per day which drained shortly after it was first installed. It is not certain yet whether the lessening of flow is due to the drying up of the ground under the Court or whether the flow was due to rain water soaking through the trench.

"The walls of the restored Great Kiva are well on their way to completion. Most of the effort has been concentrated on this restoration, although a few men have done fine work on other badly needed wall restoration.

"Drainage lines have been installed to drain the triangular areas about the kivas within the ruins. Reinforcing steel has at last arrived, so soon roofing of the roofed kiva and the original ceilings can start.

Canyon de Chelly: - Mr. Gray with a transitman and two or three assistants has been busy all month making surveys for a trail across Canyon de Chelly, except for his staking out lines for a few days for erosion control in the vicinity of the White House. I have spent considerable time working with him. He has 3/4 mile of trail located across from the White House and better than a mile of preliminary lines run on alternate locations and on the trail to the area between the canyons. Leveling and cross-sectioning have been done over these lines.

"Mr. Gray has met the Indians at a Council in company with Mr. Allen who is the Canyon de Chelly contact man for the Indian Service. I understand Mr. Gray made a very good impression on the local Indians.

"Mr. Murphy has mapped about 1000 acres of Canyon floor to locate details impossible to show on the 4" to the mile scale.

"After much discussion between various branches of the Park Service, the Indian Service and the Soil Erosion Service, approval of the erosion control project has been obtained and $15,000 set up for carrying it out. Work will start soon. The trail project as a whole has been approved and $5000 set up for construction. This is perhaps 1/4 or less of what will be required to build the mile and a half of trail across the Canyon from rim to rim. J. B. Hamilton, Asst. Engineer."

We next go to the report of Engineer Walt Attwell. Here we get notes on Chiricahua for which there is no regular report this month.

REPORT OF ASSOC. ENGINEER W. G. ATTWELL:*- "Dear Mr. Pinkley: - My activities for the month covered several of the Southwestern Monuments. Capulin Mountain: - The engineering crew completed the boundayr survey started in the winter and postponed on acc unt of snow. Custodian Homer J. Farr was employed as foreman with a crew of F E R A men to construct the fence and complete the Rim and Crater trails. All materials are now on the Monument for this work.

"Casa Grande:- The Custodian's residence nears completion. The FERA crew on the fencing is well organized and under way. The Boundary Survey has been completed.

"Chiricahua:- C.C.C. Camp N.M. #2A has been started with Mr. H. O. Hammond as construction superintendent. This camp is 50-50 Forest Service and Park Service. The work in the national monument so far has consisted of clearing fire hazards along trails where snow has broken the pines. We have also placed three wells in Bonito and Rhyolite canyons for water. Only one developed water, that being at 30 feet down. The capacity of this well has not yet been determined. During July we expect to construct a trail from the mouth of Rhyolite Canyon to Inspiration Point.

"The topographic map started several months ago by the Forest Service under Engineer Clark has been discontinued. It is hoped that this can be completed with the E.C.W. Crew.

"The camp at this date is undermanned 70 men. With the termination of L.E.M.'s this camp will be only 50% strength. We have a promise of full strength by July 10th.

"Bandelier:- The CCC Camp N.M. #1 is also undermanned byt not badly. The entrance road is completed; the trail to the Rio Grande is completed for one and a half miles; the ranger's residence which is under repair should be completed in a week. The activities are being centered on the trail work.

"Gran Quivira:- A recent transfer of road and trail funds for Bandelier makes it possible to complete the entrance road and parking area at Gran Quivira. I have placed Engineer Howard F. Leslie in charge of this construction. All arrangements have been completed for crews, equipment and materials. This work should complete the project started under C.W.A.

"Tonto:- Engineer Ran has completes all field work for a topographic map of headquarters and ruins area. The office work on this map is now nearly completed.

"Montezuma Castle:- Harry Brown has been placed as Foreman on the construction of Sewer System, Garage and Storage Building, Steps to Castle, Ruins Trails and revetment. Crews were started several days ago and the work is under way.

"Tumacacori:- FERA crews under Foreman Puckett are completing the adobe walls and entrance gates.

"General:- Every project in the Southwest (except the Aztec Museum) is now under way. Sincerely, Walter C. Attwell."

Here is a fine place to insert a little correction of travel statistics for Chiricahua National Monument. Fred Winn, Supervisor, of the U. S. Forest Service made the following tabulation and analysis. Note that while the total for the Chiricahua Division of the National Forest is 28,250, not all of them could be assigned to the national monument proper. A temporary ranger is going on duty early in July at Chiricahua, and we will begin to get statistics on the monument proper.

"Summer Home Residents-----360
Hotel and Resort guests---150
Campers----------5140
Picnicers----------5300
Hunting----------3050
Fishing---------- 725
Winter Sports---------- 310
Other Activities---------6215
To enjoy scenery---------5900
Merely passing through---1100
TOTAL ----------28,250

We are indebted to Mr. Fred Winn for this breakdown of travel for that general region. Doubtless most, if not all, visit the Wonderland of Rocks one or more times during the season. It will be interesting to see how near this figure the actual Monument traffic approaches.

CHIRICAHUA: *- (Excerpts from Jr. LS Architect Sias' report)

"Pursuant to a request by Mr. Attwell, we have been collaborating with Asst. Engineer Ray in connection with the project at Massai Point. This collaboration has consisted in material help on the part of our engineer, Mr. Tovrea, and on my part in tentative locations for barboque arrangements, latrines, amphitheater details, etc. Mr. Ray and I appear in complete accord as to the general disposition of all such features, and so far as our present information permits, the manner of their respective developments. I have indicated to Mr. Ray certain limited areas very close to Massai Point which I did not think should be disturbed, as I did not feel that the small number of additional cars that could be accommodated would compensate for even temporary scenic loss. Mr. Ray appears to be in sympathy with this restriction.

"You will, of course, have Mr. Ray's official report on this project at an early date. In view of his thorough work at Massai Point, the Labor

Day celebration does not appear as impractical as it did with the information hitherto available; nor do I feel that the resulting loss from the landscape point of view will be so grave as at first feared, and in any case, this loss should not be of permanent nature if the work is properly handled, as much of the native shrub growth as possible being left to grow again, i. e. cut rather than grubbed. .....Inasmuch as the personnel of this Camp will depended upon to do the bulk of the work at Masaai Point, if not all of it, naturally we await with interest official reactions to the reports which are being submitted in connection with it.....

"As yet we have no reply to our telephone call of last Tuesday in reference to the location of a satisfactory powder house, although we understand some information in regard to this necessary detail is under way. The proposed location at the mouth of Rhyolite Canyon is very satisfactory from every point of view - except in the remote possibility of an explosion. Not only would such explosion be extremely dangerous to life and property in my estimation, but serious damage to the scenery at the mouth of the Canyon would inevitably result. In view of the admittedly slight possibility, it would seem to be better to have this storage space space farher removed from the center of things, which can be done, although more work will be involved. We await with interest your reactions to this problem, as the powder house will be needed at an early date. ... Richard D. Sias, JR. LS Architect."(Excerpts; copies of this report went to Resident LS Architect Harry Langley, Mr. Pinkley and Construction Supt H. O. Harmond).

BANDELIER:*- (Excerpts from Report of Jared B. Morse to Chief Architect)

"....Without doubt, trail work has been the most important project of the last month, The Nature Trail covering the distance from the Hotel to the Rio Grande is completed to apoint directly above the Lower Falls, some two miles of delightful walking. Progress this month has been much slower due to the care exercised in dumping the overcast in such places as would not mar the slopes or disfigure the Falls and streambed below the trail. Then too, a portion of this trail was relocated to ease the grade and to take advantage of a more pleasant view of the Upper Falls, The sightseer is now brought to a point below the Falls where a sudden short switch-back presents the shimmering cascade in all its glory.

"A second very interesting trail, known as The Ruins Trail, is being built from the back of the Custodian's Office westward along the base of the cliff ruins to the Ceremonial Cave. One half mile is completed to the cave where Bandelier stayed while visiting the Canyon in early days. Beneath the present cableway, the trail crosses a small arroyo which leads back toward the cliff into a shaded area which is to be developed as a little theater and campfire circle for small groups. Mr. Jackson, the Monument Custodian, is extremely interested in the Ruins Trails. He felt opposed to a new trail to the Ceremonial Cave, and after

conferring with Mr. Nusbaum he suggested only reconditioning the present approach. Just beyond this arroyo mentioned in the above paragraph, the trail rises perceptably to the cliff ruins giving the opportunity to construct some naturalistic stone steps out of the slabs of tufa.

"The camp ground area, directly opposite the CCC Camp and across the Rito, has been occupying a good deal of our attention. A road has been put in and graded, and all dead trees and brush removed and burned. All spurs for car parking are staked and are being outlined with weathered rocks from the adjoining cliff side. Already several large groups have held picnics in the area, so we are setting aside the lower end of the site for that purpose, building a fireplace and providing garbage receptacles.....

"A recent improvement which is being eagerly awaited by all of the boys in the camp is the Swimming Pool. This is located about one-half mile below camp on the Nature Trail. The Pool is in a lovely naturalistic setting, made up of hard volcanic rock. The water is being impounded by constructing a dam with a concrete core found on the lower ###### side with surface of stone. Work is progressing rapidly so that the pool will be ready in a couple of weeks.....

"The Master Plan and the Administrative Area Plan will be forwarded for approval sd soon as we hear from the Parking Area Plan.

"We were exceedingly pleased to have Mr. Pinkley with us last weekend. During his visit here, Mr, Pinkley, Mr. Attwell and I arranged with Mr. Fry to clean up the present Hotel utility area. In return for their existing buildings we will build one building containing a stable, hayloft, saddle and feed room, small chicken coop, caretakers room and corral. A plan and an elevation will be forwarded for approval as soon as possible. Mr. Pinkley advised leaving the present utility area at the top of the hill....." Respectfully submitted, Jared B. Morse ".

Here we conclude another rather lengthy report but each one of the individual reports gives a cross section of travel, work projects and general community conditions. Business pertaining to the organization in general is considered at the start of this report.

Circulars, memoranda, special letters and other materials put out as instructions and for tourist distribution are attached following the Supplement.

Just as this report closes we get confirmation of the appointments of temporary rangers at Chiricahua and Walnut Canyon, and of Dale S. King as Junior Park Naturalist to begin work in a few days. These more properly belong to next month's business and will be considered more fully then.

(Signed) Cordially,
Actg. Asst. Supt. FRANK PINKLEY, SUPERINTENDENT.

UNITED STATES
DEPARTMENT OF THE INTERIOR

National Park Service

PETRIFIED FOREST NATIONAL MONUMENT
Holbrook, Arizona.

July 1, 1934.

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

Dear Mr. Director:

The following narrative report of the activities in the Petrified Forest National Monument for the month of June, 1934, is respectfully submitted.

GENERAL:

Our travel still shows a decided increase over that of last year at the same date. However, for the month of June, 1934, it is about 7,000 less than for June, 1933.

WEATHER:

The weather has been dry most of the month with steady winds. A most welcome rain fell on the 23rd and helped to compact the 7" course of crushed gravel which has been placed on the monument highway. Weather statistics follow:

Mean maximum, 86.6.
Mean minimum, 51.7.
Maximum, 95 degrees on the 11th.
Minimum, 38 degrees on the 7th.
Precipitation, .09 of an inch.
26 clear and 4 partly cloudy days were recorded in June.

ADMINISTRATIVE:

Our office and other administrative work has been kept well up to date and the monument has been inspected at regular intervals. On the 18th and 19th I attended a meeting of the U. S. Highway 66 Association at my own expense.

PUBLIC WORKS:

Under Public Works, activities were continued on the test well at Headquarters. During the month the well rig and crew were employed a total of 17 days. As stated previously, a practical shut-off of the highly mineralized water had been made at the depth of 744 feet. Drilling was continued to the depth of 1,023 feet. A most peculiar condition was met with between 950 and 1,000 feet. On several tours between these depths, for ten feet or more each time, no samples could be bailed out of the bottom. At the same time the material was as hard, if not harder than previously encountered above, as the Coconino sandstone. In some cases four drills had to be dressed each shift. One of the drillers thought we were drilling in a fault and that the cuttings were carried away in a transverse direction, while the other was inclined to believe that the layers were salt. Both are experienced men. I have never heard of salt being found within the Coconino sandstone. The samples taken from the bottom of the hole at 1,023 feet are as typically Coconino as the ones taken from the depth of 700 feet or more. After these conditions developed, a pumping test was made with the cylinder placed at a depth of 400 feet. The pump was operated continuously for six hours discharging 1,560 gallons per hour without apparently lowering the head of water. The water contained considerable salt, with probably other minerals. The cylinder was then set at a depth of 180 feet, fifty feet below the normal stand of the water and pumping developed the same amount with practically the same salt content and without lowering the head. The pumping apparatus was then removed and bailings were secured from the bottom of the hole, these samples being very heavy brine.

After a study of conditions we came to the conclusion that the water pumped from the hole was entering at a point above these voids or salt beds and that it was possible the water above 960 feet might be fresh. Acting on this opinion we have sealed the hole with rock and cement at about the 960 foot level to shut off the water below. This cement will have set by July 1 and then another pumping test will be made. If this operation fails to produce potable water, drilling will not be continued as the probability of developing fresh water is remote. Should the water still prove to be salty after the next pumping test we propose to utilize it for all sanitary purposes, in fact, probably for all purposes except drinking and cooking. In this case we would use the present water system for this, putting in an auxillary water system and placing a spigot for fresh water

in each building. This would reduce the hauling of fresh water to a minimum.

It seems almost tragic that after surmounting all the difficulties connected with shutting off the highly mineralized water above, and producing the well to the stratum which should contain an unlimited supply of fresh water we now find that to be salt also. However, should the development of this water prove necessary I believe the funds are well spent as we can go ahead with the installation of sanitary conveniences for the personnel in the monument and the visiting public. Perhaps during the oil drilling excitement within a radius of 20 miles or more, 15 years ago, the Coconino was punctured to such an extent that no potable water exists therein.

LABOR SITUATION:

The labor situation remains about the same in this locality.

BUREAU OF PUBLIC ROADS, PUBLIC WORKS:

The surfacing of the monument highway, Everly and Allison, Contractors, with 7" of crushed gravel is practically complete at this time. They expect to finish the work on July 2nd.

E. C. W.:

A "fly camp" has been at the site of this camp at the Rio Puerco getting ready for the main camp all the month. The main camp is now expected July 3rd.

RANGER AND MUSEUM SERVICE:

Ranger Naturalist M. V. Walker is on duty daily in the museum which is kept open from the first arrivals about six o'clock in the morning to dark. In order to accomplish this it is necessary to stagger shifts and all the hours of duty are very long. During the month 9,140 people were given personal service in the museum. The number of automobiles stopping at Headquarters over night was 73, and those stopping for noon rest and lunch numbered 55.

NATURE NOTES by M. V. WALKER:

Nature Notes for June include an addition to the list of birds given last month, and also a new list of Mammals.

The Mammal identifications are based on Anthony's "Field Book of North American Mammals".

A very interesting bird to be reported is the Snowy Heron or Snowy Egret, Egretta thula thula. It was seen near a pond about 6 or 7 miles west of Holbrook, Arizona, on June 4, 1934. The rare occurrence of these birds make this report important.

About a month ago a pair of Say's Phoebes, Sayornis sayi, were observed nesting in the garage at Headquarters. Soon after the first observation the young were hatched, but just after they left the nest, a severe hailstorm occurred and they were killed. Apparently the same pair of Phoebes now have a nest in the Ramada on the west side of the Superintendent's residence. Another Phoebe nest with young was located along a cliff in the Blue Forest.

A pair of Rock Wrens reared a family of six in a hole in a fossil log just a few yards on west side of the museum. Many interesting observations were made on the feeding of their young. Several times they were seen collecting green larvae from Russian thistles. Many young horned larks may now be seen around the headquarters area. An Antelope ground squirrel with 4 young made a foraging trip to a garbage can near one of the buildings and afforded an interesting study. Another ground squirrel was seen near Agate Bridge, and had 3 young.

BIRDS (continued)

1. Killdeer.....Oxyechus vociferus vociferus
2. Night Heron.....Nycticorax nycticorax naevius
3. Snowy Heron.....Egretta thula thula
4. Red Wing Blackbird.....Agelaius phoeniceus nevadensis
5. Say Phoebe.....Sayornis sayus
6. Red Shafted Flicker.....Colaptes cafer collaris
7. Night Hawk.....Chordeiles minor
8. Kingbird.....Tyrannus verticalis
9. Oriole.....Icterus bullocki bullocki
10. Blue bird.....Sialia currucoides

- - - - - - -

MAMMALS

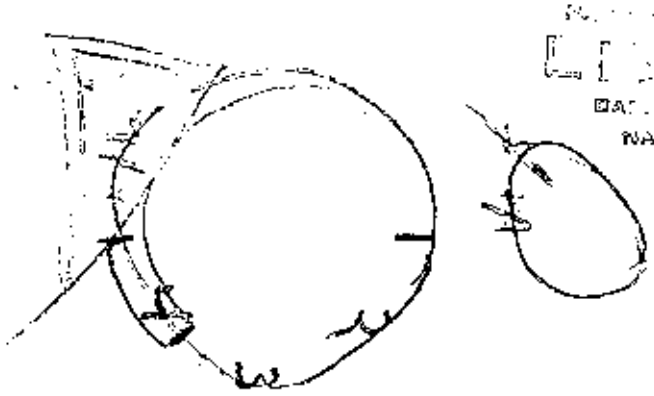
1. Antelope.....Antilocapra americano americano
2. Prairie dog.....Cynomys gunnisoni zunionais
3. Porcupine.....Erethizon epixanthum couesi
4. Antelope ground squirrel..Ammospermophilus harisii harisii
5. Coyote.....Canis lestes

SOUTHWESTERN MONUMENTS

MONTHLY REPORT
JULY 1934



WHITE SANDS NATIONAL MONUMENT



NATIONAL PARK

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

R E P O R T F O R J U L Y

1 9 3 4

I N D E X

Introduction---------- 1
Appointments---------- 1
Construction Summary---------- 2
Travel & Museum Service---------- 3
Month of the Boss---------- 4

Aztec Ruins---------- 7
Bandelier---------- 8
Bandelier LS----------10
Capulin Mountain----------12
Junior Naturalist Report---13
Casa Grande ----------14
Chaco Canyon----------16
Chiricahua----------17
El Morro----------20
Gran Quivira----------25
Montezuma Castle----------26
Natural Bridges----------27
Navajo----------28
Pipe Spring----------28
Tumacacori----------30
Tonto----------30
Walnut Canyon----------31
White Sands----------35

Engineer Hamilton Report---------- 38
Engineer Attwell Report---------- 39
Conclusion---------- 41
Postscript---------- 41a

PETRIFIED FOREST NATIONAL MONUMENT---------- 41b-41f, Inc.
(Charles J. Smith, Superintendent)

T H E S U P P L E M E N T

"Salesmen of Knowledge"----------42

Comparative Studies on Guided Trips and Ranger Service----------43
(Ranger Robert Budlong)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
SOUTHWESTERN MONUMENTS

Coolidge, Arizona, August 1, 1934.

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

Dear Mr. Director:

Since the submission of the report for last month drouth conditions have been relieved in some sections of the Southwest. Range areas have had some relief as the result of recent rains. Waters impounded in the great reservoirs of the region are extremely low and will not be materially raised until there are heavy, rather general rains, lasting over considerable length of time.

Despite the considerable volume of business handled, we are again able to report that office work is current.

Preparations are under way for the Labor Day Celebration at Chiricahua National Monument. On the 7th and the 8th the Boss made a trip down there to go over proposed improvements being made by the CCC Camp at that Monument. During the month of August everything possible will be done in preparation for that event.

The Boss left again on the 23rd on a field trip that included Montezuma Castle, Walnut Canyon, Aztec Ruins, Chaco Canyon, El Morro and Canyon de Chelly national monuments. His report follows this introduction. Bob Rose was away on the 19th getting Ranger Charlie Steen started on his new post at Tonto.

Previous reports carried notice of the appointments of Earl Jackson as Custodian at Bandelier, and Coy Rogers and Alfred Peterson as rangers at Aztec Ruins and El Morro, respectively. Additional appointments have been made during the latter part of June and early July and they will now be listed:

1. Dale S. King has been appointed Junior Park Naturalist for Southwestern Monuments. Dale was archeologist in charge of excavations at Citadel during the recent CWA Program. He comes with an M. A. degree in Archeology from the University of Denver, experience in the field with Dr. Frank Roberts' party, and was Ranger Naturalist at Wayside in Grand Canyon National Park just prior to coming here.

2. Thomas C. Miller, better known as "Cal" Miller, began his new

position as Custodian of Chaco Canyon National Monument through transfer from the Petrified Forest National Monument. "Cal" has had wide experience in Park Service work and is taking over his new duties as an old hand. In the interim before Miller's appointment, Mr. J. L. Patterson of Farmington ably looked after things in the Chaco.

3. Chas. E. ("Charley") Powell has been on the job as Ranger in Charge at Chiricahua National Monument since early in the month. Chiricahua makes its debut among the individual reports this time. Charley comes to us with a background of experience in the Immigration Service in the Border Country. He is working out a system of handling the big problem of public contacts there.

4. James W. ("Jimmie") Brewer, another CWA archeologist from Wupatki, formerly Associate Archeologist of the Museum of Northern Arizona, is Ranger in Charge at Walnut Canyon until papers for the regular man at Walnut come through. Jimmie and new bride "Sally" will then go on their regular position at Wupatki. See Walnut Canyon's first report in this issue. We'll bet we owe some thanks to Sally for her help in writing it up.

5. Charlie R. Steen is new Ranger in Charge at Tonto. We leave him here at the last for he had been at Tonto only 48 hours before he had to be borrowed a little while to fill an emergency at Montezuma Castle. Charlie has had wide field experience, has M. A. degree from Denver University, and was archeologist at Citadel under C.W.A.

A discussion of construction in Southwestern Monuments is well covered in the reports of Engineers Hamilton and Attwell. These reports will be found in the section immediately following the individual monuments(see index). However, to give a picture of what is going on in Southwestern Monuments as a whole, the more important projects under way will be listed:

1. ECW Camp in Bandelier:- busy constructing trails; remodling ranger's quarters; and developing a campground.

2. FERA Crew Capulin: - constructing a boundary fence and working on completion of Rim and Crater trails

3. FERA Casa Grande: - Crew at work making adobes during the month, these to be used in constructing utility buildings later.

4. PWA Casa Grande: - New Employees Residence completed.

5. ECW Camp Chiricahua: - Constructing trails, parking area, phone lines; work during August preparing for Labor Day event.

6. PWA Aztec: - Restoration of Great Kiva; ruins repair.

7. Canyon de Chelly: - Maps, plans being made by engineers in preparation for trails construction and erosion control.

8. Gran Quivira: - Construction of entrance road, PWA.

9. Montezuma Castle : - PWA construction of equipment shed; Revetment 60% complete; excavations for sewer and septic tank; ruins trail ready to go soon as approval received.

10. Tumacacori: - PWA Crew construction fence; gates; parking area; FERA Crew on adobe boundary fence construction.

11. Wupatki: - Engineers making reconnaissance survey of entrance road. Included several ruins and is part of Sunset-Wupatki proposed loop.

12. Sunset Crater: - Engineers completed reconnaissance Survey of roadsmin Monument during the month.

This is a fairly complete account of construction activities in the district for the month.

Travel:

Sharp increases over last year are noted especially at Bandelier and Montezuma. At the former place the ratio of this year to last is about 3-to-1. Aztec Ruins begins to approach some of the high numbers of former years. Tumacacori and Casa Grande summer travel is always considerably lighter than in the winter though the latter shows a gain over the corresponding period for last year.

Museum, Ranger, naturalist service:

We have just been checking over our Annual Report material and believe the following items will be of interest. In one column we'll list monuments having both museum and field trips and in the other, those having field trips only.

Museum and field	Field
n	
Aztec	Bandelier
Casa Grande	El Morro
Chaco	Walnut(with some museum material in ranger's residence.
Montezuma	
Tumacacori	
Gran Quivira	De Chelly (By operator)
Pipe Spring (Old Fort itself, the museum)	Chiricahua
Tonto	Capulin(frequently)
	White Sands(" ")

We would be pleased to have additions or corrections from the field.

The Month of the Boss.

The first part of the month was devoted to routine affairs at the desk. After twenty-two straight days of this, I took to the field on the 23rd. I drove to the Montezuma Castle National Monument that day by way of Prescott and Jerome, finding the roads in good shape but the country was rather dry even for central and southern Arizona.

I arrived at the Castle about five o'clock. Mr. Jackson had gone on his rest which he is taking under the doctor's orders and Frank Fish and Charlie Steen were holding things down in good shape. They reported a sharp increase of visitors over last year.

Foreman Harry Brown's jobs were making nice progress. They were up to the roof line with the garage and were laying a mighty pretty wall. The revetment work along the Creek bank was coming along in good condition and there is no question in my mind but that it will hold and will solve our problem. Description of the actual method occurs elsewhere, but I might say here that I was pleasantly surprised at the general looks of the revetment. I had no idea that it could be made to look so smooth and regular and that at such a little distance the heavy wire mesh would melt so completely into the general picture as not to be noticed.

In the C.W.A. work of last winter and spring the boys had leveled out some excavation debris which, being of a different color from the surrounding earth, left a white patch of ground. Harry Langley, our Landscape Architect, promptly called attention to this and I was pleased to note that Mr. Brown had hauled in enough surface dirt to completely cover and hide the white debris. Thus we have made our peace with Harry and when we get one or two other things taken care of we will be square with the board so far as he is concerned.

Leaving the Castle about nine o'clock the next morning I drove up through the Oak Creek Canyon and over to Flagstaff. I called to pay my respects to Dr. Colton and the boys in the Museum of Northern Arizona, all of whom are doing such good work in the archaeology of that region. I then went on out to Walnut Canyon, our newly acquired national monument, I found Jimmy Brewer holding the fort, and, much to my surprize, found the charming Sally Pierce, who was working on the C.W.A. job at the Montezuma Castle last winter, had now become Mrs. Brewer. Needless to say, I was happy to know she had signed on with us in this new capacity and we three had a very pleasant visit for some time that afternoon before I pushed off for points north and east.

After leaving Walnut Canyon and getting back on Highway 66, I tried to cut up across country to Wupatki. About 25 miles out the road faded out at a couple of sheep watering tanks and, as it was getting late, I wasted no further time but turned around and ran for Winslow where I could get all the comforts of the Harvey House.

On the 25th I went past the Petrified Forest and had a little visit with Superintendent Smith and then went on up to Gallup where I spent the afternoon and evening attending to some local affairs and remained for the night.

On the 26th I went out to Aztec National Monument. The repair gang, under the direction of Mr. Earl Morris, had made a great change in the Big Kiva since my last visit and that kiva is now the dominating feature of the ruins from almost every view. It is a very fine piece of work and I am sure is going to make a big impression on the visitors and will be a considerable addition to the trip through the ruins. The funds were not holding out as well as had been expected and some of the other work which had been planned will have to be left undone. This is unfortunate because it will probably be some time before we can get more money for this work at this Monument. They will not be able to get the reinforced concrete roofs over the present roofed kiva nor over several of the original ceilings, nor will they be able to cover the triangular corners around the open kivas as we had planned.

Visitors were running well at Aztec and were receiving the usual good service which is customary at that Monument despite the fact that the plaza of the ruins was pretty well torn up with the construction work which was going on, making it hard to handle parties through that part of the ruin.

On the 27th I went from Aztec down to the Chaco Canyon National Monument and back to Aztec. I had not gone into the Chaco directly from Gallup because of rumors of mud holes. My change of plan did not help me much because I managed to stick the car in a mud hole as I went in from the north.

Carrol Miller had arrived by way of transfer from the Petrified Forest a few days before and was settled down taking care of visitors and getting his tools and equipment straightened out.

The University of New Mexico and School of American Archaeology field expedition is at work in the Canyon. They are opening a new kiva in the plaza of Chetro Ketl, doing work in the east end of Chetro Ketl, working on the ruin at the foot of the cliff behind Chetro Ketl, and doing some work on Yellow House, which is down the Canyon below Pueblo del Arroyo. At Yellow House they are throwing the debris over the bank into the arroyo, planning thus to form a revetment which will stop cutting of the bank toward the ruin.

The revetment which was put in back of Pueblo del Arroyo under C.W.A. work last winter is beginning to fail. A nine foot head of water came down the wash a while back and undermined the rock facing causing a peeling action by which a part of the facing pitched forward and is lost in the bed of the stream. This does not mean that the whole job is a failure for it will last for several years yet. The revetment work just above the new well is also beginning to settle into the sandy bed of the wash,

and by another year will need some material added to it to bring the top of it up to the original grade. The more I monkey with these southwestern streams, the more respect I have for them. The Chaco Wash seems able to swallow any amount of rocks without the least sign of reaching a stable point.

After looking things over I went back up to Aztec for the night and the next day went from Aztec down to El Morro National Monument where I met Mr. Vogt and Alfred Peterson and went with them over their Monument.

The C.W.A. work done last winter at El Morro is standing up fine and deserves nothing but praise for the thorough way in which it was done. The fill of the big wash along the south side of the cliff has settled a little, as was to be expected, and Mr. Vogt is using some F.E.R.A. labor to fill up the holes and take care of the settled spots. The grass is getting a start and if we have no extra heavy storms this summer I think we will be safe against the fill washing out by next year.

We also examined many of the small dams which were put in the smaller washes and they seem to be serving their purpose in starting to fill the washes.

I went part way up to the top of the Rock over some of the new stairs at the south end of the Monument and found that they added greatly to the safety and comfort of the visitors.

That night I spent with Mr. and Mrs. Vogt and the next day, which happened to be Sunday, I went back through Gallup and out to Canyon de Chelly National Monument.

Mr. Grey is well started on the White House Trail. He and I looked it over from the top and the next morning I went up the Canyon and saw the rock gang working at the tunnel at the bottom. The Indian boys are going at the work with a will and are doing a good job of it. I saw the posts which had been cut and stacked near the Thunderbird ranch in preparation for the revetment fences which will be built to prevent further erosion of the lands in the Canyon.

Monday afternoon I left Canyon de Chelly and went down to the Petrified Forest for the night and Tuesday, the 31st, I drove from the Petrified Forest to headquarters at Casa Grande National Monument.

In general there is a great lack of water over this district. The summer rains have been too spotted thus far to be of much value and the stock is suffering for lack of water and feed pretty well all over the southwest. Water in the reservoirs is very low which gives great concern about the crops in the irrigated portions of the district.

The roads as a whole are good and visitors are using them; hotel and camp ground business is good to fair.

Frank Pinkley, Supt.

REPORTS FROM THE MEN IN THE FIELD

AZTEC RUINS NATIONAL MONUMENT — By Johnwill Faris, Custodian

Visitors for the month totaled 1,691. This is a decided increase compared to the 1,314 of last July. Every month so far has shown marked increases and we are looking forward to a much more normal year than that of 1932-33.

These visitors represented a very democratic class, the normal run of nearly every state with several foreign countries being represented. The run has been well handled by Mrs. Rogers, with the assistance on occasions of Mark Norton, who has proven himself a regular Park Service Ranger. I have not personally conducted very many parties; an occasional early or late party I sometimes catch but Gay and Mark have taken most of our visitors and from the reports we are getting, it might be well if I let them continue doing so.

Our Public Works program has been going full speed and at present we are somewhat worried as to being able to round it off properly. The Great Kiva is taking up the major portion of our crew and that, with the capping of an occasional wall, and protection of museum original ceilings, has about covered the scope of our work.

We find ourselves confronted with many problems on this new construction work. The roof of our Great Kiva has presented problems at almost every turn and we are still confronted with ample protection for this roof after we get it in place. We ran short of building stones and found it necessary to quarry some of our own stone and now find it necessary to haul rock about twenty miles. This rock takes less dressing and handles so much easier that our haul is cheaper than the shaping of each rock by our stone cutters. We are planning our work that, in case of emergency, we can centralize our entire effort on the kiva and complete the structure in preference to any other work.

We are still without any F. E. R. A., but were asked to submit a new program to the local director a few weeks ago. I don't know what will become of the request but we complied with their wishes by sending them copies of the correspondence we have had with F. E. R. A. officials. It may be possible to do some of our general work with this labor if it is allowed.

We called for bids for our new museum which were to be opened Monday, July 23rd and we had the pleasure of having Mr. Nickel of the San Francisco office with us at the opening of bids; the sad part of the whole ordeal being that not one bid was received. We immediately included drastic alternates as originally prepared by Mr. Nickel and redistributed these alternates to the bidders listed, and are calling for bids to be opened Monday, July 30th. While this does not allow any great amount of time for reconsideration, the alternates were of such nature that they will be very easily figured and will not require any great length of time to change.

AZTEC (Cont'd.)

The main criticism of the bids was the excessive cost and the alternate provided for the elimination of our museum room on the west, which should bring our bid down at least three thousand dollars.

We get pleasant reports through visitors of several of our neighboring parks and monuments and we wish to congratulate all our colleagues of the Service mentioned. It inspires our Monument to greater service when we hear of the splendid treatment our visitors receive at the hands of others.

* * *

BANDELIER NATIONAL MONUMENT

By Earl Jackson,
Custodian

Visitors totalled 1,723, coming from 31 states and the District of Columbia. The six highest states, in order, were: New Mexico, 673; Texas, 267; Oklahoma, 149; California, 61; Colorado, 47; Kansas, 41. Figures for this month compare with 737 visitors for last July. No reason is advanced for our drop in travel as compared with June, but the drop may not be of any significance, as last month's estimate was made on the last ten days of registration, which was known to be heavy. However, the ratio is still holding at about 3 to 1 as compared with previous years.

Visitors seem again to be a very enthusiastic and interested bunch. A number of parties from boys' and girls' camps have been in, and all have appeared anxious to learn something and to comply with all regulations of the Monument.

The month has been exceedingly dry. On the Fourth we had a quarter-inch rain, and only the most tentative sprinkles have occurred since, until this afternoon, on which a very heavy rain fell. Rains in the district round about have been frequent in the last ten days, but roads have suffered little in the near vicinity, except for rough passage across the Rio Tesuque, near Pojoaque.

Despite the dry weather which prevailed most of the month, only three fires were reported. Of these, two were false alarms. The third was a snag on the north side of Capulin Canyon, nine miles by trail south of Frijoles Canyon. This fire was put out without difficulty by the C. C. C. fire crew.

On June 26th Walt Attwell came in from Capulin Mountain for a three day stay, during which time he got Huh Chase, new Camp Superintendent, organized on his duties. Walt left behind him the same vital air of enthusiasm which he always carries. We need a dose of his tonic humor every once in a while.

Landscape Architect "Chuck" Richey and Mrs. arrived on July 10 and left on Friday the unlucky thirteenth. With Messrs. Richey and Morse on the air, the Custodian's customary verbosity was left laggard, and his attendance at landscaping sessions was mainly in the role of one trying to listen intelligently. I thought Mr. Richey very reasonable and look forward to his next stop.

BANDELIER (Cont'd.)

Our E. C. W. Forester, Jim Fulton, arrived on the 20th, and I think he is going to have plenty to do but believe he will be quite competent to handle the situation. His arrival brings up the sad conjecture of what we are to do for regular forestry aid after he and the C. C. C. fire crew are gone.

Mr. W. H. Wirt, Assistant Forester, Nation Park Service, arrived on the 23rd, having come directly here from the Mesa Verde fire. We have credited him with having brought the excellent rain which fell today. After an inspection of all buildings on the Monument area he commenced an inspection of the forested sections, with an eye toward elimination of fire hazards. Mr. Fulton and I accompanied him and today Mr. Frey went with us over the Forest Service trail from the Upper crossing of the Frijoles over the South Mesa north of Alamos Canyon. Needless to say, Mr. Wirt brought with him a host of good ideas, and is making what I think some very apt recommendations for fire control. This is our first meeting with Mr. Wirt, but we sincerely hope he can come in often, for his advices are needed.

On July 1, Mr. O. F. Arthur, Regional Forest Inspector from Albuquerque, visited us with his wife and family. We enjoyed his visit, and think he was favorably impressed by the interest of the place. He sent us some literature on Forestry which is proving helpful.

Gay Rogers dropped in for about an hour on the 17th, as exuberant as ever, and showing almost official dignity in her Park Service uniform. And, of course, it was just like Gay, being in a hurry, to be the only person this summer to run off the narrow bridge crossing the Rito between the parking area and the lodge. This is the bridge which is too wide for one car and too narrow for two cars, and would be more appropo as a bicycle bridge. Only two wheels of her car went off, and no damage was done. Come in again, Rogers.

We were visited on the 21st by Mr. K. M. Chapman, Curator of the Laboratory of Anthropology at Santa Fe, with a group of 30 University of New Mexico summer school students. I think they all got a kick out of their visit, and I received some very good information from Mr. Chapman. He is an old-timer in the country and made a study some years ago of the petroglyphs in the Long House group, and in 1918 directed the partial restoration of the Talus House just back of Tyuonyi.

Among other interested visitors for the month were the following:

Dr. J. J. Gable, Assistant Superintendent, Oklahoma State Hospital, and Mr. E. R. Kraettli, Secretary of the University of Oklahoma.

Mr. E. C. Lapping, Editor of the Detroit Times, and family, consisting of the Mrs. and three boys, came in on the Fourth and spent a week with us, staying at the lodge. They are splendid people, and I believe we sold the Monument to them. They assure us they are coming again next summer.

Mr. Oral J. Berry, Special Investigator under the Department of the Interior, visited for a few hours with a party of friends.

A group of boys from the Horace Mann School for Boys of New York, were in, under the leadership of Mr. John Dallavaux.

BANDELIER (Cont'd.)

Mrs. S. T. Martin of the Cimarroncita Girls' Camp from Ute Park, New Mexico, has made three visits this month with groups of girls from the camp. Mrs. Martin consistently returns to Bandelier in the summer months with her parties, and we feel she is a good booster for the place.

Mr. Paul Shirley, internationally famous musician, visited us overnight, accompanied by his son, Paul. If genius means being well-versed in only one subject, he is not a genius, for he seems well-versed in every line of thought I could mention, including Archaeology.

Mr. A. E. Stedman, retired Vice-President of American Railway Express, visited Bandelier from Santa Fe one evening. He is one of Santa Fe's leading citizens who feels the road into the canyon is a distinct asset to the Monument.

The Vallecitos Camp for Boys sent eight very interested boys to see us, under the leadership of Mr. Lee Campbell. Mr. Campbell is an ardent booster for this section.

Nature Notes:

A list of some of the tree species noted by Mr. Wirt on his inspection trip might be of interest. The predominating tree is the Western Yellow Pine. In addition are found the White Pine, Douglas Fir, White Fir, pinon pine, and Juniper. A few hoary specimens of the Alligator Juniper were seen.

Among the hardwoods were two kinds of Oak, aspen, maple, locust, box elder, cherry, alder. All of these species were found in Frijoles Canyon, and little variation is seen on the mesa except toward the est end of South Mesa, where practically everything else gives way to Yellow Pine, Juniper, and pinon pine.

The tent caterpillar is proving a decided worry in Frijoles Canyon this summer. Some of his species were seen last year, but not in the overwhelming numbers of the present date. After talking with Mr. Wirt, Mr. Fulton and I visited the Regional Forest Supervisor's office. All advice we received was to let the caterpillars alone, for they are known to come in two to three year periods, after which they completely disappear for a longer time. No trees will die from the worm, although a number will be completely defoliated.

Some pine bettle evidences have been noticed, but nothing widespread, Control is expected to begin as soon as the dormant period for these insects is reached.

Wild life is certainly here. I have seen only one deer in the canyon, and one huge buck on the rim, but have seen many tracks on the South Mesa.

Recently two of the C. C.C. boys on the trail to Capulin Canyon saw three black bears, one of which was a cub. The bears were not at all alarmed.

In the last ten days a surprising number of diamond-back rattlesnakes have made their appearance. Most of them are in a savage humor, for skin shedding will soon be upon them.

BANDELIER (Cont'd.)

When a dog bites a man, it's no news; but when a man bites a dog——. What are we going to say when we see pet rabbit of George Frey's chasing a clumsy young pup all about the yard?

* * *

BANDELIER, LANDSCAPE REPORT By Jared B. Morse, Ass't. L.S.Architect (ECW)

The month of July, here at Bandelier, has been extremely hot, but has hindered only the work on the Ruins Trail. No phase of the work has fallen below par.

ECW-7. Public Camp Ground, Project No. 22, has occupied five hundred man days in grading and surfacing the road, quarring rock, building fire places, outlining parking sites, and placing large tufa boulders for barriers. This project is near completion but will require building and placement of tables and some guard planting. Due to continual wear and the fire hazard it might be necessary to flag loosely around each camp fire.

Horse Trails-Project No. 14A. Three important trails are now under construction. 1. Ruins Trail. 2. Rio Grande River Trail, down the Rito. 3. Upper Canyon Trail, up the Rito.

About one mile of the Ruins trail is complete and in use. Two interesint flights of steps have been built where the trail crosses two deep washes. The steps are constructed of flat surface tufa. Five hundred and fifty man days have been spent on this trail.

A short circle trail is now underway; located directly above camp giving access to the reconstructed Talus House, Loomis Cave and interesting tent rock formations. Due to the elevation of the caves on the high talus slope the trail calls for the construction of several flights of steps both on the ascent and descent. Twenty men are working on this part of the Ruins Trail.

The Rio Grande River Trail is finished two miles down the Rito to the lower falls. The trail, now being worked on, descends from the top of the falls through a formation of large boulders and sandstone to the canyon floor below. This location will be more satisfactory than the old forest trail but will necessitate cutting in the cliff and building a high retaining wall for a switchback.

Four miles of the Upper Canyon Trail has been located and a mile has been construced. This is an extention to the Ceremonial Cave Trail part of the Ruins Trail.

The entrance road, Project 13B, was completed July 13.

BANDELIER, LANDSCAPE (Cont'd.)

The Custodian's Residence and Guest Cabin was finished July 20th. Some planting will be placed there this Fall.

Mr. Wirt, Ass't. Forester, National Park Service, arrived here July 23rd and after inspecting the Monument, proposes a truck trail which will give access to the South Mesa. This large forested area, according to him, should have a road which could be used for fire fighting and prevention.

* * *

CAPULIN MOUNTAIN NATIONAL MONUMENT — By Homer J. Farr, Custodian

General:

I believe that this month has broken all records for visitors for this Monument. We have had over 6,000 visitors from practically every state in the Union. Our parking area has been so crowded many times that there was considerable difficulty in freeing the traffic jam, and we find that more than ninety-five per cent. drive over the road to the top while very few ever walk up the trail any more.

Weather:

Our weather man certainly has not been good to us this summer as we have not had a rain since we can remember and the community is exceedingly dry. So far this is the dryest season that we have ever had. Our road and trails are standing up well considering the weather and the traffic they have had.

Improvements:

Our FERA fencing project is progressing nicely. We have our fence about three-fourths completed and have had many pleasant comments from tourists regarding our work. I hope our readers could understand what it means in building a fence over several miles of lava beds with some holes to dynamite and some to dig but very few to drive. The galvanized wire and steel galvanized posts are red and with the black lava background make a very beautiful fence. All of our corners and all stretch posts are round steel galvanized posts set in three feet of solid concrete. This is the hardest job I have tackled on this Monument, but I am happy to report that we are certainly getting it done.

CAPULIN MOUNTAIN (Cont'd.)

Business Callers:

Mr. and Mrs. Charles A. Richey of the Branch of Plans and Designs were here on the 20th and went over the Monument, thoroughly inspecting the parking area and the road and trails. Both are mighty genial but Mr. Richey, like all the other Park folk, was too busy to stay over night with the Custodian.

Sometime this month the Custodian received his year's salary from the Pinkley office for the enormous sum of $10.45, which I might add was very much appreciated, but I want to say this: That also a letter I received from the Boss which accompanied the check was worth far more than the check. To me this letter has a real instrinsic value, a cashable value, far more than mere money. Something that I can cash and still retain, unlike the cake you eat. This letter has soaked into me, but I still have it.

* * *

JUNIOR NATURALIST REPORT:*- A "howdy" from Dale S. King.

"I reported for duty July 9th. Hilding Palmer in the following report is correct in saying that the ensuing time was spent in guiding visitors and in studying museum problems, but now is not the time to attempt any startling deductions from that study. It will probably be better for me to say, "Well-er-uh, there seem to be many problems, and after I've been around for a while, then perhaps I'll be able to say something constructive."

"But we have started accummulating museum preparation materials, and have doped out some plans for exhibits with which we hope to make the museum more interesting. I am now working on a scale model of a Hohokam pithouse, and intend to spend spare moments in getting the pottery and other exhibits repaired, cleaned up, and put in ship-shape order.

"Between duties of teaching archeology to a brand new wife, and helping the selfsame wife become installed in a house, and expounding learnedly (?) to visitors, and sneaking off to the Boss and the other fellows to determine if what I said was even partly correct, I've had time to realize that I am going to like this job immensely. And a great part of that liking is due to the personnel of the Monuments. Even with my limited acquaintance, the Southwestern Monuments gang seem to be a swell lot.

"Hugh Miller said in his "howdy" letter that a Chief Clerk was supposed to be an emissary of the devil who specialized in weaving dark designs of red tape. I have heard that a Junior Naturalist is a Boy Scout who hunts bugs. It may be that is not correct, but I shall soon learn. "

**

Dale has just about arrived on one day and on deck for full time duty the next. He has just hanged his coat and hat on a peg and started right to work from the very beginning. Later reports will describe projects under way.

CASA GRANDE NATIONAL MONUMENT:

By Hilding F. Palmer, Custodian.

This month a total of 1163 people visited Casa Grande National Monument, were conducted on 255 guided trips through the ruins, and 233 lectures were given them in the museum. This is an increase in visitors of 219, or 23%, over July of 1933.

Thirty-six States were represented, the District of Columbia, Canada, Mexico, and Denmark. The majority of the visitors drove to the monument in automobiles, of which there were 324. We had a few visitors who came on foot. There were 173 people who visited the monument, but who did not visit the ruins or museum.

Sixty-three percent of the visitors were from within the State; eleven percent were from California; five percent from Texas, and three percent from Oklahoma.

There were 227 complete trips through both ruins and museum, each trip averaging 5.1 people.

Mean maximum temperature for the month was 106.61°F, mean minimum 75.44°F, and mean, 91.02°F. A maximum temperature of 114°F was reached on five days during the month. We had a total of .39 inch of rainfall during the month. There were 18 clear days, 6 partly cloudy days, and 7 cloudy days.

Analysis of Ranger service at Casa Grande National Monument is not included in this report, but appears in the Supplement, since it has practical application to all monuments in the system.

* *

Public Works Project FP 122.14

The Naturalist's Residence was completed during the month and is now occupied. It is an adobe residence, with walls two feet thick, steel sash and screens, two bedrooms, living room, kitchen and nook, bath and back porch. The contractor did an excellent job, but only made $10.89 besides his wages.

This completes all of our Public Works Projects at this Monument.

An FERA program has been carried on all during the month. From eight to ten men have been furnished us by the local Welfare Board. They have completed the erection of a fence on the south and west boundaries, so that the Monument is now completely enclosed with a 45-inch woven wire fence erected on steel posts with two strands of barb wire on top. It will simplify protection of the natural features immensely.

The Engineering Division furnished a rodman for the laying out of this fence, who also supervised its erection. Photographs attached show that a good piece of work was done.

After this fence was completed, the crew was split in two parties, one of which made 6700 adobe brick 4 x 10 x 16 inches for the future construction of tool and implement sheds, and the other was used in trimming all the dead wood out of the trees on the Monument. This project will accomplish two things: first, it results in a decided improvement in appearance, and, second, it will furnish fire wood for the heating of employees' quarters during the winter.

Junior Park Naturalist King entered on duty during the month and while stationed at Headquarters has been assisting with visitors and making a study of museum problems. His report on his activities will be found in another section.

Assistant Landscape Architect Langley was here, and made a final inspection of the new quarters and gave them his approval. Unfortunately, I was not well that day, and was unable to be with him. I missed it a lot. The temperature was only slightly over a hundred that day, but Harry could not be induced to stay overnight, but hied on to Phoenix to an air-cooled room in the Adams Hotel. Harry stayed all night with us once last summer; remembering his experience that night, he tried to convince the BOPADS that the new house should have a screen porch, but was unsuccessful.

Everything at the Monument is in good shape, and the month has been satisfactory from every angle, with the exception of the weather, which has been hot and dry, with many dust storms.

* * *

CHACO CANYON NATIONAL MONUMENT — By J. L. Patterson, Acting Custodian

This has been rather a quiet month in the canyon with our visitors making up in interest and intelligence what may have been lacking in numbers. Our 384 visitors came from twenty-one states, Washington, D. C. and England. Many stayed over for one or two days, seeing our many points of interest and watching the excavation work now in progress. The archaeological bug has a way of getting under the skin and making almost everyone want to get hold of a shovel and see just what is under ground here.

The month of July is considered the rainy season in this region but with the exception of one or two light showers there was no rain until the 21st when .91 inch of water fell in a few hours. The arroyo measured a run-off nine feet in depth at the crest of the high water.

The maximum temperature for the season was reached on July 13th when the thermometer touched 98°. This showed the great variation of 52° from the minimum of 46° on July 6th.

The roads are in fair condition, but rather rough from the effect of the rains.

On July 10th, Mr. L. C. Mackel of Albuquerque, N. M., investigator for the Interior Department, accompanied the Acting Custodian on an inspection of railroad lands within the Monument.

Mr. R. E. Riggs and L. B. Miller, Associate Architects of the National Park Service, San Francisco, paid a short visit on the evening of July 4th.

July 7th we enjoyed an all day visit from Ernest Thompson Seton and a group of twenty-nine students from his College of Indian Wisdom located at Santa Fe, New Mexico.

Dr. E. L. Hewett in charge of the School of American Research, brough a class of students to the canyon in June and they have been engaged in excavating at Chetro Ketl and Kin Kletso or Yellow House. We have been watching this work with considerable interest. A kiva in the courtyard at Chetro Ketl is showing some very unusual features and the completion of this particular piece of work will be worth close observation.

Since the completion of the revetment in the wash below Pueblo del Arroyo we have all waited with some anxiety for high water to see how this work would stand up against the flood. Our nine feet of water last Saturday night was a fairly good try-out. About six feet of silt was deposited both above and below the revetment and may help to strengthen those points to some extent, but along the front where the main current strikes the sand was cut from beneath the rock facing allowing it to fall in several places. It was the plan of the Engineering Department to have this rock work enclosed in wire mesh but the curtailment of CWA funds prevented carrying out this plan. I believe that unless something of this kind is soon done we will be likely to lose all the work which has been done at this point.

The new Custodian, Mr. Carroll Miller, came in on the 23rd and has been very busy getting furniture unpacked and placed, meeting visitors and new neighbors and getting generally "shook down" and placed.

* * *

CHACO CANYON (Cont'd.)-Supplemental

By Carroll Miller, Custodian

I arrived at Chaco Canyon at six p. m. on July 23rd. Tuesday the 24th I spent most of the day unpacking and getting settled in our new home. However, I did cut loose long enough to play "Dude" and visit the Ruins with two parties that were conducted by Mr. J. L. Patterson, who has been employed in various capacities in Chaco since February. I find Mr. Patterson a very capable man. The visitors seemed to enjoy their trip and the services rendered by him. He gives explanations that are plain and dignified. I believe I made a good "Dude" if asking questions will qualify me.

Boss, I know I'm going to like this place. Although, to leave Petrified Forest was to me just like a kid leaving home. White Mountain and Mrs. Smith will long be remembered by my family and I. If you are half as good a Boss as White Mountain, I know you are all right.

* * *

Custodian Carroll Miller has been a Ranger at Petrified Forest for several years and really needs no introduction to Southwestern Monuments. At the same time, we are giving Mr. Miller a most cordial welcome into Southwestern Monuments and we don't want to overlook expressing real appreciation for Mr. Patterson's services during the past several weeks. With "Pat" on the job there was a feeling that visitors and other Monument business would be faithfully looked after. To Carroll a real welcome, and to "Pat" our sincere thanks.

* * *

CHIRICAHUA NATIONAL MONUMENT

By Charles E. Powell, Ranger in Charge

Note: Ranger Chas. E. Powell of Chiricahua National Monument makes his opening bow to the Southwestern Monuments Park Service family. He will be at Chiricahua for several months of this summer. From the tone of his opening, Ranger Charley seems to be disputing the enviable and jealously guarded position held by another certain "Sandy" haired youngster of the family. Some proud parent has a job on hand to keep this Chiricahua youngster out of just claim as the youngest in the Southwest.

Blushing, with a newly washed dress of bright green, and a fleecy cap of clouds on Sugar Loaf, the new baby, Chiricahua, wishes to salute the rest of the family. As a member of the Park family, Chiricahua is twenty-one days old today. Is some other baby feeling sold, with its little nose out of joint?

The C. C. C. Camp's C. C. C. contest (just a minute!) The Chiricahua Camera Club's contest of the Civilian Conservation Corps, (does that explain it?), was won by Armando Ysias. He traded in the carton of Chesterfields for other wares at the Camp Exchange, as he doesn't smoke. He had some competition, as three of the judges, Lieut. Woody, Lieut. Turner, and Lieut. Vertin each selected different pictures as winners, but our educational advisor, Mr. Merrill decided with Dr. Vertin. (I am enclosing both the winning picutre and the film.)

CHIRICAHUA NATIONAL MONUMENT (Cont'd.)

Each week end a competent guide is selected from the C. C. C. personnel, and about fifty of the C. C. C. boys are piloted around the monument. They take pictures and also intend to qualify as guides, in case of need.

A beginner at writing reports of this kind, I am finding the task is one of condensing, rather than otherwise, as there is a lot that I would like to include, which to me appears very interesting and important, and which I have included in the narrative recited to visitors, but now that I am talking to an audience of experts, I find myself wondering if the editor of the consolidated report will not have to blue pencil mine.

I would like to tell the story of Cochise, succeeded by Geronimo, (Chiricahua Indians, those) and how Big-foot Massai stole a horse from a rancher named Stafford here on the site of the CCC camp, while he was returning to the reservation to obtain medical attention for the birth of his son and heir. I'll recite that one the first time we go to Massai point.

Then I might give the History of the Monument, and try to explain why this "Wonderland of Rock" is not all contained in the area set apart as a monument. Such subjects have been covered by others, it is supposed, better than I can explain, so I will confine my report to things I know.

Two CCC boys working staggered shifts during the week, and two more on week-ends, have been checking traffic and catching car numbers for the past ten days. We have an old tent which we call "the rag" by the side of the road at the entrance to the monument, and there visitors who will stop are registered, and those who will not stop are noted, the number in the car recorded, and the car number taken.

So far, we have been able to register about half the number of visitors. The rest of them have driven past without stopping. We have learned that more people drive up Pinery canyon and see the back of the monument than come to the front door, or miss the monument entirely because they are guided by someone who has been up that way in the past and does not know about the new work which has been done. We figure that, since we have 228 names on our register in ten days, in thirty days we should have had 684. If all had registered, we would have for thirty days, 1,368 visitors registered. Next month, with our present system, we should have about 2,000 names on our register, at that rate, as we are getting a better routine worked out. There will be more when we have our road complete, and the public becomes better informed.

Most of the car numbers taken were from Bisbee and Douglas, with Tucson and Phoenix next in order, with scattering cars from other parts of the state, California, New Mexico, Texas, Oklahoma, Colorado and New York licences were also checked. We will know more about travel next month.

Prominent Visitors: 18

Park Service, eight
Military, five
Local, seven

CHIRICAHUA NATIONAL MONUMENT (Cont'd.)

Park Service visitors included Supt. Pinkley, Engineer Attwell, L.S.Architect Langley, Asst. Engineers Ray and Harris, and Mesdames Attwell and Palmer.

Military visitors were Mr. Reddick (personal representative of Mr. Fechner, Director of the CCC), Col. Gordon, Col. Cox, and Capt. Fickett, all of whom were here to determine whether or not this camp is among the district prize winners, and finding that it is, they are now trying to decide the exact status of the camp in the Corps Area.

Local prominent visitors were Dr. E. D. Ball, Economic Zoologist, U. of A. Tucson. (Took the Ranger bug hunting.) Mr. Joe Kobey, Secretary of the Bisbee Chamber of Commerce. Mr. D. F. Souers, Bisbee, (Boy Scouts, Y. M. C. A.) Mr. E. D. Beverly, wife and daughter, Elva, with Miss Ethel Pearl Isaacs. (See clipping from the Willcox Range News.)

Jack Terrill is putting an original idea into execution. While on shift checking traffic, he has worked with great patience gathering rock shaped like some of the balanced rock for which this monument is famous, and has reproduced a part of the monument in miniature. He uses these miniatures to illustrate his description of the fectures to be seen on various trails, while he is describing the monument to visitors.

We are discussing a large sign, with the legend, "When you look, STOP." This to be placed on Massai point. I told Mrs. Palmer that, and Mr. Attwell thought it good advice for all. You see, you must watch your step, and you can't see much while looking where you are going. Dick Sims took a tumble today.

May I mention some curiosities found no place else but at Chiricahua? I want to mention three. (1) Dick's coffee. Brewed at the Tech-mess only, and a nectar fit for the Gods. (2) Mr. Hobbs' rain tree. Had to have it explained and then had to see it, before believing. Dr. Ball can explain it, scientificelly. (3) This one is credited to Mr. H. O. Hammond, Supt. of CCC. He can tell about the Rhyolite woodpecker, who drilled all the holes in these rocks in search of rock-worms. Shall I say that I have not seen the latter described bird?

The upper road has been impassable for the last two days, because of a slide which blocked the large cut above Bonita Park, but a steam shovel was brought down and the way is now open. The road is being bladed now and will be in fine shape for Sunday visitors, if the rain, which has been falling for the past three days, does not keep them away. We had to hunt foot logs yesterday to get to camp, across Bonita creek.

We need some standard "NO HUNTING" signs. The deer are quite tame and we are putting out salt for them near the Ranger station. We are also trying to have a large metate hauled to the Ranger station to be used as a bird bath.

Please pardon this typing. This machine got wet, and is senile and Rheumatic. After I have had more practice, I hope to write as good reports as those in the April, May and June editions, which I have read with much interest.

CHIRICAHUA NATIONAL MONUMENT (Cont'd.)

The CCC boys are still claiming an interest in the Monument and are showing such enthusiasm that another contest is being planned. We are undecided as to whether to start them collecting tree specimens, or names of animals to be found, or to make the next contest one of scenery. We will possibly combine the three. Such energy and enthusiasm is too useful to waste, I think.

Mr. Riggs is progressing quite well with his trail up Rhyolite canyon and Mr. Hobbs has fifteen feet of water in the well. The contractor, Mr. Raul, is working on the last part of the road at Massai point.

I will try to have my report in better shape next month.

* * *

EL MORRO NATIONAL MONUMENT By E. Z. Vogt, Custodian

This has been a long hard month for the people of this region and a rather busy one right on the Monument. Owing to the pressure for water for stock and domestic use among the settlers who have taken up homesteads within 25 miles of our Monument, a petition was gotten up and sent to various Representatives, Senators, to the Governor, to Mr. Pinkley and one to myself, as Custodian, praying for immediate permission to have water again from our reservoir in the old Spanish Camp Cove.

We were conscious of the difficulty about getting water but since we had made the great fill in the valley coming down from the cove during the CWA program we were unable to make the water available to the use of the ranchers without them driving their trucks and water wagons over the oats, clover and grass we had planted as a ground cover where the great arroyo had been. We knew that your desire was not to in any way damage that area, or to do anything which might lead to further erosion. We also knew Mr. Richey's ideas about conservation at this important spot between the Ranger's cabin and the inscriptions. We were therefore up a stump as to how to accomodate the neighbors who were so badly pressed for water without damaging our work.

I was already at work trying to figure out a solution by bringing the water down over the filled and planted area when the Director wired me on June 27th, suggesting that since the Governor had wired to him in the interest of the people, that perhaps we could share the water with them. Within a few hours after Mr. Commerers message came, I had secured the loan of 300 feet of 1-inch pipe and 100 feet of hose from Mr. G. A. Trotter of the Zuni Indian Agency on our west. Hiring a truck and some help for installation on my own responsibility, we were able to syphon the water down out of the reservoir to a point about 100 feet below the Ranger's cabin. Thus the ranchmen were able to drive and fill their iron and wooden water barrels and haul it off to their ranches. The first few days not many came but after it was learned that the water was available they came at the rate of two to six wagons or trucks per day. Sometimes sun-bonnetted women came in place of the men who were busy with hoes, cultivators, and

EL MORRO NATIONAL MONUMENT (Cont'd.)

go-devils trying to maintain a mulch on their fast-drying top soil in which their beans and corn were planted.

Both Ranger Peterson and I have stood our ground on the principle of furnishing water when it was greatly needed in an emergency but not as a steady thing. No permanent privilege has been mentioned by us and it is my belief that with the F.E.R.A. nowhaving decided to drill three wells for the people in this region that there will be no demand beyond this year for the use of this waterby the settlers.

I was thankful for the very effective letter which you got out under date of June 27th addressed to the "Friends and Neighbors of El Morro", covering the subject of water usage very well and asking their cooperation in preserving our sod. I distributed the copies of this letter to all the people living within 30 miles of the Monument, especially to those who had signed the petition.

We have had nothing but the finest cooperation from the people who come and go with the water and are likely to keep the same up until water is secured nearer their ranches or until general rains fill the surface tanks and water holes nearer home.

The summer rains are not coming along as they should and crops will be short. Perhaps the grass will make but a third of the normal growth. The pinch of poverty is going to be felt by the people who depend on what they raise on their dry farms. The pangs of hunger are liable to draw up the sheep, cattle, and horses by spring with resultant loss unless rain starts soon and in dead earnest.

The Zuni Indians persist in their feather planting, tesques, fasting and dances, while even the Navajos have been holding some ceremonial jack-rabbit hunts in which hundreds of jacks are slain as an effort to bring rain. My son, Evon, and his house guest, Charles Ripley, of Chicago, accidentally ran into a great crowd of Navajos one day, shouting and driving rabbits on horse back into an ever-decreasing circle and joined in the hunt. As it has not rained, I am trying to get the Navajos to hold another hunt.

Our F.E.R.A. program got started the first of the month with an allowance of 30 men and 4 teams. In order to keep the work going with no cessation in progress despite the changing crews of men every six days, we cut the force down to 15 men and 2 teams. Then at the employment office in Grants they budgeted our force to fewer men so we rarely run over 2 teams and 10 men.

With these we have hauled a great lot of gravel for trail gravelling, have worked approach roads, have leveled off places and made fill and clean-ups near

EL MORRO NATIONAL MONUMENT (Cont'd.)

our entrance, and carried on the trail work over the top of the cliff from ruin to ruin. In moving gravel up the trail we find that it is best done by packing 200 pounds on horses using pack saddles and double gunny sacks as containers. This we dump on the trail and then spread it with a garden rake.

Quite a few new steps have been carved at needed places over the cliffs while stone monuments 18 inches high are bing placed as trail markers every 100 feet or so along the top of the cliff where the lone visitor who climbs by himself may get lost especially in a storm of when snow covers the steps and cuts made in the rocks.

That portion of the trail which follows along that clay deposit at the foot of the south ruin is being covered by gravel which we had hauled up the mesa and dumped just outside of our fence. Shoveling it through the woven wire, we managed to get it on the inside. With great difficulty we got a horse up on top--a trip analogous to the Glass Rocks en route to Rainbow Bridge. With the horse we packed the gravel several hundred yards and dumped it on the trail. This is laborious work but by keeping at it good progress is shown in a day of eight hours length.

A crew was placed in the Box Canyon for two days to make a road up the canyon, so that those visitors who wanted to go up there to camp could do so. Care was taken to make the road passable but not too good so that any one who ventured there could feel that they had penetrated the real old-time jungle of the west. A hewn ladder of oak poles was built to afford entrance to a cave of recent discovery where there are some pictographs and an old hand and foot trail leading from the cave which was once a water catchment area for prehistoric mesa dwellers.

The crew we had in the Box Canyon also cleanned the Indian Well we discovered last March and dug out and walled under the CWA program. We finally have our roof on the blacksmith shop and hope to secure enough lumber to finish the large garage door and the partition. When this is done, I intend to set up our F.E.R.A. workers tool house and blacksmith shop in the new building which measures 18 by 30 feet. Thru Austin Ladd of the ECW program of the Eastern Navajo Agency, I was able to get the very much appreciated loan of a portable blacksmith shop.

Don Juan A. Garcia of Albuquerque, N. M., stopped with his son one day and recorded in the visitor's register the following interesting entry written in Spanish, which I have translated as follows:

"On the 30th of June, 1934, here was Juan A. Garcia and his youngest son, Juan A. Garcia, Jr.

Juan Garcia passed here with his family to settle Atarque in the year of 1882. At that time there were no white people living between San Rafael, N. M. and St. Johns, Arizona.

Accompanying Juan Garcia were his brothers Jose Leon Garcia, Patricio Garcia, Tiburcio Garcia, Jose Garci and David Garcia. Also accompanying him was his mother Celcilia Garcia, widow of Lorenzo Garcia, who was killed by Geronimo

EL MORRO NATIONAL MONUMENT (Cont'd.)

in the year of 1881 on the bench of the Soboya." (Signed) Juan Garcia, 515 Coal Ave., Albuquerque and Juan A. Garcia, Jr. 521 S. 6th St., Albuquerque.

To me this was a most interesting record in our book, since it showed the absence of settlement over a country 150 miles wide except for Navajos and the dangerous Apaches, who killed Garcia's father the year before the family passed here to settle the Spanish-American village of Atarque, 35 miles Southwest, where we now have our sheep ranch headquarters and store.

The Garcia family has long been prominent in live stock raising and politics and very probably are descendents of Juan Garcia who carved his name on the cliff in 1636 and perhaps also of Juan Garcia de La Rivas, who noted his political activity in 1716 when he was elected high sheriff on the first ballot in the city of Santa Fe.

Of the brothers mentioned above Tiburcio, Jose Leon and David are still living at Atarque. I took photographs of Mr. Garcia, who looks very young for his 85 years.

The Tourquoise Trail Expedition headed by Mrs. Rowie of Indianapolis, with eight very fine young girls, rolled in and camped one afternoon and half the next day. Their camp outfit, their intinery, their cars were as good as could be made. They were most appreciative and enjoyed hugely the historical values and archaeological records of the Monument. The tortillas I had one of the F.E.R.A. workers make for them in a Dutch oven over the coals were new to them. At night Mr. Peterson made a camp fire talk to them under the shade of the great pines.

My oldest daughter, Barbara, 13, was invited to join their tour, so she left with them on the 20th to take in their 1,500 mile trip to the Grand Canyon North Rim, Bryce and Zion and other points of interest, a rare privilege for her.

Antioch College had an aggregation here which took in every thing on our Monument, but seemed very much in a rush in their mode of travel though they were also equipped to camp where night time struck them.

Other persons who visited us during the month were Congressman Albert Carter and his lovely wife of Oakland, California, Frederick Vreeland and his interested and interesting family of Montclair, N. J. Colonel Mason, U. S. Army, Washington, D. C. L.B. Miller and R. E. Riggs of the Park Service Force in San Francisco.

The assistance of Alfred Peterson, Ranger, in keeping the time of the F.E.R.A. workers and helping with the detail work in addition to his steady duty of showing people around the Monument is much appreciated.

* * *

EL MORRO (SUPPLEMENTAL) By Ranger Alfred Peterson

The hour is 8:40 P. M. and while my supper is cooking at the end of a busy day, I shall endeavor to make use of the first spare moment I have had to start my monthly report.

EL MORRO (CONT'D.)

Among the important events of this day was the arrival of the Department of the Interior Soil Erosion Service party of twelve, including families of the men, under the direction of Professor Saur of the University of California. They seem to have ushered in the first real rain of the season experienced in this neighborhood. This rain, in about half an hour, put more water in the famous Cove than has been taken out during the past three weeks by local settlers; in fact, the water level is just about where it was when I arrived on the first of June. The rain is a blessing to the local farmers, though too late to make a good crop, but it will also make a lot more trail work for FERA workers on the Monument, and I am still somewhat worried about the elderly couple, an old man and his sister, pioneers of Oregon, who started for Ramah about two minutes before the rain started about 6:30 or 7:00 P. M. Also, during the afternoon I had a party which included in its number a young lady, a friend of the Boss' and his daughter Nancy, Miss Adele Morens, now of Albuquerque.

Visitors for the past 29 days, June 25th to date, inclusive, number 472, and the registrations show that they came from England, France, Washington, D. C. and thirty states.

Mr. Frederick K. Vreeland was here during the month, and at the end of our conversation was quite insistent that I write the story of El Morro, adding that I not only would get my reward in heaven, but would be doing a service. I told him that I thought that Custodian Vogt's job rather than mine, and I also pleaded lack of time because of being time-keeper and pinch-hitting foreman on FERA work which leaves me hardly time for sleep in addition to my other duties.

Local people who haul water from the Cove have an interesting argument which purports to show that the Park Service has no right to close the Cove to water haulers. Most of them are homesteaders and when filing on their land were restricted from including any permanent springs or natural reservoirs in the areas filed on because, they claim, the Department of the Interior stipulated that such water supplies were for public use and not to be restricted to private use.

Incidentally, if water haulers were counted as visitors our count for the month would be increased about 50%. Some days there are few people hauling water, but on others there are teams and trucks lined up awaiting their turn at the hose to fill their barrels. It was noticed that one truck hauled 28 barrels of water in two days. The rehabilitation programs under FERA include some public wells in the neighborhood which will be a great help to the settlers, and at the same time these wells will reduce the water hauling from the Cove, though it is likely there will still be a few who will want to haul some water. With heavy rains to contend with during the rainy season it will be necessary to have a more permanent means of siphoning the water from the Cove for irrigation, etc., than the borrowed pipe and hose now in use which belongs to the Indian Service. An alternative might be to remove the cement dam and put the Cove in a condition as nearly as possible to that which it was in when the Conquistadores used it as a water supply, thus allowing considerable portions of the water to seep away underground, or course, after a regular water supply is available on the Monument.

EL MORRO (Cont'd.)

I captured another rattler this year, but he was just a baby and no match for my old pal Bosco of last year. Neither could this little one stand the conditions imposed on him by my improvised cage, and he died. This is the first season that I have seen frogs in the water cove, and judging from thenoise they are making at present there must be a thousand of them in there. Both humming birds and snakes made their first appearance on July first. The birds are quite numerous and gorgeously colored.

One of the Mexicans working under FERA found a small stone axe in the canyon, evidently once the property of an occupant of the prehistoric, ruined villages atop the mesa. He showed it to me, and I thanked him for it in the name of the Government and assured him that I would put his name on it. I'm not at all sure that he intended to give it to the Government and doubt thathe will again show me any axe he might find.

* * *

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

Report time again has rolled around and I find my registration to be rather disappointing as I have only registered 404 visitors the past month as compared to 849 in June. We find that these visitors register from eleven states namely Louisiana, Colorado, North Dakota, Arizona, Indiana, Ohio, Pennsylvania, Texas, California, Oklahoma and New Mexico. New Mexico has the leading representation with Oklahoma and California following respectively. These 404 visitors entered the Monument in 75 cars, horseback parties and otherwise.

Well, we should soon have a road here that will accommodate the people who wish to enter the Monument as Mr. Howard Leslie, foreman of the P.W. is here and pressing along nicely with the work that was started under the Civil Works administration. On date of June 30, Mr. W. G. Attwell, Associate Engineer, came in and he and Mr. Leslie went over the completion of the road together. On the same date Engineers Robert Harris and Knox Borden came in to assist Mr. Leslie with the survey of the road. On the following Monday morning these Engineers began their survey of the entrance road working on this through the first week of July. Then on July 9th, work was started on the road with a small crew which I am pleased to say has done quite a lot of good in the time spent. I feel that we are fortunate in obtaining Mr. Leslie as foreman for the work here, as he understands road work thoroughly and gets a great deal of work accomplished with but little expense and very few men

Again I am compelled to report a dry month, no rain in this vicinity yet, however, it has rained a few good showers within a short distance, but right here in this community there hasn't been any which I am sorry to say makes our Monument look forlorn without the usual green vegetation and flowers that generally adorn it at this time of the year. Along with this dry weather we are having some unusually hot days for this mountainous region. One day last week the thermometer stood at 94° in the shad, which is about eight or ten degrees above normal for this country and time of year.

GRAN QUIVIRA (Cont'd.)

The drouth has thrown this country into bad shape financially as farming is the principil means of support, and as late in the season as it is, if it should rain plenty from now on it is too late to produce a crop before freezing weather this Fall. We are still hoping to get rain enough to make grass so range stock can subsist through the coming winter. The greater part of the people here are employed on relief work. With two more projects staring in the county soon, they may continue to be so employed.

* * *

MONTEZUMA CASTLE NATIONAL MONUMENT — By Frank L. Fish, Ranger in Charge.

We offer the following report for July:

The weather was fair for the month, with about ten days of extremely high temperatures. During this warm period a noticeable drop in the daily attendance of visitors was observed. However, with a few local showers it has become much better. It was quite interesting to notice that the visitors from Phoenix and vicinity generally made the complaints concerning the heat. Probably a natural reaction, as they were trying to escape the heat wave and consequently were disappointed.

Visitors for the month numbered 1,896, an average of over sixty a day. Group parties consisted of a party of thirty school teachers from the Flagstaff State Teachers College summer school and two parties of boys from the Palo Verde Ranch School at Prescott.

Park Service visitors during the month were Mr. and Mrs. Dale King, Mr. and Mrs. Walter Attwell and son, Jim, Mrs. Hilding Palmer, Mr. Harry Langley and the Boss.

Custodian Jackson left the afternoon of the 22nd for the coast on a sick leave by the orders of his physicians. During his absence Charlie Steen of the Tonto National Monument is helping out.

The Gambel Quail on the Monument seem to have had bad luck in hatching this year. From about twenty pair we have noticed only five young.

Mrs. Everett Hare, the nearest neighbor above us on Beaver Creek, reports a pair of Arizona Cardinals nesting with two young near her house. This is the first time they have been observed nesting in this region.

Due to the dryness of the past year many of the Sycamores shed many of their leaves but since the showers new buds are appearing.

New acquisitions for the museum consist of two partly broken arrow points

MONTEZUMA CASTLE (Cont'd.)

and a ceremonial plate with a well define design about the border.

You can never tell what an engineer will do. About the time you think they are pretty hard boiled, a sudden burst of sentiment overcomes them. Engineer Brown was observed during the month moving all his belongings from his cabin, completely turning his home over to a skunk. Harry was quite entuhuiastic over the beautiful coloring of the animal and seemed to be antagonistic toward anyone who attemped to harm his friend.

For details of P. W. A. Construction, I refer you to Mr. Brown's report.

* * *

MONTEZUMA CASTLE (SUPPLEMENTAL) By Harry F. Brown, Foreman

Work on the three projects under way at this point is progressing nicely. The revetment work is two-thirds completed and I believe that we will have sufficient material and funds to complete it to 75%.

The rock work on the equipment shed and garage will be completed before the end of the month.

Excavation for the sewage system has been completed and if there is any possible way to hurry up the corrugated cover for the filter ditch it would be greatly appreciated.

* * * *

NATURAL BRIDGES NATIONAL MONUMENT By Zeke Johnson, Custodian

It certainly seems like report time comes pretty often these days. I am glad to tell you that all is well over here but it seems that it can't rain though it tries to about every day. It hasn't done much for us yet. It is very hot and the vegetation looks sad and yellow everywhere. A few showers around the country has helped in some districts. I have just come in from the Bridges last night and there were 46 registered for this month and I met six people in a big car from Missouri going down beyond the Bears Ears so that will make 52 and we have six days of the month to go. People from the following states have visited me: Utah, Kansas, Missouri, California, Maryland, Wisconsin, Pennsylvania, Michigan and Colorado. We still have very good water in the pools but it will have to rain soon or I will have to dig down in the gravel to get water to drink. I still have plenty for our use and wash water.

There is a party of Geological surveyors camped there now and they have been there several weeks putting in elevation bench marks. They are following the old Mormon Pioneers Trail through to Bluff that was blazed in '79 and '80. The Engineers who were surveying the road out to the Monument have been called to Wyoming for a month or so but they expect to return here in the Fall to

NATURAL BRIDGES (Cont'd.)

finish up. The road work is not progressing very fast these days as only ten or twelve men are working on it. There is a C.C.C. camp in Wayne County working on the road that comes this way so we still have a little hope of some day connecting up with the Western world. I am still living in hopes.

I am batching it here for a few weeks as Mrs. Johnson became ill and I had to send her to Salt Lake for medical attention. This is about all for this time.

* * *

NAVAJO NATIONAL MONUMENT — By John Wetherill, Custodian

We have just finished an intake put on for the benefit of the Rainbow Bridge and Monument Valley Expedition. The Indians are laying the blame for the present drouth on to the Expedition boys, saying the work in the ruins in the Tsegie is the cause . I have just proven to them that it was caused by Holkidnie, their Medicine Man, getting angry during the ceremony and wanting more pay for his work and failing to complete the ceremony.

We have had Mr. Ansel Hall and his wife, Mr. and Mrs. Wymon and many others since writing last. Herbert E. Gregory joined the expedition for two days. He put new life into the geologist of the party. Other work took him back to Zion Park. The Eastern division of the party came in on station wagons from New York on the Tenth. Dr. Winning was in charge of the party. There were fourteen in the group. They are having to leave this morning for the Tsegie where they expect to be a few days with Mr. Hargraves party of the Western division now working in Archaeology.

* * *

PIPE SPRING NATIONAL MONUMENT — By Leonard Heaton, Acting Custodian

It is now time for another report to be its way if it is to get to you before the first of August.

There has been a sharp increase in the travel, in both visitors and local people this past month, some of it due to the parties that have been held here by different groups and clubs. On the Fourth of July, the entire population of Moccasin and Pipe Valley met here for the afternoon to celebrate and have supper. There were ninety-one persons present in the party.

My travel record is as follows: (1. Other than local) California, 27; Utah, 70; Arizona 133; New York, 2; New Hampshire, 2; Idaho, 6; Nevada, 3; New Mexico, 4; Illinois, 1; Arkansas, 2; Park Service, 4; Indian Service, 2; England, 2; total 258; last month, 107; increase 151.

PIPE SPRING, CONTD.

(2. Local) By automobile, 547; Horseback, 29; Wagons, 4; Total, 580; Last Month, 553; increase, 27, giving a total for July of 838. The travel for June was 642. This gives a gain of 196 over last month.

Several complaints have come in to me about not having a good sign at Fredonia put up by the Park Service directing travel to the Pipe Spring National Monument. I have felt that need but did not know whether there was any money available for that purpose. If there is, we could get one made. If this is done, I will see to it that it is put up at the corner of the street where the road turns off Highway 89.

The Monument grounds are in good condition as I have had what water I needed to take care of the trees and meadow since the division weirs have not been installed. Thus, I have been able to keep things wet during the summer.

Commencing on the 17th, a storm began to come in spots and continued to spread until the 21st, so most of this country has had a little rain, but not enough to relieve the shortage of feed for winter grazing. If we could get that same kind of storm again in a week or two, there would be enough feed to take care of the livestock this coming winter.

Since my last report, the Indian Service ordered the pipe laid to carry off the Cattlemen's 1/3 of the water but when the time came to put it in, something came up holding it up indefinitely and from what I can find out the Pipe line will not be laid this summer.

Mrs. Heaton, while visiting her mother the past two weeks at Alton, Utah, met Mr. Hint Silar who was employed by a Mr. Findley who owned Pipe Springs back in the '90's and who had him do the tunneling that produced the Tunnel Spring. Mr. Silar told Mrs. Heaton that the purpose of the Tunnel was to get underneath the main body of the spring and take it all out through the tunnel and then carry the water in a pipe line 5 miles southwest to the Indian Knolls and make a cattle ranch there. But for some reason Mr. Findley sold Pipe Springs to Jonathan Heaton and Sons before the project was completed. Mr. Silar states also that if we would dig down back of the northwest corner of the Fort we would get into the spring and probably get more water as Findley had Silar do this as the water was getting low at the Fort but was coming out in seeps along the hill, north for about 1/4 mile. After he had it all cleaned out, all of these seeps or little springs dried up.

I have noticed that there is more wet ground along the hill north for the last two years than when I can first remember much about the water here at Pipe. I am glad that Mr. Silar did not get to complete his project for this Fort, sure would be high and dry with all the water taken five miles away.

In closing I will say that I am getting some of the place well cleaned up together with the work of showing the people through the Fort and telling them the history.

TUMACACORI NATIONAL MONUMENT: By George L. Boundey, Custodian.

Our total number of visitors for the month is 525. This is our slow month and the excessively hot weather has caused the low figures.

Three good showers have relieved this entire area; the water holes have filled and the grass is starting. The cattle already look better and everyone who has a little ground is plowing and planting. A great many of the desert trees did not put out any leaves this spring. We thought many of them were dead but they are nearly all putting out tiny green leaves since the rains have come.

Out of 7,000 adobes in the process of drying, we have lost only about 400 by the rains. The wall construction is going along nicely.

The Nogales Office says our project is the only one which has not gotten into difficulty so far, and our reports are the only ones which pass Government inspection. We could not ask for a more willing gang of men.

The carload of cement was left at the Tubac siding last Monday late. We had it unloaded by eleven oclock Tuesday morning and as the two trucks from Mr. Hammond's CCC Camp N.M. #2a reached here early on Tuesday morning, we could deliver their 100 sacks to them directly from the car.

We are having considerable trouble with treasure hunters who come at night. I think our wall will do away with this night activity.

Mr. Langley of the Branch of Plans and Designs paid us a short visit in the middle of the month.

***

TONTO NATIONAL MONUMENT: By Charlie R. Steen, Ranger in Charge.

Here I am, trying to rate a little space in the monthly report, with less than 48 hours to my credit. During the only full day I spent at Tonto, four autos carrying 23 passengers stopped to look us over. In the following day while I was wondering how many visitors would break the solitude, Walt Attwell came along, told me to pack my extra pair of socks and tooth brush, that he was taking me to Montezuma Castle. Well, here I am for a few weeks, but I hope I will soon be back with the Apache.

Charlie had no more than arrived at Tonto when word came that Jack at Montezuma had become suddenly ill and would have to be off for a few weeks. The Apache Indian is "Henry" and Charlie was at Tonto hardly long enough to smoke the peace pipe and draw up a treaty of peace between him and Henry. Henry is employed by the Southern Pacific Company to check vandalism at the ruins. He says we're having this drouth "because the Great Spirit's awful mad about something we white people are doing". Charlie will be back with Henry in a few weeks.

***

Again, a welcome to a new member of the force, Jimmie Brewer, who is in Walnut Canyon holding things down until a new ranger's papers can be acted upon after which Jimmie will go to Wupatki for a few months on his regular assignment. In this report, a sketch of what Walnut Canyon has to offer, is outlined. Jimmie began the latter part of the month at Walnut and we hope very soon the papers will all come through enabling us to temporarily man both Walnut and Wupatki.

WALNUT CANYON NATIONAL MONUMENT: By Jimmie Brewer, Ranger in Charge.

During the time I have been reading "Southwestern Monuments" I have never seen a report therein from Walnut Canyon National Monument, I am assuming that this marks its first entry into "the only read Government Report in Captivity".

If that is correct, it seems a good idea to include this time something of the history and general character of the Monument. Dr. Colton of the Museum of Northern Arizona, has written a pamphlet on these features (Museum Notes, Museum of Northern Arizona, Vol. 4, No. 1) which we keep here for distribution, and which at present serves as guide and as our educational department. I'll quote excerpts:

"About ten miles southeast of Flagstaff, and five miles south of U. S. Highway 66, lies a slash, cutting deep into the limestone plateau. Because walnut trees grow among the boulders in the Canyon bottom, the gorge has long been known as Walnut Canyon. This canyon is similar to a dozen other canyons cutting the Kaibab Limestone in this general region; but it is distinguished from these others by the large number of prehistoric cliff houses which crowd the limestone ledges. A recent survey records over 300 rooms. To protect these antiquities, President Roosevelt, in 1906, set aside one and one-half square miles as a national monument.

The importance of the Walnut Canyon National Monument centers on the cliff dwellings which furnish us a lesson in archeology. Eight hundred to nine hundred years ago a pueblo people built a straggling village on and under certain ledges which, in a characteristic manner, weather out of the Kaibab Limestone. The potsherds scattered down the talus slope and the few skulls that have been found tell us that the builders were probably the ancestors of those who later built Elden, Turkey Hill, and Old Caves Pueblos.

"In Northern Arizona the remains of the dwellings of ancient peoples who once lived on its plateaus are everywhere abundant. Even the casual visitor gets a thrill from observing the outlines of rooms, mounds, and masonry cliff dwellings, such as we see in the walls of Walnut Canyon. These remains have long attracted the archeologists and from these remains they have been trying to piece together the history

OF A PEOPLE WHO have left us something of their art but no written history.

"It is interesting to know how these ancient peoples lived; how they built their houses, where they found their water, and where they cultivated their fields. Vandals have destroyed the houses in Walnut Canyon during the past forty years, but still we can see how they were built. An overhanging ledge was selected for a roof. Walls of stone with adobe mortar were constructed as partitions for a string of rooms. Front walls were built which did not usually tie into the side partitions. The foundations of these walls consist of large slabs turned turned on edge in two rows. On these slabs the masonry of the wall rests. As the front wall is exposed to the weather, moisture has caused the front row of slabs to settle, and thus the wall leans and finally falls, exposing the interior of the houses to view. The floors were leveled. A T-shaped door in the front wall opened into a narrow room lit by a few loopholes. Inside was the fireplace which served for both heating and cooking. The smoke, after blackening the roof, found its way out through a small smoke hole, often over the door. All was originally neatly plastered with adobe, so the walls were smooth and the mud floor clean.

"James Stevenson, visiting Walnut Canyon for the Smithsonian Institution in the summer of 1883, reports: 'The doors are large and extend from the ground up to a sufficient height to admit a man without stooping. The rooms are large and the walls are two to four feet thick. The fireplaces are in one corner of the room on an elevated rock, and the smoke can only escape through the door. The masonry compares favorably with the construction of the best villages in the Canyon de Chelly. Many objects of interest were found in the debris around and in these houses. Matting, sandals, spindle whorls, and stone implements of various kinds abound'. All these objects have disappeared in the past 50 years and even few doorways are intact.

"In May, 1938, the archeological expedition of the Museum of Northern Arizona, under Mr. Lyndon L. Hargrave, restored two of the houses.----Timbers from under the floor dated 1092 and 1094 which would indicate that the rooms were occupied probably in the early part of the 12th century.

"The geology of Walnut Canyon has an interest second only to archeology. When one looks into the canyon and observes the dry stream bed, one wonders how such canyon came to be. Walnut Creek, which eroded the canyon, is an intermittent stream so typical of the semi-arid Southwest. For a few weeks, when snows are melt-

WALNUT CANYON, CONT'D.

ing in an extensive basin south of Flagstaff, Walnut Creek is a rushing stream; the rest of the year it is dry. After flowing north through open valleys until within a few miles of Flagstaff, the stream suddenly turns east and for fifty miles zig-zags through a series of limestone and lava canyons until its waters meet the Little Colorado.

"South of Flagstaff, some thousands of years ago, the earth cracked and the east side of the crack rose 300 feet above the west side. This break in the strata is called the Anderson Mesa fault. The rising block of strata tended to dam Walnut Creek but this rise was so slow that Walnut Creek was able to saw its channel deeper as fast as the land rose.

"The slash across the plateau cuts through the Kaibab Limestone into the yellow cross-bedded Coconino sandstone. The canyon is crossed by dozens of small north-south faults. When the canyon is followed on a map, its course is seen to be very meandering and zig-zagging. The stream has followed each cross-break or fault for a short distance and then continues in its original direction until another cross-break is encountered. This process continues throughout the wandering course.

"When not lava-capped the hard sandy Kaibab limestone forms the surface of the plateau and, therefore, the canyon rim. This is the same hard rock which outcrops on the rim of the Grand Canyon.

"A stranger to northern Arizona sees everywhere plants new to him. On the plateau the Western Yellow Pine, with its three long leaves, is the dominant forest tree. On the rim of Walnut Canyon, the alligator-bark juniper and the Gambel Oak can easily be identified. On the south-facing walls of the canyon, the most common trees are the pinyon (two-leafed) pine, the one-seeded juniper, and the so-called Western red cedar, a juniper, and thickets of the holly-like oak and sweet scented cliff rose. On the other hand, the north-facing canyon walls bear a totally different flora. Here the Douglas fir and the White fir are the conspicious trees. These trees are normally found on the San Francisco Mountains over 8,000 feet in altitude.

"On the canyon bottom, trees that are fond of water present a fourth type of flora. Here one sees walnut, willow, alder, etc."

Mr. and Mrs. Cox left the Monument on the 21st. I made three trips to the Monument while Mr. Cox, with his years of local experience, was available. We had to run down an almost obscure quarter corner so that

my successor could be informed in case the much needed expansion comes through.

On taking over the acting-custodianship I found everything left in very good condition; the house and yard were a credit to any monument or park.

Several small needed improvements are, however, immediately obvious; there was a maze of accumulated directional and informative signs in front of the ranger's cabin which confused instead of helped visitors; these I have taken down, replacing the truly necessary ones where they will best guide the visitor. Local people have been in the habit of picnicking along the point road as well as within the area provided with ovens, benches, and refuse cans for that purpose. This should be discouraged so that the natural forest appears at its best to visitors, and the fire hazard is minimized. Occasional campers use the land in front of the cabin; in time of normal water supply and with the improvement of a restricted camping area this will be desirable and add to the Monument's usefulness and appeal. With the present water shortage I am not encouraging people to camp on the Monument. The trail from the point to the ledge ruins, which Mr. Cox nonstructed, now needs minor repairs in some places where the concrete has crumbled. I believe I can make the trail passable and safe while I am on duty here, using only materials at hand.

Many of our visitors inquire about the route and mileage from here to Sunset and Wupatki; these three monuments make a natural chain. They are all to be included on the map which will be placed on the back of the Wupatki folders we are making up. With rangers at each of these monuments and definite information concerning them available, they will undoubtedly be visited by many more tourists who will thus, in n short time, be able to add greatly to their enjoyment and knowledge of northern Arizona.

Dr. Colton visited the Monument on the 22nd; his interest in the monuments and in Wupatki especially is enthusiastic and very helpful and we feel that the permanent loss of his active interest up here would be a great lose to the Service.

Your visit to us this week was a pleasant surprise and a big help; we hadn't expected a visit from headquarters so soon, and our afternoon's talk gave us a fine send-off.

Just to be different, we saved the record of the month's travel for the last, and then discovered that the register sheets for the month of July until the 21st are missing; Mr. Cox may have filed them away

WALNUT CANYON, CONT'D:

too well, or taken them to the Forest Service office in town. We'll look them up, but meanwhile we can say that 318 people visited the Monument from July 21 to July 25, inclusive.

Ranger Frank J. Cox, at Walnut until the 20th under the Forest Service, reports on visitors to, and including, the 20th. He gives:

Visitors registered July1-20 inclusive	1,504
Cars	328
Overnight campers	38
Reported by Cox	1,504
Reported by Brewer	318
TOTAL JULY 1-25th inclusive	1,822.

There is a reason for Jimmie's use of the "we" in the report above. He steals a march on the whole Southwest and the other half of our bargain at Walnut, was Sarah Pierce, archeologist under C.W.A. at Montezuma last winter. We bargained for Jimmie as Ranger for Walnut and later for Wupatki a few months; to our surprise Jimmie and "Sully" were married a short time ago, and we have Mrs. Brewer in the Bargain. The Boss drops into Walnut last week and finds them taking right hold of Walnut Canyon and its problems. May we add congratulations and best wishes. We think we're doing well when we can angle for one archeologist and get two!"

***

WHITE SANDS NATIONAL MONUMENT: By Tom Charles, Custodian

This has been a quiet month from the custodian's viewpoint. About all we have had to do is to answer questions as to why certain things are not done at the Sands. "Why isn't there drinking water?"; "Why are those horrid temporary shelters still there?" and many other questions.

But in contrast to these, this month we have had the pleasure of seeing the Sands double in popularity. Prominent people from every section of the country drive in to town to tell us how they are impressed with the beauty and splendor of the new monument and they invariably express the feeling that this is one of America's outstanding attractions.

Despite the hot weather, the crowds increase. Every evening has from one to 20 or 30 carloads. Last Sunday for three and one half hours I counted the cars which went through the Monument and the average was more than one every four minutes. Much of the newinterest comes from the fact that the local people are talking the Sands more since the Park

WHITE SANDS, CONT'D:

Service has made the interior accessible. Mrs. C. C. Chase, daughter of A. B. Fall, addressed a Woman's Club meeting at Ruidoso recently, on the White Sands and the next day one of her audience, Mrs. Gilderaleeve of Waco, Texas, called on the Chamber of Commerce for 50 White Sand souvenirs to use as place cards at a Country Club dinner in Waco where table decorations and souvenirs were of white sands. Last night Will Robinson, dean of the New Mexico Press and Democratic Candidate for Governor, spoke on the White Sands in the lobby of the Southern Pacific Hotel at Cloudcroft.

Our White Sands exhibit at Chicago has gone over big. We hear so from many sources. The New Mexico management of the Century of Progress struck upon the happy thought of carpeting the New Mexico building with these alabaster sands and Coe Howard, Secretary-Manager writes me:"I think the greatest thing the Commission did was to carpet our exhibit building with the beautiful White Sands; in fact it is the only thing to completely finish our building. It brings out every color in the exhibit and the sands are attracting more attention than perhaps other features of the exhibit. I'm sure you are receiving untold publicity.".

In response to Mr. Howard's request for literature, the Chamber of Commerce has ordered 10,000 of their"gadgets", cellophane sacks of Sand mounted on bright red paper with printed information concerning the Sands, the Lincoln Forest and the Alamogordo climate. It is the same old Chamber of Commerce, right in there and pitching in every kind of weather.

One of the pleasures of living in the Southwest is the opportunity of association with scientists who are out here on their research trips. These people are impelled by every conceivable notion. One is looking for a white lizard; another wants a pugnosed, nocturnal snake; another wants a peculiar kind of bug or grasshopper, or a mouse, or a flower. They all want to visit the great white sands and of course we enjoy every one of them. This week we had two of the outstanding men of the nation, E. B. Howard, University of Pennsylvania Museum doing research work on Early Man in North America for the Carnegie Institution, and Dr. Ernst Anteve of Auburn, Maine, the world's greatest authority on glaciers and glacial periods, also under the direction of the Carnegie authorities. These men spent a couple of days at the White Sands, studying the outlines of the old lake bed; taking elevations and samples of soil at different depths; and studying the various prehistoric Indian mounds where Folsom Points have been found. They searched the arroyos for varves which are the winter layers and the summer layers of sediment washed out from the mountains and deposited in the flats and on the edges of the old lake beds. These varves are the tree rings for the glacial expert. It is possible that the visit of these scientists may give us light on the age of the Sands. They were deeply impressed with the whole region.

WHITE SANDS, CONT'D:

We promised our cooperation; we may never find them a glacier out at the Sands but this might be a clue as to why the sands are so cold after the Sun goes down. We may at least find them an iceberg.

Two other interesting and interested scientists this month were Fred W. Emerson, head of the botanical department of the New Mexico Normal University, and M. R. Garner of the zoological department of a school at Richmond, Indiana (Earlham College). Dr. Emerson has made several trips here before and delights to take his bedroll and camp out in the Sands.

Probably our outstanding thrill this month was the announcement of the New Mexico Highway Commission that the Federal Aid Road from Alamogordo to the White Sands, 16.5 miles, is on the program for immediate construction. It is understood that this will be a completed road with oiled surface before the end of the year. Now if we can get word that there is money available for the completion of the road into the Sands, our Cup of Joy will be full to overflowing.

In sending a little article for a Circular of Information on White Sands National Monument for distribution to visitors, Tom says:

"Here is a little effusion on the White Sands. There may be a few too many ''flowers and babbling brooks', etc. Mrs. Charles says that is my failing, but you and Mr. Rose can cut it down to suit yourselves.

"We had a wire from Coe Howard (At Century of Progress) yesterday urging this Chamber of Commerce to send him another carload of Sand to the Fair in Chicago. They must bey putting it in their coffee up there.

"They have carpeted the New Mexico Building with the Sand and visitors from here say that no one walks onto that Sand until they talk it over, pick it up and ask all about it."

Yes, Tom's enthusiasm for White Sands is unbounded. Some of those Fair visitors from the proud Dunes of Northern Indiana are going home and when they shake Tom's Sands out of their shoes and it gets mixed up with the local Lake Michigan product, Tom is going to make a request for extending the boundaries northeast to include the shoreline of Lake Michigan. Too, he will include the suburban areas of Chicago for when this Fair is over, they will just shovel Tom's Sands out the back door, and how they will drift. We almost forgot to mention how queer Lake Michigan would look with red water in it! Tom has some road money for finishing the road into the Sands, so that just about makes his picture complete.

REPORT OF ASST. ENGINEER J. B. HAMILTON: (Monthly Report to Chief Engineer)

"I was at Mesa Verde 16 days; Aztec 7 days; Canyon de Chelly 4 days; El Morro 1 day, and travelling the rest of the time. Generally, the weather was dry until the last fed days of the month when storms laid some of the dust. On the last trip into Canyon de Chelly a heavy rain made the roads within ten miles of Thunderbird Ranch very slippery. The softening of the soil permitted the wheels to sink until high centers caused trouble.

"Aztec Ruins National Monument: This month Mr. Earl Morris has kept most of the crew under Public Works at Aztec Ruins National Monument busy on the restoration of the Great Kiva. The walls are nearly completed; about all that remains to be done is to roof it, plaster the inside and arrange a lighting system.

"I spent some time during the month sampling concrete from several sources. It is difficult to find good coarse sand near Aztec. The best found in an arroyo about six miles away, was hauled to the Monument and washed.

"The original ceiling over the east end of the museum rooms was covered with an evaporation pan type of roof on the 19th. It apparently is water tight without the use of water proofing. A small crew is continuing the work over the other roofs.

"Canyon de Chelly National Monument: - Money was finally allotted for erosion control work and trail building at Canyon de Chelly National Monument the last of June. I spent some time the first of the month going over the work with Mr. Grey and helping complete some of the maps.

"I came out again near the end of the month to inspect progress. Mr. Grey has been working a crew of 33 Navajos with a white foreman, powder man and timekeeper for about two weeks on the trail. Except for the tunnel at the lower end of the trail, was about 80% complete up to the foot of the talus slope.

"Erosion control work has not started because of lack of approval of definite location of structures. A crew of 15 to 20 Navajos with one white foreman has been cutting posts, quite a few of which have been hauled and stacked near Thunderbird Ranch.

"Mr. Murphy has completed detailed maps showing location of fields, trees, banks, trends of streams, etc. in Canyon de Chelly. Recent rains caused a flood which washed out most of Mr. Grey's stakes which he had set to show location of erosion control fences near White House. In anticipation of floods, we had not staked out much of the work in the bed of the stream, preferring to plan the work on Mr. Murphy's maps.

HAMILTON REPORT, CONT'D.:

Mr. Grey submitted a plan and profile showing three alternate locations for the upper, or not yet approved, portion of the trail. Preliminary surveys have been completed but not yet drafted for the trail out of Canyon de Chelly into the area between canyons.

***

REPORT OF ASSOC. ENGINEER WALT ATTWELL:*- (From July Rep't. to Chief Eng.)

"All projects, P. W. A. and F.E.R.A., in the Southwest, except the Aztec Museum, areunder way. With that one exception, every man is working that it is possible to place.

Bandelier:

The ECW Camp at Bandelier is constructing trails up and down Frijoles Canyon, remodling the Ranger's quarters and developing a camp ground. During August, we expect to continue trail construction and repairs to the Ranger's quarters, and start moving the concessionaire's buildings.

Capulin:

The FERA crew at Capulin is constructing a fence on the boundary line and completing the Rim Trail and the Crater Trail. This crew consists of one foreman and 10 to 15 laborers, with no equipment.

Casa Grande:

One rodman with 12 FERA laborers has just completed fencing the south and west boundaries of the Monument and has made 7,000 adobe bricks. This work must stop on August 1 because we are unable to furnish any supervisory personnel, although 12 FERA laborers are still available without cost. The engineering transportation at present is housed in the sun without shelter. All of the Southwestern Headquarters transportation except two cars, is also outside. If one man as foreman at $112.00 per month could be financed from some P. W., it would be possible to have these cars housed. All bricks and materials are on the site.

"On July 12, the Engineers located and placed on the Casa Grande plans all constructed power and telephone lines. They also tied in sewers and water mains which were placed since the map was made.

CHiricahua:

The ECW Camp is constructing trails in Rhyolite Cayon. Test wells have been placed in Bonita and Rhyolite Canyons without success. Work will start immediately on the Massai Point parking area and amphitheatre. I was at the Monument on the 7th and 21st. On July 14th plans were made for Rhyolite Canyon Trail. On July 20th plans were made for the telephone lines. The Topographic Survey was to be continued this month, but Assistant Engineer Ray left the job before it was entirely finished and it will be taken up again about August 1st.

Gran Quivira:

The construction of the entrance road at Gran Quivira is progressing very satisfactorily under Howard Leslie, Engineering Foreman. The

ATTWELL REPORT, CONT'D:

lower half is now graded but needs surfacing. The upper half is not yet finished. Leslie has one truck, three teams and 15 laborers.

Montezuma Castle:

At Montezuma Castle, the construction of the garage and equipment shed is 60% complete. The stone work on the walls is completed and is an excellent example of masonry. The steel sashes are in place. The roof, floor and doors have not yet been placed.

"The Revetment is good. Three hundred feet of the upstream end have been completed. This will protect the Castle trail just below the Museum from erosion. A crew of 22 laborers under P.W., working two shifts, has constructed several hundred feet of the lower end. This will protect the picnic area and silt up with the first flood. Thus Nature will begin to restore this area with the first rains. A 15-man FERA crew is working on the center of the Revetment where there was danger of losing the sandy section.

"Excavation is complete for the sewer and septic tank. The materials are all on the job except the filter trench cover which is under contract.

"The Ruins trail is being held up awaiting approval of plans by the Director.

"It is interesting to know that Harry F. Brown, Foreman, is running all of these operations alone--working two shifts. He was employed previously on the engineering crew.

Tonto:

"I visited Tonto National Monument on July 22, returning with Ranger Steen, who has been transferred to Montezuma Castle during Custodian Jackson's illness.

Tumacacori:

I visited Tumacacori National Monument on the 8th and again on the 25th. We have a P.W. crew constructing the fence and gates at the parking area and the FERA crew of 10 to 24 laborers on the adobe boundary fence. This work will be completed in about 30 days if the crews continue of the same size and efficiency.

Wupatki:

Engineers are now making a reconnaissance for an entrance road between Highway 89 and Sunset Crater National Monument. This will pass Citadal Ruins, go to the west of Ruins J, through the Wupatki area into the Forest land near Sunset. This line has been laid out

ATTWELL REPORT, CONT'D:

with the cooperation of Dr. Colton.

Sunset Crater:

A Reconnaissance survey has been completed from Highway 89 into Sunset Crater. It passes on the east of Lenox Crater, through the lava flows, west of the squeeze-ups, east of the Ice Caves to the base of Sunset Crater. This is one end of the Wupatki-Sunset Crater Loop Road. On July 15, I climbed to the summit of Sunset, looking over the proposed trail. A good location on the east slope in the timber has been selected.

Walnut Canyon:

I visited Walnut Canyon on the 15th of July as ex-Custodian Frank Cox vacated, going to his new post in Coronado National Forest. There is certain to be raised a question about the north boundary because what has been believed to be in the Monument is 1/2 mile north, The present Ranger's house may not be on the Monument.

White Sands:

Plans have been completed on the proposed extension .

***

I think the pages of this report show the personnel in Southwestern Monuments has been quite busy during July. Some Monuments report travel figures approaching the high numbers of several years ago.

This is the first month reports have come from Chiricahua, Walnut Canyon and Tonto. These reports are of especial interest for in following them for a few months the problems they present will become better known. These are among the five Monuments transferred to our Service on July 1st.

As a closing note I want to thank everyone in the field for their response to the memorandum about getting reports prepared and sent so they'll reach this office a few days before the end of the month. Every report came in in just fine time, and our work at this end of the line in organizing the consolidated report was not held up by anybody. We'll now close the July 1934 Report and go into Agust which is giving promise of being as interesting and busy.

Cordially,

(R.H.R.)

Frank Pinkley

FRANK PINKLEY,
Superintendent.

Notice

Chief, wouldn't you be all pleased if one of the best Archaeologists in the United States wrote the Head Man in one of the big institutions of the United States and told him to get a complete file of your reports for the last few years, even if he had to have a typist copy them, and put them in his library among his reference books because of the information they contained?

Well, he did and we are.

Which leads us to remark that we are going to number the pages of our reports consecutively for six months at a time, beginning July 1, this year, and at the end of the six months we will issue an index covering the volume just closed so those who wish to do so may bind the copies and keep them for future reference.

Past issues are out of print and it is no use trying to get any back copies. There is something funny to us about the fact that we are just a bunch of fellows having considerable fun out of our work and writing to each other at the end of the month about what we have been doing and what has happened, and here a lot of other people running from padres to professors and society folks to scientists seem to want to know too.

After all, we are working for them and it is their right to know what we are doing and we are glad to tell them, but we intend to warn the Big Archaeologist and the Head Man that our reports were thrown out of one University as collateral reading because our English wasn't pure enough, so they better have a care.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

PETRIFIED FOREST NATIONAL MONUMENT
Holbrook, Arizona.

August 1, 1934.

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

Dear Mr. Director:

The following report of activities in Petrified Forest National Monument for July, 1934, is respectfully submitted.

GENERAL:

Travel still exceeds that of last year for the same period. For the month of July it is 3,986 less than for July, 1933. I believe that this is wholly due to the poor condition of U. S. Highway No. 66 to the east. Automobile travel bureaus and auto clubs decline to direct people over U. S. 66 in its present condition.

WEATHER:

The weather has been extremely hot and dry. Instead of the almost daily showers expected at this time of the year we have had only one good rain during the month. Weather statistics follow:

Maximum - 100 degrees, on the 11th, 14th, and 30th.
Minimum - 58 degrees, on the 6th, 7th, 9th, and 20th.
Mean maximum - 93.7 degrees.
Mean minimum - 62.9 degrees.
Precipitation - 1.06 inches.
Clear days - 14. Partly cloudy days - 17.

ADMINISTRATIVE:

Administrative and office work has been kept fairly well up to date.

PUBLIC WORKS:

The only Public Works project under force account was the test well at Headquarters. Insofar as obtaining potable water is concerned this well is a failure. After sealing the hole below the 960 foot level to shut off possible salt water below that point, another pumping test was made which showed practically no change in the mineral content of the water.

Operations were shut down July 6th, the contractor has removed the rig, all property and equipment borrowed from the Indian Service has been returned, and we are now clearing up the accounts, and reimbursing the Indian Service for well casing purchased from them.

I have sent samples of the water for analysis to Sanitary Engineer Hommon at San Francisco, the U.S.G.S. Water Resources Branch, and Crane Company of Phoenix. The latter company will submit a report as to whether this water can be made fit for drinking purposes.

We have submitted a plan to Mr. Hommon proposing to use this water for all purposes except drinking and cooking and as soon as we hear from him, a plan will be prepared for your approval.

LABOR:

The labor situation remains about the same.

BUREAU OF PUBLIC ROADS:

The surfacing of the monument highway with 7 inches of crushed gravel, including the 4 miles of U. S. 260 within the monument and to a point about one mile north of the A.T.&S.F. railroad is complete. There is a section of about 4 miles north to U.S. 66 still to be surfaced, and it is thought a contract will be let in the near future for that.

EMERGENCY CONSERVATION WORK:

CCC Camp NM-1, formerly SP-3A, did not arrive at the camp site until July 3. They had been delayed in moving about two weeks. The camp is located on the south bank of the Rio Puerco below the highway bridge. Water was developed by sinking a well to the depth of 48 feet. Considerable difficulty was experienced by Lieutenant E. C. David in sinking this well on account of the fluid texture of the quicksands encountered which constantly fouled the casing and pumping cylinder. After being partially successful in placing gravel around the perforated pipe a supply of approximately 3,500 gallons of fine water per day was developed. This was accepted by the Army as minimum requirements.

The company was commanded by Captain Russel Worthington until July 20 when he was relieved by Captain H. H. Geisser. The camp is well officered and the men are well behaved. I was somewhat worried about this camp being in such close proximity to the Pictograph area and the danger of vandalism to these, but their value was explained to the company and so far not a single case of vandalism has been reported. The facilitative and supervisory personnel under Project Superintendent W. H. Collie, have proved to be a high type of men and the whole organization settled down quickly to steady, efficient work. Project work started July 5, with 88 men and was quickly increased to full available strength. On July 19, the camp and most of the projects were inspected by Mr. Robert Fechner, Director of Emergency Conservation Work, and party, accompanied by Captain Paolo Sporati, U.S.A.

Sub-Corps Area Commander, Project Superintendent Collie, Assistant Engineer Bell, and myself. A separate report on Director Fechner's visit has been submitted.

RANGER and MUSEUM SERVICE:

Ranger Naturalist M. V. Walker is on duty daily in the museum. By furnishing relief from the ranger force the museum is kept open from the time of the first arrivals at 6:00 A.M. or earlier, until dark. During the month 12,245 people were given personal service in the museum. The rangers have all worked long hours faithfully and efficiently. On July 23 Park Ranger Thomas Carroll Miller was officially transferred to Chaco Canyon National Monument as Custodian. Carroll Miller has served in this monument as ranger for approximately two and a half years. He is leaving for his new position with the very best wishes of every one in this monument. He has served here faithfully and well. As a simple statement of fact, Carroll Miller is one of the best rangers it has been our fortune to work with through a long period of years. He will keep the "colors" of the Service flying at Chaco in the same manner that he has here. We shall miss Carroll and his lovely and amiable wife, Amelia. Temporary Park Ranger Stanley Dinsmore was promoted to the position vacated, this promotion being richly deserved.

In the educational program at the CCC camp, Park Ranger James Felton is assisting the educational director by conducting a class in elementary college mathematics on Monday and Wednesday evenings. He has fifteen or more in this class. Ranger Naturalist M. V. Walker is giving a course in Natural Science. Commencing August 1, he will lecture each Wednesday evening on the following subjects:

1. Introduction to Natural Science.
2. Archaeology: - (a) Indian Tribes, (b) Pictographs.
3. Archeeology: - (a) Ruins, Pueblos, (b) Pottery and Artifacts.
4. Geology: - (a) Structural Formations, (b) Exposures, Erosion.
5. Geology: - Historical Paleontology - Fossils: - (a) Animals, (b) Plants.
6. Biology: - Animal Behavior. Funny Things about Animals.
7. Biology: - Ornithology (Birds).
8. Biology: - Mammalogy (Mammals).
9. Biology: - Herpetology (Snakes, Lizards, Amphibians).
10. Biology: - Botany (Flowers).
11 & 12. Summaries.

These lectures should prove extremely interesting and a large portion of the company will attend, including the officers and the supervisory and facilitating personnel.

NATURE NOTES by RANGER NATURALIST M. V. WALKER:

The fact that Horned Toads produce their young alive is mentioned in practically all Zoology books and in all Herpetology reports. It seems

worth while, however, to report an interesting observation on the number of young produced by a certain species of Horned Toad, Phrynosoma douglassi hernandesi. This Horned Toad was collected on July 7 near the headquarters area and was placed in a box. The first young were observed about 6:00 P.M. on Monday, July 9, there being 4 young at that time. By 9:00 P.M. 19 young had been born, 18 living and one dead. This gives us an accurate count on the number of young produced at one time. There are many conflicting stories regarding the number of young, some estimates going as high as 29. However, this appears questionable.

When the young were expelled from the birth canal they were enclosed in a very fine membraneous sac which contained a small amount of liquid and serum. They would usually remain quite lifeless for 30 seconds or a minute, then several spasmodic jerks usually sufficed to break the thin membrane, after which they immediately rolled over on their feet and were off for two or three sprints around their cage. They appeared very active and fully capable of doing considerable traveling in search of food.

In an attempt to bring them a supply of food a tragedy almost resulted. On numerous occasions Horned Toads in captivity have been assured an abundance of food by simply placing a little milk or syrup in their cage. This attracts many small ants, on which the Horned Toads feast. In this case, however, the heat of the Arizona sun was not considered, and the syrup placed around the sides of the cage melted and ran down on the floor. The young Horned Toads, in making their trips around the cage, were soon pretty well "stuck up", so much so, that when their "predicament" was discovered, about half of them were stuck fast to the floor and could not move, while the others had their legs firmly glued to their bodies. A few drops of luke warm water and a little persuasion released them and got them going on all "four" again. They were then transferred to a cage that had the floor covered with dry sand, where they "dried out" and began burying themselves in the dirt. This cage had a few cracks in it and in a few hours most of them had escaped and were out in the world "on their own". Mrs. Horned Toad also escaped, but mamma and some of the youngsters have been seen from time to time during the past two weeks.

TRAVEL:

Travel statistics for July were as follows:

For the month, Petrified Forest section;	cars,	4,444;	people,	16,298
Previously reported.	"	20,023;	"	57,393
Total to date.	"	24,467,	"	73,691
For the month, Painted Desert section. .	"	5,410;	"	22,327
Previously reported.	"	21,342;	"	84,479
Total to date.	"	26,752,	"	106,806
Total for the month.	"	9,854,	"	38,625
Total for same month last year	"	12,369,	"	42,611
Total to date.	"	51,219;	"	180,497
Total same date last year.	"	48,097,	"	156,356

Travel was registered from every state, the District of Columbia, and the territories of Hawaii and the Phillipines. Foreign travel registered from Argentina, Australia, Austria, Canada, England, Germany, Japan, and Korea. Tours passing through the Forest were as follows:

Georgia Caravans, 150 people, July 3.
Omnibus College, 3 parties of 70 people each, July 7, 8, and 9.
Jackson Educational Tours, 24 people, July 13.
Parkhill Tours, 30 people, July 16.
Scenic American Tours, 32 people, July 18.
Drake University Educational Tours, 30 people, July 28.

On July 20, a party of 185 people from Mississippi stepped off their special train at Adamana, and were met by 60 cars furnished by the Chambers of Commerce at Holbrook and Winslow. They were whisked through the Forest, given a short lecture in the Rainbow Forest, and then taken to Winslow for dinner.

All the above groups were given lectures in the Rainbow Forest, and, if a man could be spared, were guided through one or more of the other Forests in the monument.

SPECIAL VISITORS:

ECW Director Fechner and party, July 19. Mr. Frank Pinkley, Superintendent of the Southwestern National Monuments, July 26 and 29. Harry Langley, Resident Landscape Architect, July 27, 28, and 29. Dr. W. B. Long, U.S.D.A. Plant Pathologist, July 5. Dr. Loye Miller, Biologist, University of California at Los Angeles, July 6. Dr. E. L. Hewett, Archaeologist, University of New Mexico, July 14.

ACCIDENTS:

On July 20, E. M. Ponder, a CCC enrollee, was on duty at Agate Bridge. While waiting for tourists to come along he was standing on the Agate Bridge log leaning over and holding to the branch of an aspen tree there. The limb broke and Ponder fell about 20 feet to the bottom of the arroyo under the bridge, suffering a broken leg. He waited for some time for help. Finally, a man and wife came along and he begged them to assist him. Before rendering any help whatever, the tourist propped Ponder up against a rock, stood his wife up with him and snapped their picture. Then the wife took the husband's picture in the same manner. The tourists then drove to Headquarters and notified the man on duty at the museum. Rangers Miller and Kirk took a mattress and a light truck and transported Ponder to the CCC camp where he was cared for by the camp doctor.

Ponder said he wouldn't have minded so much, but the people did not even ask his name so as to send him one of the pictures. At last reports he was doing well, having been sent to Fort Bliss, Texas, for more careful treatment.

Very truly yours,

Chas. J. Smith

Chas. J. Smith, Superintendent.

SUPPLEMENT
REPORT FOR JULY
SOUTHWESTERN MONUMENTS August 1, 1934

We start with something valuable taken from the mail. Quoted in full below is an article "Salesmen of Knowledge" by Glenn Frank, President of the University of Wisconsin. Here it seems we have summed up, the role of the ranger naturalist and the ranger as interpreters of scientific knowledge. We will gather that the field of the interpreter is a very specialized one in a sense; that special qualifications and abilities are required or must be cultivated.

SALESMEN OF KNOWLEDGE
By Glenn Frank

The future of America is in the hands of two men - the investigator and the interpreter. We shall never lack for the administrator, the third man needed to complete this trinity of social servants. And we have an ample supply of investigators, but there is a shortage of readable and responsible interpreters, men who can effectively play mediator between specialist and layman. The practical value of every social invention or material discovery depends upon its being adequately interpreted to the masses. Science owes its effective ministry as much to the interpretative mind as to the creative mind. The knowledge of mankind is advanced by the investigator, but the investigator is not always the best interpreter of his discoveries. Rarely, in fact, do the genius for exploration and the genius for exposition meet in the same mind. Many negro mammies of the south can make a strawberry shortcake that would tempt the appetite of the gods, but they might cut sorry figures as domestic science lecturers. The interpreter stands between the layman, whose knowledge of all things is indefinite, and the investigator whose knowledge of one thing is authoritative. The investigator advances knowledge. The interpreter advances progress. History affords abundant evidence that civilization has advanced in direct ratio to the efficiency with which the thought of the thinkers has been translated into the language of the workers. Democracy of politics depends upon democracy of thought. "When the interval between intellectual classes and the practical classes is too great," says Buckle, "the former will possess no influence, the latter will reap no benefit." A dozen fields of thought are today congested with knowledge that the physical and social sciences have unearthed, and the whole tone and temper of American life can be lifted by putting this knowledge into general circulation. But where are the interpreters with the training and the willingness to think their way through this knowledge and translate it into the language of the street ? I raise the recruiting trumpet for the interpreters.

***

ANALYSIS OF RANGER SERVICE

at

CASA GRANDE NATIONAL MONUMENT.
July, 1934.

*

It is just as well that no conclusions were drawn from the graph of visitors given in the June, 1934 report, for, if such conclusions had been drawn, they would have been most sadly upset by this month's graphs.

In order to illustrate more clearly the comparisons between the two months, four graphs have been prepared, instead of one. The solid lines represent this month's figures, the dotted lines last month's.

Average time devoted to complete trip through both ruins and museum:

June: 55 minutes
July: 59 "

Average time devoted to ruins trip only:

June: 28 minutes
July 33 "

Average time devoted to museum trip only:

June: 23 minutes
July: 26 "

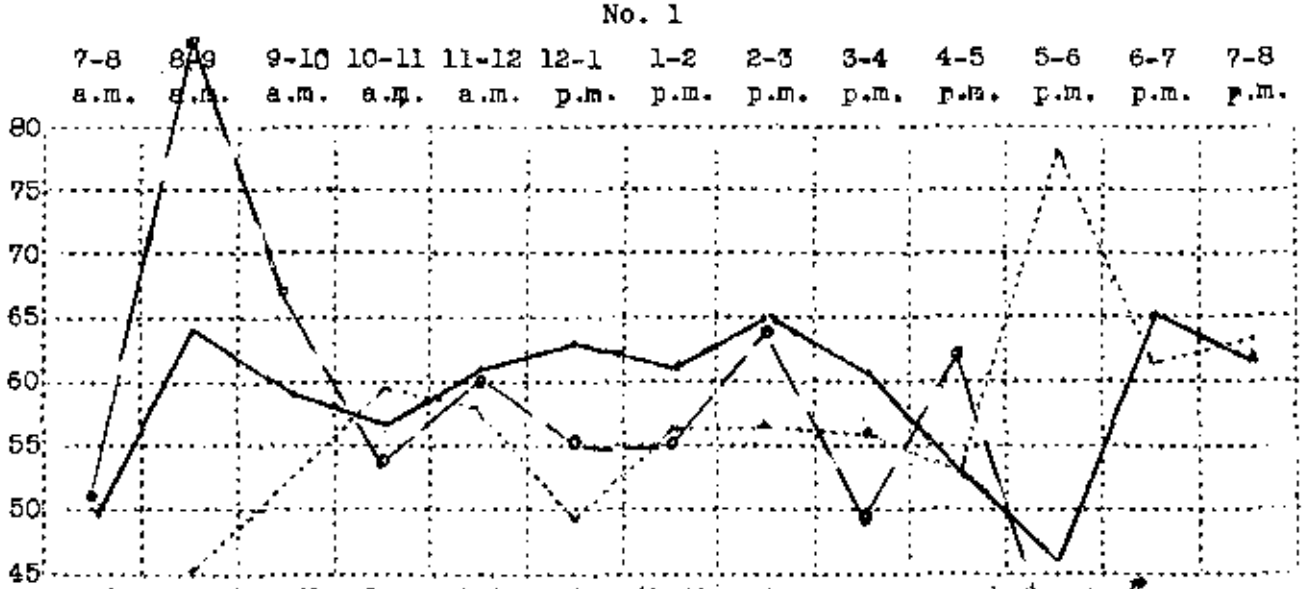
Of the 227 complete trips, 14.15% were started before or after the hours of 8 a.m. to 5 p.m. The latest trip necessitated service until 8:30 p.m.

GRAPH NO. 1: Average length of complete trips (both ruins and museum) in minutes.

This graph was prepared from the 227 complete trips made through both ruins and museum, and covers the period from June 29th to July 31st, inclusive. In the table shown below, the column on the left indicates the time the trips began, and the column on the right indicates the percentage of these 227 trips starting between the hours indicated:

3 p.m. to 4 p.m....	15% —	13.60
4 p.m. to 5 p.m....	11% —	10.20
1 p.m. to 2 p.m....	9.7% —	9.52
2 p.m. to 3 p.m...	9.2% —	8.84
9 a.m. to 10 a.m...	8.8% —	11.56
11 a.m. to 12 noon..	8.8% —	5.44

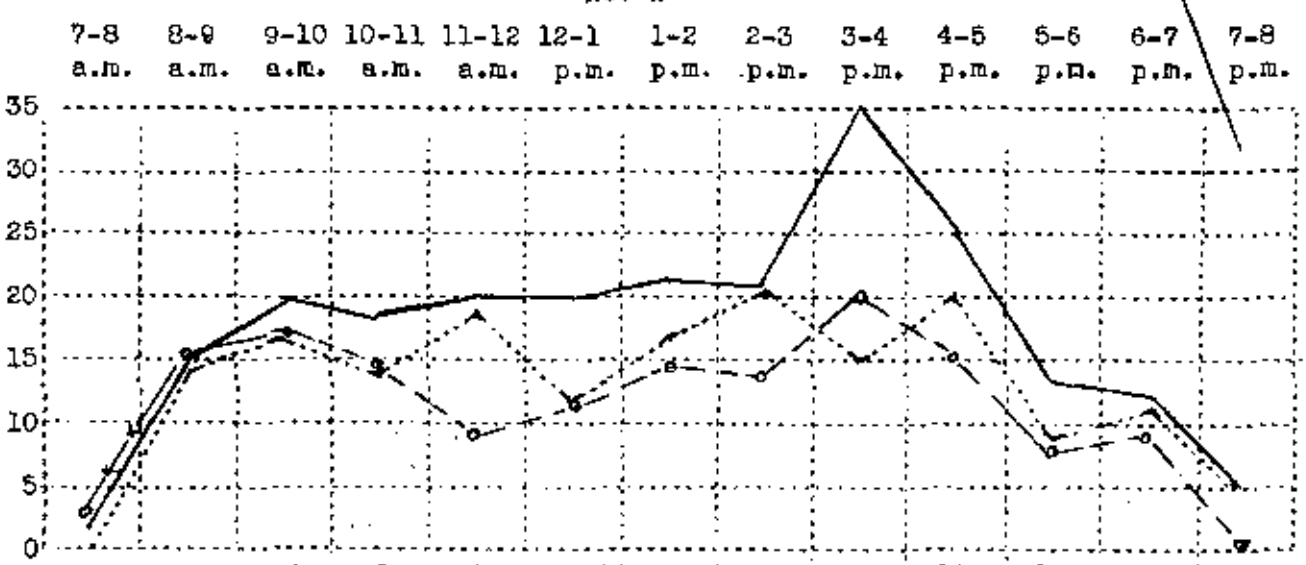
No. 1



Average length of complete trips (both ruins and museum) in minutes.

*

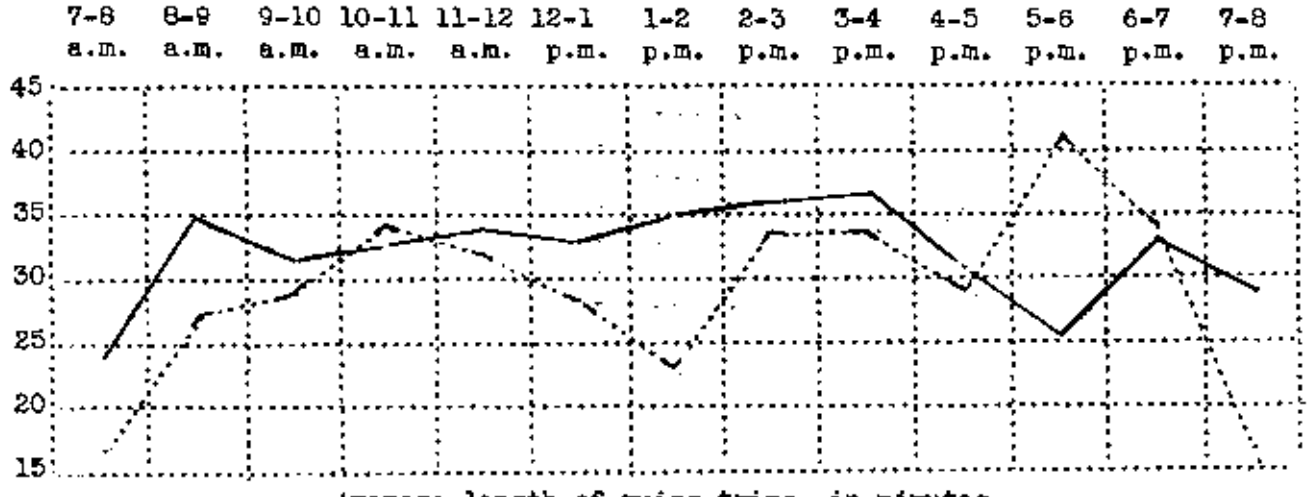
No. 2



Number of parties starting between hours indicated.

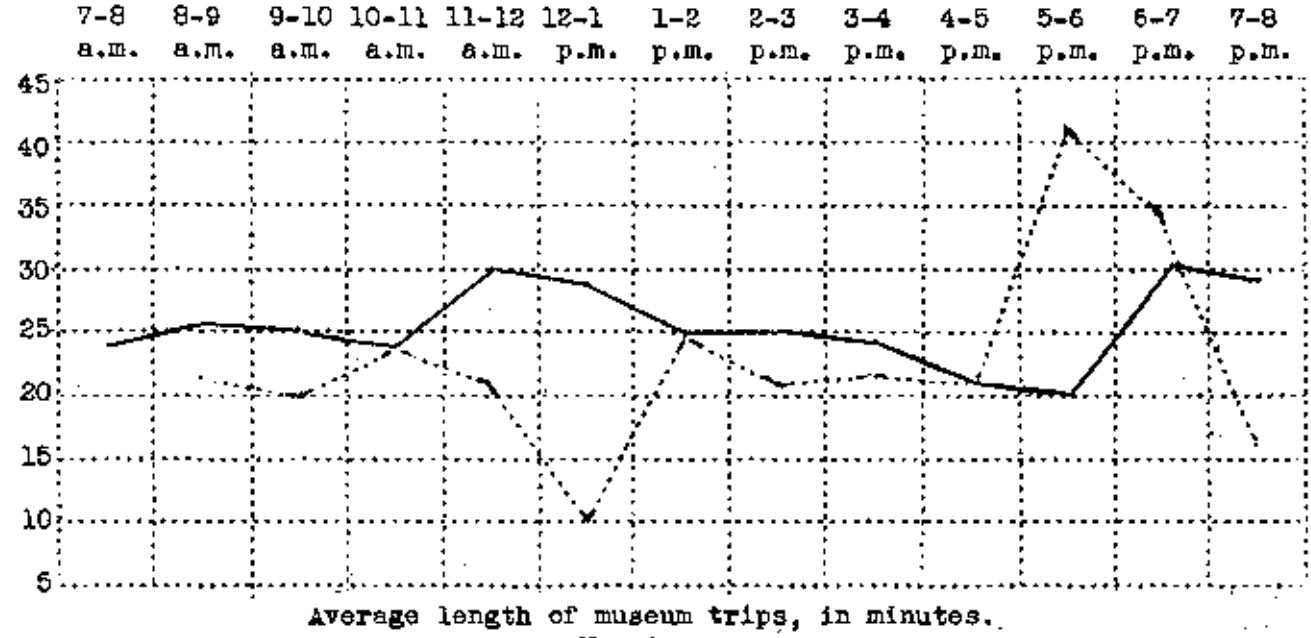
Solid lines: July, 1934.
Dotted lines: June 14th to 28th, 1934.

No. 3



Average length of ruins trips, in minutes.

*



Average length of museum trips, in minutes.

No. 4

*

Solid lines: July, 1934.
Dotted lines: June 14th to 28th, 1934.

12 noon	to	1 p.m...	8.8%	—	8.16
10 a.m.	to	11 a.m...	8.0%	—	9.52
8 a.m.	to	9 a.m...	6.6%	—	10.20
5 p.m.	to	6 p.m...	5.7%	—	9.76
6 p.m.	to	7 p.m...	5.3%	—	5.44
7 p.m.	to	8 p.m...	2.2%	—	.68
7 a.m.	to	8 a.m...	.9%	—	

In Graph No. 1, almost a complete reversal of "high" and "low" areas is shown, in the comparison between the data for June and July. The great "high" of June, between 5 and 6 p.m., is the most pronounced "low" in July.

GRAPH NO. 2: Number of parties starting between hours indicated:

After the hour of 9 a.m. to 10 a.m., during this month, the number of parties per hour remains fairly constant until between 3 to 4 p.m., when a pronounced "high" occurs. Unfortunately, this same hour during June marked a decided "low."

GRAPH NO. 3: Average length of ruins trips.

After the hour of 9 a.m. to 10 a.m., during the month of July, the average time devoted to ruins trips remains rather constant until the hour 4 to 5 p.m., when it drops sharply, reaching a "low" between the hour of 5 to 6 p.m. During June this hour marked the peak.

GRAPH NO. 4: Average length of museum trips.

This remains fairly even, except during the hours of 11 to 12 noon and 12 noon to 1 p.m., when we find a "high" in the graph for July. During June these hours showed a pronounced "low." From 5 to 6 p.m., this month, the greatest "low" occurred. During June, this hour marked the great "high."

It is to be understood that the length of the trips is determined almost entirely by the interest shown by the visitors. Last month it was hoped that a comparison between the graphs for this and last month would show a marked similarity. Instead, the June graph appears to be reversed during July. Of course, the June graph was for a short period, and perhaps -- <u>perhaps</u> -- next month's graphs will compare favorably with those for this month.

If not, we shall be convinced -- as we are, to some extent, already -- that there is neither rhyme nor reason to these visitors, their interest, or visiting hours.

It is interesting to observe, from a perusal of the register, that the majority of our visitors who come before or after the hours from 8 a.m. to 5 p.m. are local people -- people from the towns of Coolidge and Casa Grande and Phoenix, in the main. It would appear that word has gone around that we are on duty at all hours. We have quite a number of "repeaters",and, sad to relate, they often explain that they have some engagement in Phoenix or Tucson, are a bit early, have been through the ruins often before, but must find some way "to kill time," and so they pay us a visit. However, many of our "repeaters" are people who have been here numerous times before, and who explain that they "never get tired of going through." That is quite encouraging, and it is a pleasure to take them through.

Quality of visitors during July compared quite favorably with that of visitors during June. Again one is forced to observe that the most interested visitors seem to be the winter visitors, with some few exceptions.

It is quite obvious that the difference in time spent in the ruins and in the museum is due, primarily, to two factors: First, the average visitor who has been on his feet for some thirty minutes, going through the ruins, is somewhat foot-weary, and a chair would be more inviting than another trip of some twenty-five minutes through the museum, no matter how interesting the museum display and lecture might be. Second, the material in the museum is not arranged to the best advantage. The average visitor, when questioned regarding the service and the museum, expresses a desire to see displays of material that will be self-explanatory; also, the wish to see photographs of Indians making pottery has often been voiced. Visitors often have been questioned regarding the museum displays in which they were most interested. So far as the main room is concerned, the reply is invariably, "the glass case containing the cremation burials." As to the "skylight room," where we have quite a collection of miscellaneous material, the jewelry, arrowheads, shell bracelets and rings seem to attract more interest than the general collection of material from Montezuma Castle, the miscellaneous collection of pottery typical of other regions, etc.

Charts suspended on the walls above eye level are almost always overlooked.

Cards bearing detailed information are almost never read, whereas short titles invariably are read.

It would appear that more photographs, models, short titles, and self-explanatory displays are needed. As a suggestion, shell bracelets could be shown in the various stages of manufacture -- starting with the unworked shell, then the shell partially rubbed-down, and, finally, the completed bracelet. We have such specimens now, but an orderly arrangement of the specimens, with short labels, would be better. The same would be true of rings. The making of arrowheads could also be shown in this manner. Photographs taken on nearby reservations, indicating the various stages of pottery manufacture, from the digging of the clay, through the various processes, including firing and decorating, to the completed vessel, would be valuable, especially if accompanied by actual specimens of pottery in the various stages of manufacture. These are merely a few suggestions, but visitors have been questioned regarding them, and the ideas have met with decided approval.

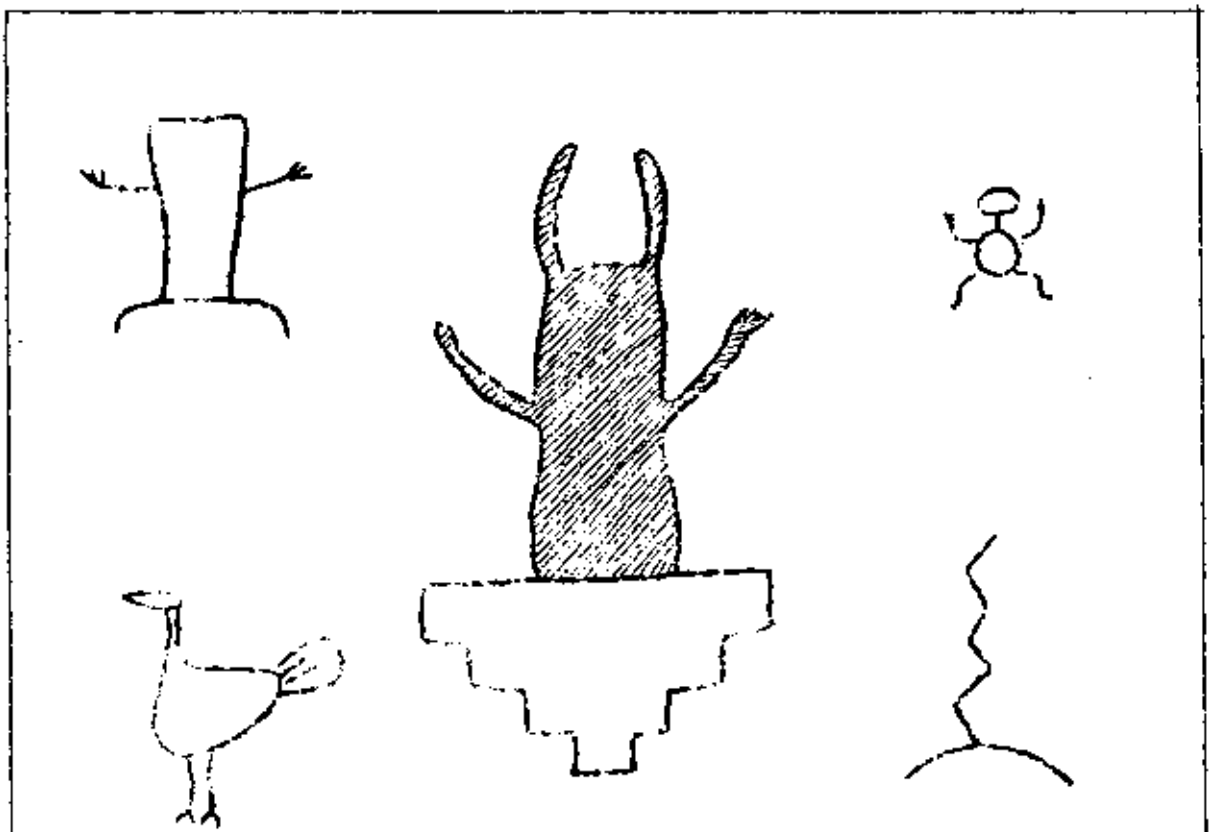
When visitors are told that this is headquarters for the Southwestern Monuments system, and learn that from here we control some twenty-five National Monuments, they are usually surprised, and indicate a decided ignorance of the National Monuments system, and of other monuments in the system.

With two of the above matters in mind -- the fact that the visitors returning from the ruins to the museum are usually somewhat tired, and would appreciate a brief rest; and the lack of knowledge regarding other National Monuments -- a lantern-slide projector was recently set up in the museum. A temporary screen, about three by four feet, made of tracing paper in a frame, was made, and occasional parties of interested visitors given a ten-minute illustrated talk on other National Monuments, as an experiment. The interest displayed was most marked. These days being decidedly warm, and the visitors being decidedly warmer from their walk about the ruins, they were grouped in the draft between two doors in the museum. Those who had complained of the heat very quickly forgot it, through their interest in the few slides displayed. Though the illustrated talk took but about ten minutes, visitors were noticeably rested after it, and cooled off by the short time spent in the draft between open doors, looking at the slides.

SOUTHWESTERN MONUMENTS

MONTHLY REPORT

AUGUST, 1934



CAVE PETROGLYPHS - BANDELIER

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

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

R E P O R T F O R J U L Y

1 9 3 4

I N D E X

Introduction----------50
General----------50
Field Trips----------50
Construction----------51
Personnel----------52
Park Service Officials----------52a
Travel----------52a

Bandelier----------53
Gran Quivira----------57
Canyon de Chelly----------58
Chaco Canyon----------59
Aztec Ruins----------63
Pipe Spring----------64
Capulin Mountain----------65
Tumacacori----------66
El Morro----------67
Wupatki----------70
Chiricahua----------72
Navajo----------74
Natural Bridges----------74
Walnut Canyon----------74
Montezuma Castle----------75
White Sands----------77
Casa Grande----------79
Engineer Attwell----------80

T H E S U P P L E M E N T

Museum Suggestions, by Ranger Charlie R. Steen----------81
White Sands General Information, by Custodian Tom Charles----------82
Notes on Ranger Service at Casa Grande, by Junior Naturalist Dale King----------83
Field Notes and Preparation Work at Navajo, by Ranger Milton Wetherill----------85
Proposed Exhibits for Bandelier Museum, by Custodian Earl Jackson----------86
Closing----------93

LOCATION AND PERSONNEL OF SOUTHWESTERN NATIONAL MONUMENTS

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

1. ARCHES--Moab, Utah. J.J. Turnbow, Custodian.

2. AZTEC RUINS--Aztec, New Mexico. Johnwill Faris, Custodian. Mrs. Gay Rogers, Temporary Ranger.

3. BANDELIER--Box 669, Santa Fe, New Mexico. Earl Jackson, Custodian.

4. CANYON DE CHELLY--Chin Lee, Arizona. Robert R. Budlong, Custodian.

5. CAPULIN MOUNTAIN--Capulin, New Mexico. Homer J. Farr, Custodian.

6. CASA GRANDE--Coolidge, Arizona. Hilding F. Palmer, Custodian.

7. CHACO CANYON--Crown Point, New Mexico. Thomas C. Miller, Custodian.

8. CHIRICAHUA--Wilcox, Arizona. Charles E. Powell, Temporary Ranger.

9. EL MORRO--Ramah, New Mexico. Evon Z. Vogt, Custodian. Alfred Peterson, Temporary Ranger.

10. GILA CLIFF DWELLINGS--Cliff, New Mexico. No custodian.

11. GRAN QUIVIRA--Gran Quivira, New Mexico. W.H. Smith, Custodian.

12. HOVENWEEP--Cortez, Colorado. No custodian.

13. MONTEZUMA'S CASTLE--Camp Verde, Arizona. Martin L. Jackson, Custodian. Frank L. Fish, Ranger.

14. NATURAL BRIDGES--Blanding, Utah. Zeke Johnson, Custodian.

15. NAVAJO--Kayenta, Arizona. John Wetherill, Custodian. Milton Wetherill, Temporary Ranger.

16. PIPE SPRING--Moccasin, Arizona. Leonard Heaton, Acting Custodian.

17. RAINBOW BRIDGE--Kayenta, Arizona. No custodian.

18. SAGUARO--Tucson, Arizona. No custodian.
19. SUNSET CRATER--Flagstaff, Arizona. No custodian.
20. TONTO CLIFF DWELLINGS--Roosevelt, Arizona. Charlie R. Steen, Temp. Ranger.
21. TUMACACORI--Box 2225, Tucson, Arizona. George L. Boundey, Custodian. M.O. Evenstad, Ranger.
22. WALNUT CANYON--Flagstaff, Arizona. Paul Beaubien, Temporary Ranger.
23. WHITE SANDS--Alamogordo, New Mexico. Tom Charles, Custodian.
24. WUPATKI--Flagstaff, Arizona. James Brewer, Temporary Ranger.
25. YUCCA HOUSE--Cortez, Colorado. No custodian.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
SOUTHWESTERN MONUMENTS

Coolidge Arizona, September 1, 1934.

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

Dear Mr. Director:

We look up from a busy round of work and find it is time to tear the August sheet off the calendar and start on a new month. The following report will be divided into (a) Southwestern Monuments General; (b) Reports from the Men in the Field; and (c) The Supplement.

SOUTHWESTERN MONUMENTS GENERAL

Considerable improvement in range conditions is reported everywhere in the district with the exception of the Gran Quivira locality in New Mexico. There has been sufficient runoff resulting from rains in the Mogollon mountain country to materially raise the level of waters impounded in Roosevelt and Coolidge reservoirs. Weather conditions seem to be acting more normal and once more it seems wise to consult the gods about weather before striking through mountain short cuts in travelling.

Range conditions appear especially fine in the region of Tombstone, Bisbee and Douglass. While there has been much relief from drouth in northern Arizona, it will be some months, after blankets of snow have fallen and melted, before springs, seeps and other underground sources of water are back to normal.

FIELD TRIPS:

On August 9th Assistant Director Dr. H.C. Bryant sent word that his proposed stay of about 10 days in our district would have to be cut to less than half the time previously planned. On the 11th Bob Rose left Headquarters meeting Dr. Bryant about noon on Sunday the 12th. Advance notice was sent to Dr. H. S. Colton, Director of the Museum of Northern Arizona, and meeting Dr. Bryant at the station, plans were immediately made for visiting Sunset Crater, Wupatki and Walnut Canyon national monuments.

An account of this field trip is not complete without mention of the gracious Sunday dinner invation of Dr. and Mrs. Colton. After the dinner hour and a short visit to the laboratories of the Museum, we

S'WESTERN GENERAL CONT'D:

started on the Sunset-Wupatki loop trip. Enough places of interest about Sunset Crater were visited to show the remarkable character of the scenery and volcanic phenomena in that locality.

Continuing the journey, Wukoki, Wupatki and Citadel ruins were included. Ranger Jimmie Brewer and Mrs. Brewer, "Sally" were just getting settled in their 100 room pueblo home. The fact that Ranger Brewer's term of employment cannot be raised above three months of the year, and that the Monument must lie unprotected for more than six more months of fairly open weather and passable roads, present themselves as most pressing problems at Wupatki.

On the morning of the 13th, Dr. Colton again picked us up in his car and we started for Walnut Canyon. Arriving at the Ranger Station we found Ranger Paul Beaubien who hadbeen on the Monument only a day or two. Walnut possesses pleasing scenery, interesting geological exhibits, and many prehistoric cliff dwellings in the cliff recesses. These excellent features are not far from highway No. 66 and draw many visitors from 9 to 12 months of the year. We arrived there on Monday, usually considered a dull day, and by 10 o'clock in the morning there were 25 or more people on the trails, at the Lookout built by the Forest Service, and elsewhere on the Monument. People were coming and going all of the time. The period of employment of the temporary ranger there for 4 or 5 months leaves a greater period without protection than with protection. Ranger Beaubien has a problem in public contacts which will call for considerable experimenting on his part as to how he can be of most valuable service/ Several suggestions along this line were made for him to try out.

At 1:30 P.M. the same day Dr. Bryant resumed his journey east. He later spent some time at Bandelier. We regret that he was unable to include Canyon de Chelly, White Sands, El Morro and other monuments of the district as we hoped he could.

Early in the month word was received that Director Cammerer would be at Grand Canyon on August 28 which was later changed to the 27th. The Boss accompanied by Chief Clerk Miller, journed to Grand Canyon to meet him there. The Director's stay in the district was short making it impossible formhim to visit any of the Southwestern Monuments. From the Grand Canyon he continued to Petrified Forest and thence north and east from Gallup.

CONSTRUCTION:

ECW Camps have been operating at Bandelier and Chiricahua national monuments. At Bandelier CCC work has centered about trails construction and several units of the trail program are finished, or are nearing completion.

S'WESTERN GENERAL CONTD:

The CCC Camp in Chiricahua National Monument has been busy finishing the road through scenic canyons up to Massai Point. Parking areas, trails, and other facilities are being completed in time for the Official Dedication of the new road to be held on Labor Day, September 3rd. This road opens up a famed scenic area known as "Wonderland of Rocks". Senator Ashurst, Congresswoman Isabella Greenway, Governor Moeur of Arizona, Chief Engineer Frank A. Kittredge, and other persons of note are to have a part in the Dedication program. The Committee headed by Rex Rice of Douglas is planning on between 6000 and 10,000 people in attendance. The National Park Service and the U.S. Forest Service are cooperating in doing their part toward presenting this Monument for inspection on [redacted] will probably be the greatest occasion of its kind held in the State of Arizona.

Last month a list of PWA projects under way was reported. The following work was done during August:

1. PWA Montezuma:- Continuation of revetment, equipment shed, sewer and septic installation, ruins trail and steps to cliff.

2. PWA Aztec: - Continuation Great Kiva restoration, ruins repair, and contract let for new Administration and Museum Building.

3. PWA Tumacacori:- Fence, parking area, gates and other work under way; FERA crew also working.

4. PWA Gran Quivira:-Work continued on entrance road.

FERA crews of from four or five to 10 or 15 men are working on cleanup, adobe making and other work in several of the monuments.

PERSONNEL:

The report for July carried notice of five new appointments. At the beginning of this month, appointments made since the month of May included: 2-custodians; 5-temporary rangers; 1-junior park naturalist, Southwestern Monuments. These appointments are unchanged through August. In addition to these, the following appointments or changes were made during the past month:

1. Ranger Robert R. Budlong of Montezuma Castle was transferred to Canyon de Chelly National Monument as permanent Custodian.

2. Ranger Frank L. Fish of Casa Grande was transferred to Montezuma Castle to fill the vacancy made by the transfer of Ranger Budlong.

3. The position of Ranger, Casa Grande became vacant upon transfer of Ranger Fish to Montezuma Castle. This position has been vacant several weeks and appointment confirmation from the Civil Service register is expected any day.

S'WESTERN GENERAL CONTD:

4. Paul Beaubien was appointed temporary ranger for Walnut Canyon National Monument early in the month. This released Ranger Brewer who had been at Walnut Canyon to go to his regular station at Wupatki.

PARK SERVICE OFFICIALS:

Under the section on Field Trips the visits of Director Cammerer and Assistant Director Bryant were referred to. During the month we also had the pleasure of a visit at Headquarters by Chief Engineer Frank A. Kittredge. His itinerary included several New Mexico and Arizona national monuments. He gave special attention to completion of the new road, trails, parking areas and other facilities in time for the September 3rd dedication at Chiricahua. Mr. Kittredge has been designated as the personal representative of the Secretary of the Interior upon the occasion of this dedication.

Mr. George Grant of the Washington Office, official Photographer for the Service, was a Headquarters visitor during August. At the time of his visit here his itinerary permitted little opportunity to get our much needed photographic work done. Later, however, an extension of time was granted which will permit Mr. Grant to get photographs we have long needed in order to present complete stories of particular monuments in illustrated lectures. We are glad indeed to see Mr. Grant allowed this extra time in our district.

TRAVEL:

An examination of the reports indicates travel is holding up good all over the Southwest. Substantial increases seem to be the rule in nearly all monuments.

CLOSING:

These pages of General will I think show that the month of August has been busy as well as interesting. In the pages that follow, the boys in the field tell in their own way what has happened. We pass into September which shows every indication of being a very busy month for us. The travel pendulum will begin to swing from northern monuments to the south as Autumn approaches. That, together with year round work in our district, makes such a thing as "the dull season" in Southwestern Monuments unknown.

Cordially,

FRANK PINKLEY,
Superintendent.

RHR/

REPORTS FROM THE MEN IN THE FIELD

BANDELIER NATIONAL MONUMENT — By Earl Jackson, Custodian

Dear Mr. Pinkley: - Following is the report on Bandelier National Monument for the month of August, 1934.

Visitors:- Travel reached a new high mark this month, with an accurate total of 2,125 visitors, coming in 536 cars and two motorcycles, from 33 states, the District of Columbia, and 6 foriegn countries. Germany, Austria, Scotland, Cuba, Yucatan, and Canada, were represented. The six highest states in order were: New Mexico, 175; Texas, 100; Oklahoma, 99; Colorado 20; Kansas, 19; California, 18. We had three record-breaking week-days in succession; 88, 103, and 109. Quite a number of people are coming into the country to attend the Gallup Intertribal Ceremonial.

Weather Conditions and Roads: - Rainfall has been good in the higher areas of the state; we have had several good rains in the Canyon, and showers almost every day for two weeks. Dirt roads are becoming badly pitted with ruts at arroyo crossings, but all incoming routes are open.

Fire Report: - The fire season closed with the appearance of rains, and we have had not a single fire call this month. The Forest Service has taken its summer fire lookouts from Puye and St. Peter's Dome, and so any fire which may develop later in the year will be a bit more awkward to spot.

Special Visitors: - Carl Russell, Field Naturalist, was in for two hours on August 9, in company with Leffler Miller, Associate Architect. They made some pertinent recommendations on projected museum arrangements and left with little time for a visit.

Dr. H. C. Bryant, Assistant Director, appeared on August 14, and spent the better part of two days. I greatly enjoyed his visit. On the nature trail trips he made with me, he literally opened up a new world of interest and appreciation of natural beauty, giving in his talk a fascinating aspect of the eternal story of life as seen through the flora and fauna. We can learn so much more from personal contact with such men than with correspondence from away back in Washington.

On August 15, "Chuck" Richey and Mrs. Richey, came in for a two day visit, and I think he was satisfactorily impressed with the progress of developments here.

Walt Attwell and family arrived on August 18, leaving early the 20th. Mr. George Grant, Park Service Photographer, arrived today, and will be with us three or four days. I haven't seen him in about five years, and hope we don't have to wait that long for him again.

BANDELIER, CONT'D:

On July 27, Drake University of Iowa, sent a very interested group of History students. They came in a single bus, and I was interested to learn that their heavy conveyance had no difficulty in making the steep grades between here and the Highway. We lost one large party like that last month because they were afraid to attempt the road.

Mr. Charles E. Lord, a photographer from Santa Fe, visited one afternoon and reminisced interestingly about the late Charles F. Lummis, who was a good friend of his. You will remember that Mr. Lummis was with Adolph Bandelier a good part of the time he stayed in the Canyon making the first archeological study of the region.

Dr. and Mrs. E. B. Grosser, of Bellevue Hospital, New York City, spent three vacation weeks in the Canyon, and have become ardent boosters, promising to return for their next summer's vacation.

Mr. G. T. Cottle, a retired telephone cable manufacturer from Newark, New Jersey, visited in company with his three sisters.

Dr. Jere L. Crook, Jackson, Tennessee, visited with his family, and secured information for a radio talk he is giving on different points of interest in New Mexico.

Major R. A. Osmun and family, from Washington, are camping with us a few days before he leaves for his new post at Fort Bliss.

Improvements: - Most of the C.C.C. activities have been concentrated on trails during the past month, and in that time they have done the most beautiful trail work of all. One new trail just completed, which is a link in our general visitor travel loop, leads through some beautiful pinnacles in front of the Snake House, and has the true cliffdweller style steps well imitated.

The Nature Trail undergoing development up the Canyon now extends about three miles above Ceremonial Cave, into one of the most primitive canyon spots in the Southwest.

The lower trail leading toward the Rio Grande, past the Upper and Lower Falls, is almost completed. This trail will be of great worth when we can institute a regular nature trails trip, and will be especially fascinating from the geological standpoint.

Nature Notes: - Between 600 and 800 Merriam Turkeys are estimated to make Bandelier National Monument their winter home. I am told these birds reach a weight of 25 pounds. Yesterday one of the boys saw a young gobbler about a mile up the Canyon from the Ceremonial Cave; this was

surprising, because the turkeys are not expected to come down out of the Jemez Mountains until winter.

A few days ago I saw a Black Bear cub which had been rummaging around the C.C.C. incinerator pit. He was so fat he could hardly waddle across the road.

Two of the boys went fishing up the Canyon one morning. After about thirty minutes they returned to camp, very much out of breath and excited. They broke down and confessed that they had seen a huge Black Bear that stood four feet high on his four feet, and that growled savagely at them, standing defiantly in the middle of the trail. Closer questioning revealed that the bear stood almost three feet tall on his hind feet, and then the boys decided that they had only heard what might have been a bear growl. Well, we did find the tracks of a young cub which had been in the trail. What would life be without imagination ?

The raccoons have been visiting Frey's garden. They seem to have a great interest in the growth of the sweet corn, and frequently in their delicately descriminating way, will travel from corn stalk to corn stalk, taking a small sample from each ear. I have not seen one of these clever fellows yet, but have seen their tracks and know that they are around.

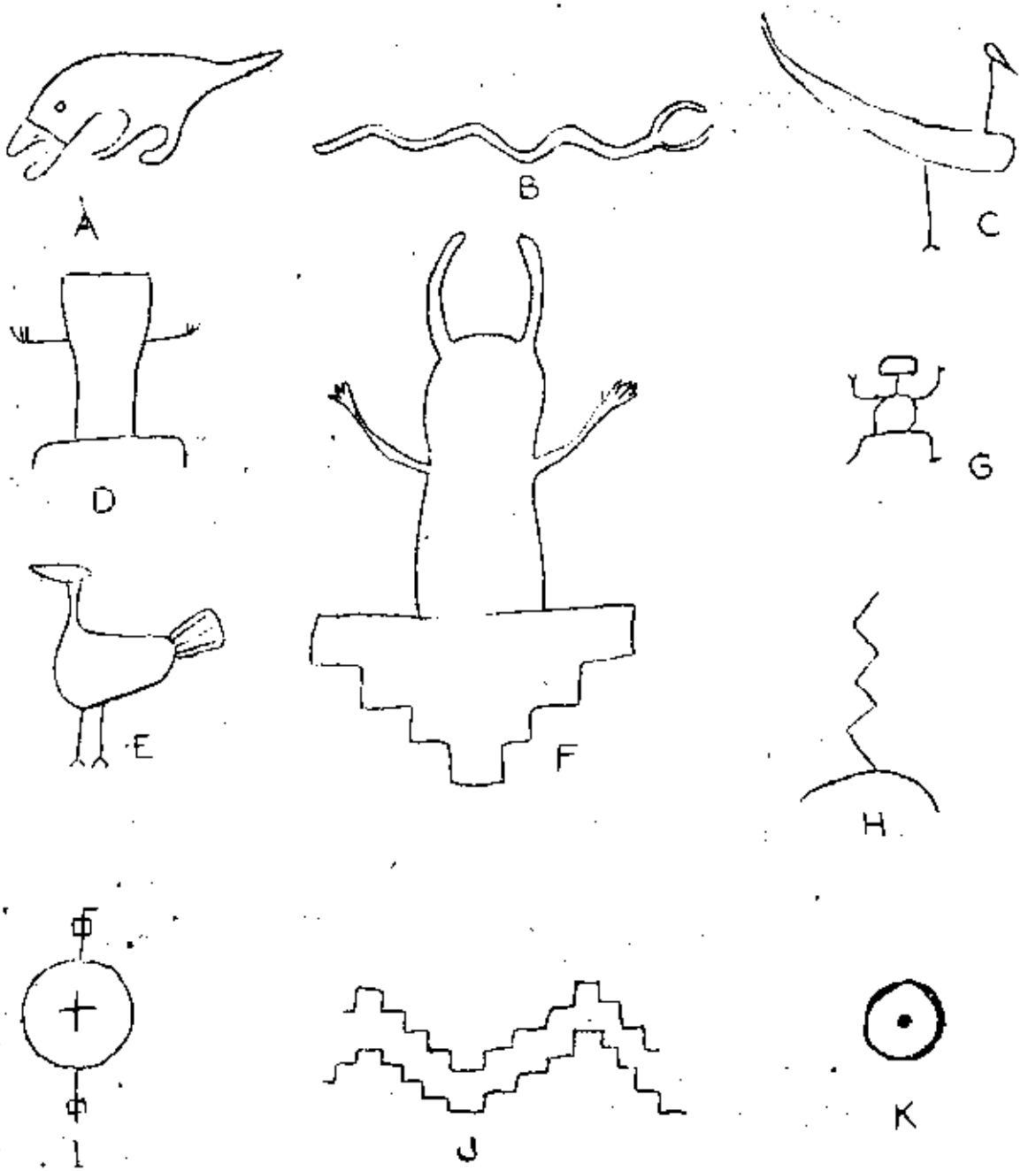
The native trout in the Rito de los Frijoles have their troubles. Most of them are rather small, seldom reaching over eight inches in length before being caught. They are the native and the Brook Trout. Insidious little brownish water snakes make a fat living from catching these fish, and I have seen several desperate struggles between snakes about 15 inches long and trout four or five inches long.

In General: - While travel this month has been quite pleasing, I am surprised that we have not had more people to stay over on the camp ground. We have averaged scarcely more than one camping party a night, although all campers seem quite pleased with the place. I think it is simply a question of the place getting better known. Of course, frequent rains have kept a number of visitors from staying over.

I am still hoping to see some excavation done down the Canyon this year. A group of cliff houses which have been protected through the centuries by a landslide occupying the slope in front, offers a particularly inviting prospect for artifact material for the museum.

I am sending a sheetmof some of the most interesting petroglyphs to be seen on the cliff walls near ruins in Frijoles Canyon. Some of these suggest meanings to me which seem logical, but some are quite puzzling. Perhaps someone who reads this report will have some ideas on figures d and i. (See next page for petroglyphs and page following that for suggested interpretations).

PETROGLYPHS FROM BANDELIER



Figures a and i; open to suggested interpretations

Figure b suggests the Plumed Serpent motif found in Mayan and Aztec art.

Figure c might be a crane or a stork. Did they have storks ?

Figures d and g are evidently human figures

Figure e is a pretty fair turkey

Figure f looks to me like the Storm God sitting on top of a thunderhead. Such a representation of the old gentleman was probably hoped to maintain his rain-giving benevolence during a coming year. The horns might not seem complimentary in these days, but to the aborigines a horn was not of satanic meaning, but symbolized strength, virility and dominance.

Figure h is possibly the lightning striking a mountain top.

Figure J could represent one of several things. It could symbolize the mountains and clouds, or a storm hanging over a village, or the mythic passageway from the original world of darkness below into this sunlit land.

Figure K is a Sun symbol, according to all the advices received. But why the dot in the center ? And what would a series of concentric circles mean ?

Here's to another month. Cordially, Earl Jackson.

Gran Quivira National Monument: By W. H. Smith, Custodian
(Written by Elbert S.)

Dear Mr. Pinkley: - Report time approaches again and in my father's absence I will try to record some of the happenings of our monument for the past month. I have registered 365 visitors entering the Monument in 77 vehicles, representing 10 states and Washington, D. C. Our visitors for the month have not been so numerous but I find the following names on our registration sheet: On date of August 7, we find Dr. Carl P. Russell and Mr. Loffler B. Miller, two Park Service men of the Berkeley office who stopped by on their way to Santa Fe for a short visit through the Mission and Indian Pueblo and spending a few minutes in our small museum.

A group of C.C.C. Boys, about 36 in number, under guidance of Cap't. F. W. Carhartt spent Sunday August 12 in our Monument apparently enjoyint their visit very much. On date of August 18 we were pleased to have Mr. Ernest L. Crandall Photographer, and Mr. A. D. Molohan, Range Examiner,

GRAN QUIVIRA, CONT'D.:

both of the Department of Agriculture, with us for awhile. Mr. Crandall was making some pictures of our Mission and he also got some very nice specimens of shrubbery that Mr. Molohon was wanting to collect.

Mr. W. G. Attwell, Associate Engineer, accompanied by his wife and son, came by late in the afternoon of August 18. While here, he and Mr. Leslie went over the road work. Mr. Attwell was well pleased with the progress made.

We have had another month of dry weather here with only a few rains about in the country. These light rains have been almost worthless as the atmosphere is so dry these showers seem to only last about a day after which it is almost as dry as before the showers came.

Our P.W2 Project here goes steadily along under the management of Mr. Leslie and a great deal of good has been accomplished. The road of approach is now in such good shape that an ancient "Henry" can make it in high gear. Sincerely yours, W.H. Smith, by Elbert Smith.

From the summary with which this month's report starts, notice that Ranger Robert R. Budlong, better known as "Bud", began his duties as Custodian of Canyon de Chelly National Monument early in August. The report that follows is from Bud and tells how he is getting settled in his new location.

CANYON DE CHELLY NATIONAL MONUMENT: By Robert R. Budlong, Custodian

Dear Boss: - This monthly report actually covers but eight days. I reached Chin Lee the evening of the 18th, and through the courtesy of the Indian Service am now temporarily established at the school, which opens the tenth of September. After school opens, I do not know where I shall be, but, if necessary, I can establish living quarters in some one of the many caves in the rocks. It might add a becoming touch of local color.

No accurate check of visitors was made prior to the 19th. Since that time, the register shows a total of thirty-seven visitors. We were honored by a visit from Mrs. Ickes during the week. Other visitors of note include Mr. Ansel Hall and Mr. Louis Shellbach, of the Berkeley Office; Mrs. White Mountain Smith, her sister Miss Mabel Brown, and Mr. Addison Pinkley; Dr. and Mrs. W. M. Winton, of Texas Christian University, accompanied by Ranger Alfred Peterson of El Morro National Monument; and Ranger Gay Rogers, of Aztec Ruins National Monument.

This week was spent working on the rim of the Canyon most of the time, since the rains have made the canyons impassable for any but cars equipped with "doughnut" tires. Last Monday, the 21st, I accompanied

CANYON DE CHELLY, CONT'D.

Cozy McSparron on a trip up both de Chelly and del Muerto Canyons, finding quite a number of recent inscriptions on the walls. A party of Boy Scouts and their Scoutmaster registered on the walls at White House during the latter part of July.

The trail down the canyon wall opposite White House is partially completed, and is a splendid piece of work. It is being constructed by Navajo Indians living in the vicinity, and when the trail is completed it will be of considerable help in solving the problem of controlling and caring for visitors. With this good trail at this point, I feel sure that no attempts will be made to descend the canyon walls by any of the old handholds cut into the walls at other points. With only this one "main gateway" into the canyon from the rim, the problem of controlling visitors becomes much simplified. Only eight of our sixty-seven visitors used this White House Trail.

The revetments being constructed by the Soil Erosion Service are partially completed, and it is hoped that in addition to reclaiming some of the land that has been washed away by floods in the canyons, they will protect some of the ruins now menanced by flood waters.

The rains continue, and every day we have had showers here, or in the nearby vicinity. This afternoon rain fell at the head of de Chelly, and by dark the bed of the canyon was a running river. The weather has been warm, and in the canyons it is often too warm for comfort.

To facilitate the handling and registering of visitors, some signs will be necessary, and I am now at work on the lettering for these signs. At the present time it is necessary to keep two sets of registration sheets, since the road from Fort Defiance to Chin Lee passes near the rim across from White House, and visitors coming by this road apparently are not inclined to register as they leave the Monument at Chin Lee.

I am highly enthusiastic over the Monument and its great possibilities. I realize that this is a very sketchy monthly report, but next month I expect to report considerable progress and improvement in solving the vivitor problem. Respectfully, Robert A. Budlong.

CHACO CANYON NATIONAL MONUMENT: By Thos. C. Miller, Custodian.

Dear Mr. Pinkley: - The activities in Chaco Canyon National Monument for the month of August were as follows:

GENERAL:

Travel for the month of August was 248 less than for August 1933. I believe this is partly due to the approach roads being in such poor condition. Automobile travel bureaus and auto clubs will not direct people over the roads in their present condition. The approach road to the north that connects with State Highway 55, a distance of 24 miles, is getting no maintenance whatsoever. The approach road to the south, a distance of 22 miles, to the Star Lake Indian Service road, is in the same condition.

Chaco Canyon, Cont'd:

On July 29th, C. E. Mauldin of the State Highway Commission visited the Monument and was conducted through Pueblo Bonito and Chetro Ketl by the Custodian. Of course, we talked roads as well as ruins. Mr. Mauldin told me that the State no longer owned the road, that it belonged to the Department of the Interior and as we only have a few dollars to patch the wash outs, it looks like the approach road is "nobody's baby".

WEATHER:

Maximum----------	98 on August 1st	Mean Maximum------	84.4
Minimum----------	50 on August 24th	Mean Minimum------	55.9

Precipitation----------1.67 inch; Greatest in 24 hrs, .89 on 15th.
Clear days----------6
Partly cloudy----------13
Cloudy----------11

TRAVEL:

1,014 people entered the Monument in 249 cars, busses and trucks, coming from 31 states and the District of Columbia. Foreign countries represented were Australia, China and Egypt. 554 of these registered in our book and received museum and guide service through the ruins at Pueblo Bonito. Many of them also visited Chetro Ketl and made the climb over a steep, rough and slightly used stairway and trail to the top of the mesa overlooking Pueblo Bonito. Seemingly all were well pleased and enjoyed the trip as much as the trip through the Ruins. The hours of these trips range from 6 oclock in the morning until it is too dark to see the ruins at night, on several occasions. We have had 158 overnight campers for the month.

Personnel:

Mr. J. L. Patterson who had been employed here at Chaco as Acting Custodian and in other capacities, was separated from the Service July 31st. Jean Griffin was employed as guide one day this month when it was necessary for the Custodian to be away from the Monument on business.

WATER DEVELOPMENT:

August 7th water was put in the Custodian's residence by tying our line onto the University line, through the cooperation of the School of American Research. As the Government well is located 1/2 mile from the Custodian's residence, this makes it much more convenient and saves a lot of time and expense hauling water.

SIGNS:

August 11th a large regulation metal sign was put up at the Kim-Mi-nioli portion of the Monument, 17 miles Southwest of Headquarters.

CHACO CANYON, CONT'D.

SPECIAL VISITORS:

Mr. Frank Pinkley, Sup't. of Southwestern Monuments and Mrs. Guy Rogers, Ranger at Aztec, were here on July 27th. Mr. Hillis L. Howie, Director of the Childrens Museum Expedition of Indianapolis, Indiana, with a party of 30 students, and Richard Franke, son of Park Naturalist Paul Franke of Mesa Verde National Park, were overnight visitors in the Monument July 28th. C. E. Mauldin of the State Highway Commission was here on July 29th. Asst. Engineer J. B. Hamilton and wife from Mesa Verde were here July 31st. A party of archeologists from Beloit College, Wisconsin, was here on July 31st. Lieutenant Vincient Hall, world traveller locturer, preacher and author, visited the Monument August 8th. Prof. Clyde Cluckhohn and 58 students from the University of New Mexico, were here on August 10th and 11th.

Road Repairs:

The approach to the north side of Chaco Canyon bridge was badly washed out during the month, and was repaired with F.E.R.A. funds. The School of American Research is doing a lot of erosion control work at "Yellow House" using F.E.R.A. funds, so with state trucks and plenty of men we soon had the approach safe for cars to cross.

HEAVY RAINS CAUSE WALLS TO COLLAPSE:

On August 15th it rained .89 of an inch in about 40 minutes here at Chaco. Two sections of walls in Talus Unit #1 of Chetro Ketl, which has recently been excavated, collapsed. These were partition walls and of a poor type of masonry. One portion of the uncapped partition wall in Pueblo Bonito collapsed leaving a bad scar. Boss, unless we can get some money soon to cap more of these walls, we are sure to lose many of them.

BURIAL FOUND:

On August 16th a very rich burial was found in Talus Unit #1 at Chetro Ketl. Attached you will find a report and three fine pictures of the burial, by Miss Margaret S. Woods, Chaco Canyon Field School.

The Indians held a Squaw Dance in the Monument August 23rd. about five miles from Headquarters.

This completes my first busy and enjoyable month at Chaco. Respect. submitted, T. C. Miller.

CHACO CANYON, Supplemental:

Report on the Finding of Burial #4, Talus Unit #1, Chetro Ketl.
Written by Miss Margaret S. Woods, Chaco Canyon Field School.

"In the room tentatively numbered 1934-9 in the small group of rooms

Chaco, Suppl. Cont'd:

known as the Talus Unit #1 at Chetro Ketl, a burial was uncovered on Thursday August 16, 1934. It was covered by a group of nine pots and a small slab of burned sandstone. Five of the pottery jars were unbroken, except for the handle which was missing from the dipper and and which had never been included in the burial. The remaining four pots were in more or less fragmentary condition, but were restorable. Eight of the pots were black-on-white ware, the ninth a cooking jar of corrugated ware was burned black. One of the Black-on-White vessels in particular was interesting for its unusual triangular shape, with a raised neck in the middle of the upper surface and two small lugs for handles, one on each side of the neck. When the pot had been removed from the burial, a small handfull of chips of obsidian, chalcedony and the like remained in position beneath the spot where the small slab of sandstone had lain, directly over the pelvis. Two arrowpoints, well chipped, were found with the burial, one in the fill among the pots, and one in the dirt which was later taken out and sifted from the burial location. Both were made with stem wider that the shoulder, slender and with narrow notches, one on each side. It is probable that the skeleton was buried in a woven garmet or blanket. This was almost entirely disintegrated, but very small fragments of the cloth remained near the knees of the skeleton, showing signs , faintly, of red color design. It was, however, in such poor condition that it fell to pieces in the process of removal, and nothing could be done to save any of it.

"The burial itself was an adult man, as far as could be judged from the character of the bones and of the skull, and also from the fact of his having been buried with such care with food jars to carry his spirit, as we presume, to the spirit world. Such care does not commonly seem to be taken of the Soul of Pueblo women at burial. From the condition of the bones we judge that he was a man of not more than thirty or thirty-five years of age., since the skull sutures were still clearly visible, the skull walls still thick and strong, the alveolar processes in good condition and most or all of the teeth in place. The skeleton lay on its back with knees drawn up into a tightly flexed position, and its arms against its sides with the hands between the knees. It lay with the head to the east, turned with the face looking to the north and slightly upward. The feet were almost underneath the pelvis, and were curiously placed with the soles of the feet apparently in contact. In general the bones of the skeleton were in only fair condition for removal. The burial lay within about two feet of the mound surface, and must have been considerably exposed to dampness during the rainy seasons. In removing the bones as many as possible were shellacked to strengthen and protect them, but even with that care many of the more fragile of the long bones, the ribs and the like, were damaged."

AZTEC RUINS NATIONAL MONUMENT By Johnwill Faris, Custodian

August runs true to form for the entire year and gives the largest August since 1930, total number of visitors being 2184. Of this number many were from the extreme points of the world, several foreign countries and many states. No notable events concerning our visitors have occurred during the month. The run has been handled very efficiently by Mrs. Rogers and Mr. Norton. Many visitors express appreciation of our service and the treatment they have been accorded.

We are looking forward next week to a rather busy week-end with the Gallup Intertribal Ceremonial taking place Wednesday, Thursday and Friday. Many visitors the past week were enroute to the Hopi Snake Dance and stopped off here.

The month of August in our Public Works has been quite hectic. Every attempt was centered on the completion of our Great Kiva, even to the extent of foregoing many repairs we had hoped for with our ruins repair money. Even with this concentrated effort we found it advisable to delay the completion of this structure awaiting further funds. To have attempted the use of our entire sum would probably not have completed this structure and would have still left it in a precarious state together with several other jobs badly in need of completion.

Several rooms were covered with the evaporation type cover, one room fitted with the Vulcatex protection and several walls built back as a brace to overcome the danger of other walls collapsing. At the present time only a few individuals are being employed and they are used almost exclusively in the general clean-up. The possibility of further work makes it impossible for a thorough clean-up at this time. Our activities in the regular line of work have been about normal. We had some trouble with our pump this month and it necessitated a couple of men for two days. We even had to pull the tubing this time to make the repairs. In the repairs we used Monel Steel in the hope that this super-strength material will overcome the constant breaking of our sucker rod.

General conditions throughout this section are probably above the normal for the state. Naturally, the drought has had its effect but not to the extent of our neighbors in almost every direction. Prospects for fruit seem very good and unless an early fall destroys some of the late apples the apple crop is probably the best in many years.

We have noticed particularly the activities taking place at many of our National Parks and Monuments and certainly take pride in the development of the places in which our colleagues work. Several different posters and publicity material have been sent us from the Washington office and the fact that an attempt is being made to induce the American Public to visit the attractions we administer is inspiring. Our personnel feels that it behooves one to make added effort to match the effort put forth by the originators of this movement. Any visitors who come to our Monument can be assured of the high type of service that is prevalent in our National Parks and Monuments.

With every good wish to the folks at Casa Grande from the force at Aztec, I am,

PIPE SPRING NATIONAL MONUMENT — By Leonard Heaton, Acting Custodia

Again the day of accounting has arrived and I will give you the happenings at Pipe Spring for the month of August.

First on the list this month is the travel, which has been very interesting and shows a substantial increase.

Record No. 1
Out State Visitors

Kansas	2	New York	5
Utah	85	New Jersey	2
Arizona	74	U.S.N.P.S.	4
Idaho	15	U.S.F.S.	2
California	23	U.S.I.S.	4
Ohio	5	Fire guards	
Oklahoma	3	N.P.&N.F.	21
Colorado	3	Total....	250
Illinois	2	Last month	258
		Decrease..	8

Record No. 2
Local Travel, including cars, trucks, wagons and horsemen,

totalled	825
Last month.....	580
Increase.....	245

Total travel for August 1075	
Total " " July	838
Net increase for August	237

On August 23rd, the pages of history were turned back and I spent an hour enjoying the life history of one of the pioneers who lived here when the Fort was in the making. Mrs. Nettie Winsor Assy who came here with her father in 1879 and lived here until her marriage to Mr. Assy, then a laborer working for Mr. Winsor. She is now nearing her 90th birthday, but still likes to visit her old home here at Pipe Spring. Mrs. Assy told of many interesting events that happened here, and there were 14 of her descendents with her and they made a day of it by going over the place from the top of the hill to every nook and corner of the Monument.

Our storms in this country have been in spots, giving some regions a lot of rain and others practically none. Pipe Spring has had no rain at all to speak of, though on the 25th the water did run down the road and off the house. We have no summer or fall flowers this year except where the water on the Monument has been turned and there they are in good shape.

Many of our local stockmen are going to sell their cattle if an arrangement can be made so that the Utah authorities can handle them, otherwise I think there will not be many sold as our county men say that the stockmen will have to stand all expenses and loss to the railroad which is 100 miles away and very little feed and water enroute. The Utah authorities take the cattle at certain towns thus relieving the cattle owners of most of the expense.

On August 3rd, the Indians started to dig the trench to lay 4-inch pipe that is to carry off the stockmen's third of the water to the south side of the reservation, and they have had a crew of about 15 and they have been working at it most of the time. I am told by the Indian stockmen that the pipe would be ready for the water by the last of the month.

PIPE SPRING NATIONAL MONUMENT,(CONT'D.)

The question is will the water go into the pipe and who is going to turn it in? Well, the stockmen are up in the air over it and it looks like they are the little boy who was up the apple tree and farmer was throwing rocks at him. The boy didn't want to come down nor did he have to, but he did just the same and I think from the talk of the Indian Service, the water will have to go through the pipe if the cattle are to get any of the water.

On the 25th, I went to Kanab to meet with the stockmen in hopes that I could get some kind of agreement aboutthe pond in the meadow and the possibility of our maintaining it by the use of the stockmen's water. For some reason which I could not find out, they all blew up and I could not get any word or suggestion in that they would listen to. They even went so far as to suggest that they get their water from the main spring as they were owners of one-third. Some expressed themselves that they had no faith in any of the Government Services and wanted to get as far away and have as little to do as possible with them.

This much I did tell them, that the Park Service did not work against the stockmen and that the water that the stockmen got was coming from the tunnel and from the division box to the west end of the ponds in front of the Fort after the water had gone into the ponds. At present it looks like we would have to level off the pond in the meadow but I have not given up hope yet as there are certain things in the development that might change the attitude of the stockmen so that we can use the water to keep the pond full.

I took a clock and a 15 gallon can and made a place where I could catch all the water that run out of the pond and this I did in the morning and evening to see just how much loss the stockmen would have in the pond and to my best measurement, I found that there was on an average of 1½ gallons per minute in the evening and a little more than 1 gallon in the morning.

So much for that until I get further material. I assure you that I am doing all I can to keep what beauty and attraction we have around here. Is there any chance for you to get up here this Fall for a few days? I might say that I am planning to take a trip to the Southwestern Monuments this winter or next spring before the season opens up for travel, as I want to see how things are carried on at the other monuments and meet my co-workers in the Monument Service.

* * *

CAPULIN MOUNTAIN NATIONAL MONUMENT By Homer J. Farr, Custodian

I have pleasure in submitting the following August report, for this Capulin National Monument. This month has been spent in working on the roads and parking area on top of the Mountain. The base of the retaining wall around the parking area is almost complete. That is the wall built up to the level of the g at the parking area. The guard rail of the wall will be commenced this next week which will be approximately two hundred ninety feet long and eighteen inches wide and 24 inches high.

This month we have had considerable more than seven thousand visitors, and I have noticed that more cars are from the New England states than ever before. We have had more than four hundred visitors today at the Mountain and I noted they were from seventeen different states.

capulin mountain national monument, cont'd.

I am working about ten men on the parking area, trails and road under an F.E.R.A. project and we are fast putting the road and trails in good condition.

Fencing: This Monument is now completely fenced cattle proof with the exception of one-half mile yet to be constructed and the cattle-guard to be finished.

Weather: Last Sunday night we received about three-fourths of an inch of rain and this is practically all we have had this summer, great caution is being used and all men have been cautioned over and over again about the fire hazard we now have, as the Old Volcano is yet very dry even in spite of the little moisture we had this week.

Comments: Many travelers have expressed delight with the drive this week and several have told me that the drive was much more beautiful than the Pikes Peak, Colorado drive.

Geologists in party: On September first we are to have a group of fifty Geologists to make us a visit and study this Volcano and I hope to be able to gather and report some of their conclusions regarding this particular Monument.

* * *

TUMACACORI NATIONAL MONUMENT By George L. Boundey, Custodian

Visitors for August total 641. Engineer Attwell, Mrs. Attwell, Mrs. Palmer and Mrs. Miller, all from Casa Grande National Monument, paid us a short visit in the earlier part of the month.

The water in the Santa Cruz river is so high that the people living on the other side have much trouble in getting back and forth. Two cars were lost in the river last night; fortunately, no one was drowned. A cowboy, trying to cross the Sonoita on his horse, was drowned several days ago.

FERA funds gave out on the 20th so our project has been held up since then except for some work Mr. Puckett and I have been doing in preparing for the work which starts again on the first of the month.

We have many treasure hunters at work in this vicinity and they are continually asking to run some lines or do some surveying on the Monument. I find that all the survey lines seem to center at certain points. I know of two men who are careful diggers and to forestall any night digging, I am letting these men under my personal supervision trace out the foundations of buildings which lie in the immediate vicinity where the lines seem to center. This work is forestalling any digging contemplated by the night forces and I am sure it will satisfy the treasure hunters that there is not the $5,000,000 in gold they are searching for.

TUMACACORI NATIONAL MONUMENT (CONT'D.)

Besides some cannon balls and some miscellaneous objects which a man dug up at Tubac the other day, was a portion of one of the old bar shots they used in cutting down masts and rigging in the days of sailing vessels. He has promised them to us as soon as we have a museum but like most of the other material found in the vicinity somebody else will get it long before we are ready for it.

* * *

EL MORRO NATIONAL MONUMENT By Evon Z. Vogt, Custodian

The month of August is almost gone and with it the changes for any considerable growth either of grass or crops has passed away. Good rains have visited us the last few days but with frost but 15 days away feed stuffs must be laid away and grama and other grasses may grow until the heavier frosts of October but there will not be anything like the grass for livestock there is in a normal year.

Travel has stood up well for us with many parties from far parts in the United States and a few from England, South Africa, Australia and Germany. A total of 605 registered, or were noted in the register, while there are always some who leave no written record of their passing this way or are ever seen by Custodian or Ranger.

Within our grounds the grama is making a late heading out of seeds while wild flowers are brilliant tho not so tall as in other years. The swallows that were born and nutured by the thousands under the friendly ledges of our great cliffs, have grown brave and flown ungratefully away.

Discoveries of the month include a prehistoric hand and foot trail in the first great crevice west of the Onate inscription on the south side of the cliff. This trail, tho dim in places, leads to a shelf in the dark recesses of the rock which we were able to reach by making a 60 foot ladder out of our flag pole which luckily had not been set up. On the first ledge I found other hand and foot holes leading still higher and with our small ladder made of 2 by 4's we were able to go higher only to find that the old Indian signs lead still higher ledge which is about 10 feet in diameter. It looks like it might contain natural reservoir of water. Under it the sides of the stone are stained with moss and algae seeming to promise a water basin which we cannot reach without another 20 or 30 foot ladder.

It is interesting to note that a Zuni Indian who seemed to have much lore on petroglyphs, interpreted the glyphs which cover several square feet of cliff a little to the east and around the corner of the cliff in a way which seems to logically connect the glyphs with the place we are exploring. The old pecked pictures show hands and feet, a trail, an obstruction on the trail and then a round hole. The Zunis interpretation is: By hand and foot one must climb over an arduous trail way past the obstruction (perhaps the top ledge) to the hole which must contain water.

EL MORRO NATIONAL MONUMENT (CONT'D.)

We now think that what we will actually find is water and that perhaps this was the last water available in drought times for the prehistoric hunters, that when all else here nearby at least, had dried up, the "pose" in the cove, the aguajes and charcos on the mesa, the shallow wells, that the water, here in this deep high recess of shadowy sandstone, lasted long after the rains which had ran down between the cracks of the cliff to fill the natural basin.

Three red colored pictographs, one of a large split hour glass figure, were noted on the north face of the monolith just east of the horse trail which goes up to our north ruin. These old paintings are quite dim and are near the ones of the cat and bars, the four arrow points pointing to a common center, and of the maltese cross.

Distinguished visitors included Mrs. Anna Wilmarth Ickes and her friend Dr. Sexton of Washington, D. C. Mrs. Ickes is the wife of the Secretary of the Interior and has become an annual visitor here, coming over from her summer home east of Gallup on highway 66. The rain did not prevent Mrs. Ickes and party from climbing up to the ruins on top where she inspected, with approval we think, our new stone cut trail made during the winter and summer with CWA and FERA labor.

Ever since the 23rd, I have been expecting Dr. Bryant of the Washington office to roll in, but so far he has not come. There are some important points about the old inscriptions which I would like to discuss with him. My conclusion now is that he attended the snake dance at the Hopi villages and will not come until about tomorrow.

Ranger Peterson is away on a much deserved vacation of a week. With our friends Dr. and Mrs. Winton, who come here every year and camp in our Pine Cove, he is making a trip which includes Fort Defiance, Canyon de Chelly, Ganado, Wide Ruins, Grand Canyon. Hopi villages and the snake dance, Petrified Forest and Painted Desert. Upon his return he hopes to take in Frijoles, Chaco Canyon and perhaps Acoma. These trips will give him a greater knowledge of the other Monuments in the West as well as an intimate knowledge of roads and conditions.

Mrs. Vogt, our son Evon, Jr., aged 16, and his guest, Charley Ripley of Chicago, and myself, left in our new Ford V-8 on the ninth for the Rainbow Natural Bridge and sundry points to the northwest of here. In eight days of driving we only put 800 miles on our speedometer, but what we put in our memories we will never forget.

Discoveries we made include - mistletoe in pinon trees which we had never seen except in cedars and the longer mistletoe which grows on lower levels in cottonwoods. 2. Oak coals for cooking rival cedar, but for making toast the clean and potent little coals left from a fire make of chico or the tall thorny greasewood are the best we have ever used. 3. There are few humans left and I doubt if there will be any born that are more interesting to me than the Wetherills with their interesting setting in their unique ranch home.

EL MORRO NATIONAL MONUMENT (CONT'D.)

With our FERA crew at the Monument, we have continued our graveling of the trail, scarifying some before spreading the gravel. We have also done considerable road work at bad places both east and west of our entrance. Additional road signs have been painted and placed.

The rains have not damaged our great 15,000 cubic yeard fill made in the camp cove last spring. The Rocky Mountain bee weed vies with the oats and yellow clover to build new sod while during the month in one week we transplanted 1100 squares of grass sod over the area watering same and tamping the sures down well. This grass has taken hold firmly and made good growth and is now heading out into seed. It will no doubt spread some by another year and help us hold the sand from washing.

Both Mr. Richey of the Landscape department and Mr. Hamilton, Ass't. Engineer, visited us to guide us over our weak places in the work we are doing with FERA labor. With regard to all members of the clan.

* * *

EL MORRO, Supplemental:

I just returned last night from a wonderful trip with Shirley, my son and young Ripley, to Ganado, Keams, Walpi, Orabi, Hotoville, Tuba City, Rainbow Lodge and Bridge, Shanto, Betatkin, Wetherills, Chin Lee, White House Ruin and home. I may cover some of it in my report. It is very dry every place except right here near Zuni, Ramah and El Morro. The sheep and goat reduction plan will take care of itself unless the snake and antelope priest brings bring rain and plenty of it right away. The pelt business will be going strong by spring among the Navajos unless all conditions change and change fast. I never saw it so dry. The soil erosion man don't like the Russian thistles, that is some of them, but even the dry ones, if they get well soaked with snow or rain by spring, will be licked up like corn by the Navajo sheep which will starve to death in some places.

We have had some very heavy rains. What would happen if we had really steady rain to fill up our cove? At the rate the water is being hauled and at the rate we can let it run off, we are not protected as we should be from a damaging overflow. I want to raise the thought in your mind that maybe we had better get some pipe somewhere and get the water out of the cove to the land east of us so that farmers can haul it offmore readily and use it down to a certain point in our reservoir. After I drove thru all the water along the road coming out this morning, I was scared to death that we had had a flood in the rincon and some bad washing, but luckily there wasn't enough to fill up and flow over.

E. Z. V.

* * *

EL MORRO (Supplemental Cont'd.) By Alfred Peterson, Ranger

Just a line to let you know that I have not forgotten that a monthly report is about to go to press. I have not written my usual memorandum because, with Custodian Vogt's permission and cooperation, I was fortunate in accompanying Dr. and Mrs. W. M. Winton to Canyon de Chelly, the Grand Canyon, and the Hopi snake dance. In this way I have taken my weekly days off all in a continuous row.

Mrs. Ickes came to the Rock one day and we just reached the top of the Mesa when we were caught in a shower, but a good ti was had by all. We enjoyed her visit very much. Accompanying Mrs. Ickes was Dr. Sexton from Washington, who is very well acquainted with the Park Service officials.

Regarding the problem of too many cottontail and jack rabbits, two months ago I reported that unless natural enemies developed something might have to be done about them. The natural enemies seem to be putting in appearance, since Dr. and Mrs. Winton report the presence of a bobcat around their camp at night. At any rate, jackrabbits do not seem to be so numerous, although the cottontails are still with us in numbers. It would seem that the latter would be the first to be decimated by bobcats rather than the jacks.

* * *

WUPATKI NATIONAL MONUMENT By Jimmie Brewer, Ranger-in-Charge

Making this "short and sweet" because I'm head-over-heels in hard work. We moved out here the eleventh and found the roof at Citadel needed a central floor support, and have been subdividing my time between taking care of that, building a home here at Wupatki, and regular Ranger duty. You can't jack the Citadel roof up too suddenly because the main viga is cracking as it dries out; I go over every second day and boost it up an inch or so; have the timber ready to support it when it has been lifted to the proper height.

Had my friend Jimmy Kewanwytewa out here on the last two Sundays, and together we plastered the walls of Room 36 and dyed the floor--so that the room of the pueblo in which we will live is reconstructed comfortably now with native workmanship in part.

We're just about ready to move in permanently at the pueblo itself, instead of living in the cook shack which Dr. Colton provided for the CWA workers. Living down there has been unsatisfactory in that during meal hours we were unable to be at the site and missed some early and late callers. Among those missed was Budlong--we saw his name on the register, but that was as near as we got to him--Very sorry to have missed him.

The day we moved down here Mr. Collinson, Land Commissioner of the Santa Fe railroad, was here checking over section corners in preparation to turning over sections valuable to the Monument. I rode down to Wukoki with them because they were unable to find the road. After a very thorough inspection Mr. Collinson seemed kindly disposed to trade off the Wukoki section and any others to complete the hook-up.

On the 12th Dr. Bryant was here under the able guidance of Dr. Colton and Bob Rose. I noticed Dr. Bryant arched his eyebrows when Dr. Colton told him the Citadel group was nine and one-half miles from the Wupatki group--may have been just the late hour and what this mountain air does to one's appetitie, but don't you think we could bring these two groups a lot closer with a little road work?

A little road work reminds me of the anticipation with which one starts to town in the "new" pick-up. Joking aside, it's a swell little automobile and no end of help in cleaning up around here.

Your letter regarding the road signs was in the mail this trip to town--knowing what not to expect now, I'll go ahead on temporary signs which will help the traveler in sorting out roads to sheep camps, hogans, and Monuments. We've been getting our share of the English students seeing the United States on fellowships--and one of them said the only dependable clue to Wupatki's whereabouts was the best traveled road--and suggested partially obliterating the tracks of the pick-up where we'd turned off the road once, in order to avoid confusion! It isn't quite that bad as there were 190 visitors to the Monument during August--a number which we don't doubt would be swelled considerably by good directional signs. We'll see if that's right this next month. Of the 143 visitors to Wupatki, only 34 went to Citadel; and of the 81 visitors to Citadel, only 47 went to Wupatki. Which seems to point out as one good deed we can do the traveler, the telling them of the other section of the Monument!

The English travelers mentioned above have so far been our most enthusiastic visitors--if length of time spent at Wupatki counts in determining that. Two stayed two days with us, and the second part of one stayed on for four days. We surely enjoyed them, too.

We are looking forward to doing a good deal of entertaining in our "500-room, $500-a-month home"--and are sure that any member of the Park Service would grin and like the minor inconveniences of two walls, no roof, and scorpion and snake neighbors. It is a large home--but maybe we'd better designate 99 rooms as landscape and use only the one.

The invitation is still open, however---

\- - -

Jimmie and Sally were just getting settled down in their 100 room house when Dr. Bryant and Bob Rose called at the Monument. Jimmie is worried about his rent. If a 5-room house draws rent at $20 to $35 a month, he feels like he might be called upon for $200 to $350 rent for his mansion. Incidentally, this is probably the first time in 500 years that a young couple has spent a honeymoon in Wupatki Pueblo.

* * *

CHIRICAHUA NATIONAL MONUMENT — By Charley E. Powell, Ranger

While we are in the midst of preparation for our Dedication of the new road, it is now time for another report, in which we will report progress. You will hardly recognize Massai Point now. Barbeque pits, parking areas, speaker's stand, etc., have made quite a change. The road is being oiled, too.

Mr. Gordon and Mr. Borden, who have been renamed "Haig and Haig" are just getting nicely into their stride.

From one standpoint this celebration is a considerable disappointment to me and my assistants, as the road is now closed for oiling, and we can not entertain visitors as we wish. In fact, because of the work going on at Massai Point and on the road, many visitors have been turned back without seeing the Monument by the rumors that the entire Monument is closed and will be until the Official Dedication on September 3, 1934. We are doing all we can to overcome the difficulty by showing such visitors as we do get all of the Monument they have time to see, and those who have reached us have been well repaid for the time spent.

Those who stop at the Ranger station first see our flag, our miniature balanced rock, and then our flower display. They are asked to register and are then shown by pictures and chart what the special features look like and how to reach them, and we can induce them to walk or ride, they are guided to the best views.

We have been very careful about checking travel this month and believe that our report is reasonably accurate. We wish to report the number of visitors since last report as follows:

Visitors registered	567
Visitors who did not register	535
Total	1102

Our register shows the following as the source of travel:

Arizona		From outside of Arizona by states:			
Tucson	78	Texas	72	Nebraska	1
Bisbee	66	California	27	Ohio	1
Douglas	98	Kansas	8	Oregon	1
Willcox	36	New Mexico	5	Tennessee	1
Dos Cabezas	34	Oklahoma	4		
Other towns	127	Colorado	3	Argentina	3
		Minnesota	3	Mexico	1
		Arkansas	2		
		Massachusetts	2		
		New York	2		
		Pennsylvania	2		
		Indiana	1		
		Iowa	1		

We have a fine sign painter now, but the paint does not fit the requirements of the Resident Landscape Architect, so we are being delayed in the work of renewing the old signs. We may have to send some of our volunteer guids out as living sign posts, to prevent the crowd from getting badly scattered on Labor Day. Jack Torrell has a grudge against one certain "Jesse James" trail. He thinks too many people enter the Monument that way and he thus does not get a chance to count them.

There have been one or two very amusing things which have happened during the past week or two, which will be appreciated by anyone who is familiar with the Park Service. The first was when Jack Torrell asked the driver of a car (New York plates) if he would please register and let the Ranger tell him about the Monument. His answer was "How silly of you". Then the gentleman who was not silly drove up the road to about opposite the public campground and returned. I suppose he thinks he saw all there was to see, just some rocks.

While Mr. Irwin and Mr. Ball, Bisbee and Douglas photographers may have better collection of pictures of Chiricahua scenery than we have, it is dubious that as good a collection can be found any place else. We have more than 150 pictures on exhibition at the Ranger station and at least two that can not be found in either of the other good collections mentioned.

The Camera Club contest was won this time by Robert Wallace with the inclosed picture. Honorable mention went to Garland King, David Thurman and Armando B. Ysias. While the judges were deliberating, a new member of the CCC came in and asked the Ranger what he had done with the two by four stretchers. Mr. Hammond sent him to the Doctor for them. Among other pictures in the contest was one of Mr. Wallace with a fawn which had blundered in the way of a truck recently.

Clerk MacElreath will be very careful about climbing around on balanced rocks in the future. It is reliably reported that he had to promise a treat before he could secure assistance in getting off the last one he climbed. The picture taken was not in the contest. A later report says this treat cost "Mac" $1.00 by the time he treated the crowd.

Our next contest will not be in the same category. We have started a modeling contest. The entrants will try to imitate some of our rocks in clay. It will run for a week only, and we will try to have the winning models reproduced in quantities by the time for the celebration for souvenirs.

We have just received word that Mr. Kittredge and Mr. Attwell will be here tomorrow. I hope they will see a way to permit the tourists to reach the Monument over the newly oiled road, as it will be very lonely here with no traffic.

* * *

NAVAJO NATIONAL MONUMENT By John Wetherill, Custodian

We have had sixty-five visitors at Betatakin and eighteen at Keel Zeel during the month of July. Several of the cars had trouble on the new road after leaving the Shonto road. The expedition is leaving here on the sixteenth of this month. There will be twelve of them at Betatakin on the night of the fifteenth. The ruins have not been disturbed since Milton Wetherill has been on the job. Dr. Cumming's party expects to visit the ruins tomorrow. The party is under the care of Dr. Cummings' son. They left the Doctor in the hospital. He was unable to stay with the party. I want to get this out by the fifteenth so I am making it shorter than I otherwise would have. With best wishes.

* * *

NATURAL BRIDGES NATIONAL MONUMENT By Zoke Johnson, Custodian

I came in last night from the Bridges and everything is lovely out there. There has been just rain enought to keep plenty of fresh water in the pools and the grass and vegetation are still trying to keep green but making a poor stab at it. There has been just about the same travel this month as last. There were 23 in one bunch from New Jersey who stayed two nights with me. The same complaints keep coming, ppor roads and no accommodations when they get there. So many people come to Blanding and when they find out that there are no accommodations out at the Monument, they turn around and go some where else. I honestly believe that one-half the visitors go away from Blanding without coming on out when they find out that the can't stay here over night. I am still in love with the Monument and will stick with it. I hope someday we will have Custodian's quarters, cabins and water that has not been jackassed up that long hill. I hope this finds you folks all well.

* * *

WALNUT CANYON NATIONAL MONUMENT By Paul Beaubien, Ranger-in-Charge

In submitting my first report, I wish to acknowledge favors received from a number of people. Mr. and Mrs. J. M. Brewer did everything in their power to help me start correctly. On the 13th, Mr. H. C. Bryant, Dr. Harold S. Colton, and Mr. and Mrs. Robert H. Rose spent some time here. A number of "problems" seemed quite simple after their visit.

Later Dr. Colton, Director, and Miss Katherine Bartlett, Curator of Anthropology, both of the Museum of Northern Arizona, provided me with some fifty-odd reports dealing with the Archaeology and natural history of this region. Also, Miss Bartlett guided me through three buildings in order to acquaint me with the cultural remains from Walnut Canyon. These objects would be displayed at the Ranger station could an exhibit case or two be provided for their reception. They would naturally add to the educational facilities of the Monument.

WALNUT CANYON NATIONAL MONUMENT (CONT'D)

On the 18th and 19th, I spent some time with Dr. Lutz and party from the American Museum of Natural History, who were making an entomological survey. During the few hours spent on the floor of Walnut Canyon where walnut trees are supposed to be plentiful, we found not one. However, it will not be necessary to change the name of the Monument as two miserable specimens were found on the canyon walls a few days later.

One question that has not been answered entirely to my satisfaction is where I should place myself to be of maximum service. At present I spend the rush hours at the "lookout" where the new trail leads down to the restored dwellings. Visitors seem to wish for information when viewing the dwellings that would sometimes have to be forced on them at the Ranger station three-fourths of a mile away. Of course, many who have been here before the newer trail was built prefer to guide their friends down the trail from the Ranger station without reading the direction signs. I am now placing some brief informative notices along the trails and in the registration booth at the "lookout". There were only a few signs along the trails, all informing the visitor what not to do. Of consequence, if the traveling public treats the later notices kindly, I will be able to give information at several places at once.

Since my arrival there has been some rain every day except two. One can almost estimate the duration of each rain by the number of registrations on that day. The total registration for this month was 1910 in comparison with 1822 reported for the first twenty five days of July by Jimmy Brewer.

* * *

Paul states here that the problem of just where he could place himself to be of maximum service to Walnut Canyon visitors is bothering him. This is one of the problems which he can best work out on the ground. Dr. Bryant and Bob Rose when there suggested that he experiment with keeping himself at the Lookout during busiest times for there (a) visitors get their first real view of the ruins and of the scenic canyon and there their curiosity is first really aroused to the point of asking questions, and (b) the location for control and protection of the Monument is very strategic.

Walnut Canyon's visitor problem is new to us and we would like to study the results of the various methods Paul tries there.

* * *

MONTEZUMA CASTLE NATIONAL MONUMENT By Frank L. Fish, Ranger-in-Charge

The following report covers the activities for the month of August:

Weather was pleasant during the greater part of the month. Three heavy rains

occurred during the past twenty days, spaced approximately a week apart and as a result the country about is much greener than during July.

The sudden rise in the creek after the first rain did some damage to the septic tank under construction, but with the $500 additional emergency appropriation everything should be taken care of nicely. Visitors numbered 1654 for the month, an average of 53 per day. Foreign countries represented were Australia, Belgium, England, France and Mexico.

Mr. Nesbitt and party of students from Beloit College, Wis. were here during the month, and I might add that they had been to Aztec and were highly pleased with the service given them by Guy Rogers. Robert Budlong stopped for a short while on his way to his new assignment at Canyon de Chelly. Bob Rose and Marie came for a short stay one evening and left with a promise of coming back for a longer stay in the future. Dr. and Mrs. John L. Kuer of Long Island University in New York, who have been working in Chaco Canyon during the past two years spent a part of one Sunday with us. A young man visitor from England on his second trip into the Southwest brings us some gossip about the newly married folks at Wupatki, Mr. and Mrs. Jimmie Brewer, for those that don't know. It seems Jim is the best cook so far, but Sally excels in making wheat cakes. Of course, it may be prejudice on the young man's part as Jimmie had him mixing cement by moonlight and that is considered one of the highlights of his trip.

Construction has progressed satisfactorily this month seeing the completion of the tool and implement shed and the stream revetment. For fuller details I refer you to Mr. Brown's report (follows).

The roof on the reconstructed room at the recently excavated site has leaked and is sagging badly in the center. This room has all the artifacts resting as they were found and should be fixed at the first possible opportunity.

It might be of extreme interest to place on record the navigation of Beaver Creek for the first time by a crew consisting of the Ranger force and Norman Jackson. These intrepid explorers pushed, polled and tugged the good ship Murphy fully 300 yards upstream and then fearlessly turned around and shot the rapids recently created by digging a trench through a gravel bar. Lusty nautical terms were shouted by all three as the boat swiftly bumped along. The shouting and razzberries by the women folks on shore had little effect on the boat but did bring our one and only Engineer out of a sound sleep wondering what the ----!

* * *

Montezuma, Supplemental — By Harry F. Brown, Foreman

Work for the month has moved along satisfactorily. The equipment shed is complete except for cleaning up and grading for drainage. We will have every-

Montezuma, Supplemental (Cont'd.)

thing pretty by the first of the month.

The main revetment is complete except the gap that was left to turn Beaver Creek behind the revetment for silting in purposes. This experiment has not proved satisfactory as I find that the natural flow of the stream does not carry sufficient sediment to do any material good. However, the diversion dam that was built to turn the water behind the revetment will serve the purpose of backing up Beaver Creek and form a very attractive lake. Of course, an extreme rise will carry this dam out.

Of the sewage disposal project, the septic tank and the aeration trench are complete and safe from any flood that might now occur. I believe that— ten days will complete this project in full.

The trail throughthe newly opened ruins is a problem. With the assistance of Mr. Fish and Mr. Steen we are going ahead but we have plenty of problems confronting us. I certainly hope that you and Mr. Attwell can pay us a call and give us some expert advice.

* * *

WHITE SANDS NATIONAL MONUMENT By Tom Charles, Custodian

It has been nearly nine months since we started work on the construction of the eight miles of road into the Great White Sands and in that entire time the road into the them has never been wet. It is true that at times little local showers have passed across this piece of road at places, possibly a half-mile or a mile wide and in that way we can judge, after a fashion, as to how our road will act if and when it does get wet. The clay which we hauled an average of 13 miles to plate this road is proving to be real clay. It has stood the worst drought in the history of the valley and still the surface of this plated road is as hard and slick as an oiled highway. Our worry about the dry weather is about over so far as this road is concerned, and it is the dry weather which causes 90% of our road troubles. We are not bothered much with wet weather even in normal years. It is evident that the plated sections of this road are going to stand the dry weather to perfection. We are also pleased with the results in the places between the sand hills, where there is no plating. In these places the automobile tires have packed the hard, salty crust until the tracks are slick as an oiled pavement. These tracks seem to be impervious to water and after a sharp, dashing rain, they are not slick like the clay road. So it seems at the end of more than six months experience with this new road that the only difficulties which we may experience are those which will naturally come with wet weather.

In the past month I have had chemical tests of the water from four different wells in the White Sands National Monument. Mr. H. B. Hommon, the Sanitary

Engineer who signed the report, says: "It is not believed that the chemicals present in the water will have any bad effects on people drinking the water from any of the four sources.". This, of course, is a very gratifying report, in view of the fact that it has been believed for years by the surrounding stockmen that good water could not be obtained in the Sands. All four samples were high in sulphates, so much so that Mr. Hommon says they "no doubt cause taste." All except one sample would also have a taste of ordinary salt. All in all it impresses me that we have had a very satisfactory report.

Dr. Fred W. Emmerson of the Botanical Department of the Las Vegas Normal has made several visits to the White Sands. In the past month the Science Service of Washington, D. C., sent out a syndicated article concerning the plant life in the Sands. This article says, "As in all drifting sands there are only a few species of plants that are able to grow upward fast enough to keep from being covered by the advancing dunes. In the White Sands there are only six species that commonly succeed in the moving sand. They are cottonwood, rabbit brush, aromatic sumac, a shrubby pennyroyal, a yucca, and that peculiar gymnosperm, Ephedra. Some of the individuals of species that usually grow to be only shoulder high under ordinary conditions grow 40 or 50 feet upward through the dunes. All of these develop numerous roots under the sand."

Boss: I'll appreciate it if you will watch that Ranger on the Chiricahua. Sounds to me like one of those old race horse "ringers". Where does he get that "new baby" stuff? If I can read Mr. Ickes' compilation that "child" is an old battle scarred, war bedecked hero of many seasons service. By the way, you might give me a helping hand right now if you will crowd along that Ranger service at the White Sands. When I get an actual count out there, I am going to be in a better position to crow over the crowds.

* * *

More: Here is a new one for the White Sands. An old friend, a goat man from the far part of the county has just left the office. In recounting the virtues of the Sands, he said, "Tell you what you can do with that sand, if you're not too highbrow, you can polish your teeth 'till they shine like pearls." I am not putting out any patent nostrums nor am I flaunting any flags in the face of the more unfortunate brothers, but I will not object if you see fit to let this go into the report; it should at least help to hold that boy from Chiricahua.

\- - -

In that next to last paragraph, Tom has just about called Charley Powell's hand. We're just sitting in our seats waiting for the outcome.

It was a little hazy on the day of the great Chiricahua Labor Day Celebration Nobody knows exactly why, whether it was a dust storm in Texas, or what. Someoone was heard to say that Charley Powell thought it might be Tom Charles over there kicking up some of his gypsum dust in New Mexico just trying to dim Chiricahua's brilliant occasion a little.

* * *

CASA GRANDE NATIONAL MONUMENT — By Hilding F. Palmer, Custodian

Visitors for the month of August have shown a decided increase over 1933. This year our register shows 1376 visitors who were personally conducted by Park Service personnel on tours of the ruins and museum as against only 1023 in the same month last year, a net increase of 353 or nearly 35%. These 1376 visitors came in 396 cars from 37 states, Washington, D.C., Alaska, England, Mexico, Guatemala and Switzerland. The greatest number were from Arizona; California was second; Texas third and Oklahoma fourth. The Rangers were busy for it required 313 trips through the ruins and 293 lectures in the museum to explain to these visitors the features of the Monument. In addition to the 1376 personally contacted visitors there were 128 who required no service, being picnickers or turn-a-rounds.

The weather has been hot most of the time but rains relieved it at intervals. The average maximum was 102.87 degrees and the average minimum was 74.45 degrees. The average temperature for the month was 88.66 degrees. The maximum temperature was reached on the first day of the month when the thermometer reached 114. The minimum was 69 degrees. Total rainfall was 1¼ inches. There were 16 clear, 13 partly cloudy and two cloudy days.

Ranger Budlong, who had served very efficiently here since April, was transferred during the month to the position of Custodian, Canyon de Chelly National Monument. I was mighty sorry to lose "Bud" as Ranger, but wish him all the success in the world in his new job.

I was on sick and annual leave for 27 days during the month going to Oracle on the 2nd and returning to duty the 31st feeling much improved.

No activity of any kind was carried on during August. FERA labor is available and materials are on hand, but the State of Arizona will not furnish any supervisory personnel and when crews are changed every three days it is impossible to carry on any work without competent supervisory direction. It seems too bad to lose this opportunity to accomplish needed work for the lack of a few hundred dollars to hire proper personnel.

George Grant, Park Service photographer, spent a couple of days at the Monument and took about 60 plates of the features of the Monument. Chief Engineer Kittredge stopped enroute to Chiricahua National Monument for a short visit.

It has been a fairly quiet month at Casa Grande and we are catching our breath getting ready to go at full pace a little later.

* * *

ASSOCIATE ENGINEER'S REPORT

By Walter G. Attwell
Associate Engineer

Both ends and the middle of August found me at Chiricahua National Monument, making preparations for the Labor Day Celebration. I was at Casa Grande several times during the month, cleaning up fiscal matters and correspondence.

On August 8th, I visited Montezuma Castle in regard to the construction of the projects under Foreman Brown. These were the stone garage and equipment shed, the revetment, the sewer system and septic tank and the ruins trail.

On August 9th, I drove to Flagstaff and effected the transfer of an obsolete Chevrolet pick-up from the B. P. R. This car was delivered to Ranger Brewer then at Walnut Canyon. I visited the White Sands on the 17th, looking over the entrance road. Custodian Tom Charles was flat on his back with four doctors attending him. He confidentially acknowledged that he had been regretting that he had not led a better life.

Foreman Leslie at Gran Quivira has improved that entrance road greatly. When I was there, the grading was completed and it was all ready for graveling. The parking area is also graded. Leslie's money has gone farther per dollar than on any other job in my district.

I arrived at Bandelier National Monument at noon of the 18th. The work there is progressing satisfactorily as usual. The trails under Foreman Sholly will soon be completed as far as can be reached from the main camp. The road is practically completed. The fencing of the detached section under Foreman Eden was just being started. The small crew on the Ranger's residence under Foreman Rogers was pointing up the masonry. The doors and windows were yet to be hung in the cabins. The Forester was cleaning up the fire hazards on the valley floor.

I left Bandelier on the morning of the 20th and visited State Highway Engineer Buck Macy, who promised materials for drainage on the road between the detached section and the Monument. This drainage will not be placed at this time because project No. 9 on the ECW program has been disapproved. Mr. Macy also promised to construct the half-mile of road between the White Sands entrance road which we constructed this spring and SR176C, now being advertised for construction.

Arriving at Douglas the following day, I waited over night to meet Chief Engineer Kittredge and drove him to Chiricahua to inspect the progress being made for the Labor Day Celebration. I left Chiricahua on the 25th, arriving at Southwestern Monuments headquarters that same day, remaining a couple of days to clean up my mail. I arrived back at Chiricahua on the 28th and remained until after the Celebration.

- - -

SUPPLEMENT

In this section we hope to include observations, results of studies made by various members of the Southwestern Monuments, and other material of general interest. We want this section to be something of an index of what we are thinking about from time to time as we go about the various duties connected with our jobs. Following is an account by Ranger Charlie R. Steen of a recent visit to Tuzigoot Museum.

- - -

I am still at Montezuma's Castle. A recent visit to the Tuzigoot Museum at Clarkdale has called up a desire to express an opinion on the arrangement of museums for the general public.

The Tuzigoot Museum is perhaps the best arranged small museum I have seen. The first impression one receives as he enters the door is one of space and neatness. Three rows of glass topped tables cover about two-thirds of the floor space of a large store-room. The exhibits are not crowded--a most important feature--each table contains a few articles tastefully arranged, with legible cards expalining their uses. There is no mixing of artifacts, the pottery is in one section, the stone implements in another, and so on. One may walk from table to table and receive a clean-cut impression of the several crafts of the aborigines of the Verde Valley. The descriptive cards, however, are in several instances confusingly worded and the many photographs lose much of their value by not being labelled.

The average man who knows little of archaeology is able to absorb much more knowledge from a small exhibit well displayed than from a large one in which the artifacts are crowded and mixed. Glass-topped tables are, I believe, the best exhibit cases. The visitor may view the exhibit from all angles and his attention is focused on a single group at a time. When wall cases are used the attraction is diffused over several shelves and at best only two shelves receive much attention--the one on a level with a person's eyes and that one just below this level. It is against human nature for people to stoop or raise their eyes to see something unless they believe it is deliberately being kept out of sight.

Wherever possible in the Monuments, museums should be arranged with tables for cases. The Ranger conducting a party into the museum can then keep his group as a unit and have them gather about the tables to listen to his talk. Before a wall case, only a few can be accommodated, the attention of those who cannot see well is drawn elsewhere, these either miss certain exhibits entirely or must ask the Ranger to repeat himself.

I hope these remarks do a little good. They are far from being original but they may be timely as the subject of museums for the Monuments arises from time to time.

* * *

SUPPLEMENT

The following article sent in by Tom Charles gives general information on the White Sands that ought to be read by all in our Service.

- - -

The White Sands, situated near Alamogordo, N. M., is the only large body of crystalized gypsum in the world. It comprises 176,000 acres of alabaster sand dunes from 10 to 60 feet high. It is of such dazzling whiteness with such curves and contours that it is esteemed a Monument of unusual splendor.

About one-third of the Sands were declared a National Monument in January, 1933 and in April, 1934, the Park Service had completed eight miles of plated road across and into the highest drifts of snow-white sand. This road leads out to within a mile or so of where the last trace of vegetation disappears, where there are no snakes or insects, where there is no sound and the silence bears down upon you and there is nothing but the snow-white sand below and the sky above. Then to the east is the hazy outline of the Sacramento range and to the west the rugged San Andres frown down upon you.

These sands are probably the most popular in the winter months for in the summer they reflect the heat and light so strongly that they are not comfortable in the middle of the day, but from sundown until an hour or so after sunup they are ideal. In the hottest nights when the surrounding country swelters in uncomfortable sleeping quarters, these sands are always cool.

The sands are located on state highway No. 3, between federal highway 70 at Alamogordo and federal highway 80 at Las Cruces. No. 3 is a federal aid road, hard surfaced, and makes the Sands available in all kinds of weather. The National Park road into the center of the Sands is eight miles long and makes the most attractive part accessible.

The accepted theory of the Sands' origin is that they are carried to this spot in solution and when the water evaporates it leaves these crystals of pure gypsum on the top of the ground, the crystals are then piled in drifts or wind blown dunes with most fantastic shapes and curves. Every form of life common to the surrounding country is found in the edges of the Sand. As one goes farther out into the area, the forms of life become unusual. White lizards dart here and there, many of the insects are extremely light in color and the ordinary field mouse is as white as snow. Cottonwood trees grow with 90% of their top under a sand dune, yucca climb to the top of the tallest dune and the stem, covered with the drifting sand, is sometimes 25 to 30 feet long. Many unusual things exist, even the lakes formed by rainfall, turn red at certain seasons of the year.

NOTES ON RANGER SERVICE
AT
CASA GRANDE NATIONAL MONUMENT
August, 1934

We were somewhat short-handed during August, and inspection of the time clock records assumed the aspect of experiment rather than complete study. Nevertheless, our dickering with the little yellow sheets of paper developed several interesting conclusions.

In two previous reports graphs were prepared showing (1) average length of complete trips, (2) number of parties starting at the various hours of the day, (3) average length of ruins trips, and (4) average length of museum trips. These graphs were very inconsistent, to say the least. They showed little possible correlation between June and July.

So for the first two weeks of August a graph was prepared showing the relation between percentage of total parties started at various hours of the day, and percentage of total time used for those parties. The same thing was done for the latter two weeks of the month. Both graphs appear below.

The interesting thing about these two graphs is that they also do not correlate---proving that we are not getting anywhere by working with only a small number of cases. It is becoming more and more evident that we shall have to wait until we have data on about 1,000 trips. Then graphs will really mean something, and we shall have a representative sampling of the summer tourist situation. In another week we shall have reached the 1,000 mark, and hope to have some interesting material for next month's report.

Conclusions for the first two weeks of the month would be:

(a) Between 8:00 and 9:00 a.m. we were giving a lot of time to comparatively few parties. (This is not true for the second graph. The lines follow each other closely.)

(b) Between 11 and noon we were handling a small percentage of parties, and we were giving them a little less time. (This is not true for the second graph---we handled a comparatively great number of parties between 11 and noon, and the time holds up well. There is a "valley" between 9 and 10, however.)

(c) Between 3 and 4 we received the largest percentage of parties, and they took less time. (But the second graph shows a "peak" between 2 and 3, while between 3 and 4 we gave relatively more time per party.)

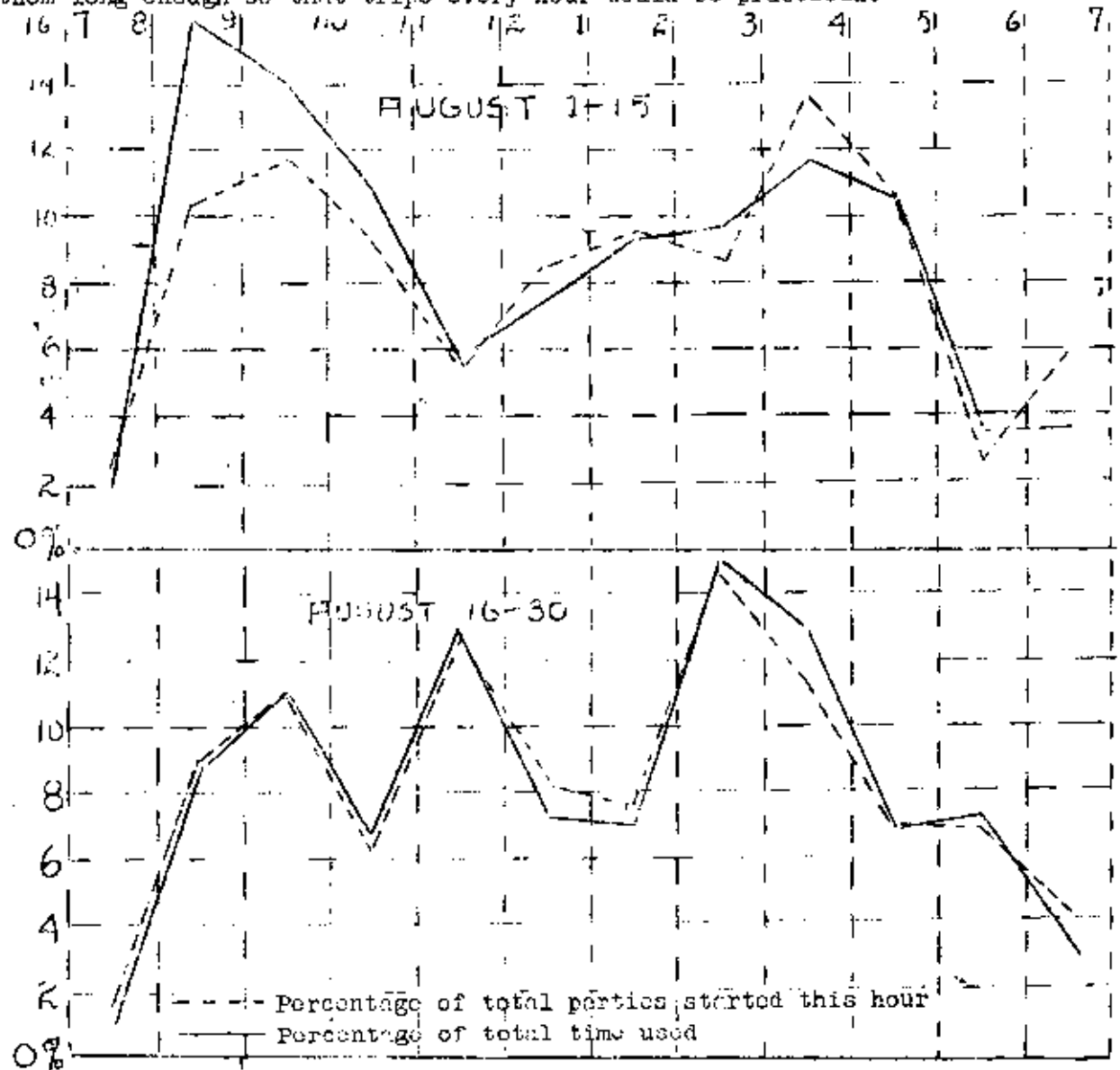
It is very clear, then, that these two graphs are not worth the paper on which they are printed. If the latter two weeks had duplicated the results of the first two, we would have had something on which to work, but id didn't happen that way. Consequently, we feel that we shall have to work with great quantities of data, and that such mohth-by-month statistics are rather worthless.

The most important bit of information for the month popped out of a chart which the Boss prepared showing the start, finish, and overlap of trips for each day. Until this piece of work was done it had been the

fond hope of several in the office that we could cut down useless work a great deal by running trips on the half hour.

But the chart showed that if we had run trips on the half hour we would have cut the number of trips from 302 to 272---a saving of a mere 10 percent, which is far from worthwhile. Moreover, each party would have had to wait an average of 7.55 minutes, or a total of 2,282 minutes. In other words, we make the public wait around more than atotal of 38 hours to save ourselves a little more than 28 hours of work. If such a system were instituted, the probable result would be that our 28 hours of saved time would be spent in trying to pacify irate visitors forced to wait from one minute to 20 minutes per party.

Obviously, the solution does not lie in trips at stated half hour intervals. Apparently we will continue to run over to the ruins every time anyone drives up---until we get a comfortable, interesting, coal museum lobby where people can sit and enjoy themselves. Then perhaps we can hold them long enough so that trips every hour would be practical.



We are entering here a letter from Milton Wetherill who is a gap-filler at about 1/2 salary, or less, at Navajo National Monument until a solution for permanent protection at that Monument can be found.

This letter of Milton's is to Frank Pinkley, attention Bob Rose; and here I might say that if everybody in Southwestern Monuments service did as "much thinking per dollar salary paid them" as Milton is doing, there would be no question about whether or not we were handling our jobs successfully. The next paragraph is Milton speaking:

--

"Thinking that perhaps you might be interested in some of the things I am attempting to do along Park Service lines, aside from the regular duties of guard and caretaker of the Betatakin and Keet Seel ruins, I am noting them down for your attention:

First: - I am making myself familiar with the published material on these ruins in order that I might be in a better position to answer the numerous questions asked by visitors. This not only embraces the above ruins under my immediate protection but also the whole Tsegio region. You are aware that I have a great deal of practical knowledge of archeological field methods and artifacts also.

Second:- I am carefully making a study of the geological formations of the area and collecting formation specimens, to be the nucleus of a future museum collection at these ruins. This study is also to aid me in giving accurate information to visitors in so far as I am able to do so.

Third: - Being familiar with the birds and animals of this region, I am establishing record data on them. These data, also to form the basis for future museum records and go to the use of the Park Naturalist of Monuments. On my trail trips and duty about the Monument when and wherever a dead specimen is found, I make a study skin of it and send it to the Museum of Northern Arizona for identification where it may be found in their collection.

Fourth:- I am constantly on the lookout for botanical specimens and am making a check list of the trees, shrubs, flowers, grasses, cacti, etc., that come under my observation. Herbarium specimens are deposited with Mr. John Wetherill at Kayenta, where at present he has his rather complete collection available for students.

I would appreciate your assistance in whatever way possible toward carrying on the work carefully and faithfully, and believe you agree that what I am doing outside my regular line of work will be of value to the National Park Service, and to any future museum that may be established here for the service of the public.

MILTON WETHERILL, CONTD:

You realize, of course, that all the material I need for carrying on this work, I have furnished myself. There are items needed which at present I am unable to purhhase and if in any way you can secure them on loan or gift for me it would be of great help. As an example, I have been licensed to establish a bird banding station in this region for the Biological Survey. They have supplied me with the necessary bands and now I am in need of bird traps. They are rather expensive for me to purchase and I wonder if in any way your office could secure one of these traps for me. I am also in need of chemicals, such as powdered arsenic, formaldehyde, and cyanide for collecting bottles. Would it be possible for you to secure for me several hundred 3 x 5 ruled library cards for cataloguing and record purposes ?

Again, anything you can do to further the voluntary work I am [illegible] undertaking will be greatly appreciated. Very truly yours, Milton Wetherill".

The above might well be adopted as excellent procedure for others in the field trying to determine the natural history and archeology present in their particular localities. Some attempts will be made to secure the supplies Milton asks for to continue these studies.

PROPOSED ITEMS FOR BANDELIER MUSEUM

While we are on the subject of what the men in the field are thinking about, here's a report by Custodian Earl Jackson of Bandelier on the proposed museum there. This letter is in reply to a letter Bob Rose wrote to Earl in which two questions were asked : (1) What are the questions which Bandelier exhibits should answer ?; and (2) Could practical suggestions be formulated now as to exhibits rooms arrangement?. Earl is answering these questions with a background of training for his M.A. degree in Archeology and considerable practical ranger and field experience. The tentative plan follows:

"Dear Bob:

"Received your letter day before yesterday and was disappointed to learn you could not be here soon. Louis Shellbach was in, with lots of pregnant ideas, and we could have figured out a lot. However, will hope for you this month and in the meantime I am sending in a tentative museum arrangement outline, including the dozen pertinent visitor questions which you asked for. Here goes:

Questions which the Bandelier Museum should Answer:

1. Who were these people ?
2. Where did they come from, and when ?
3. When did they leave, and why ? Any historic contacts ?
4. What kind of people were they ? Were they pygmies ?
5. Where are they now ? Are the modern Indians of the region descended from them ?

BANDELIER MUSEUM, CONTD:

6. Did the inhabitants have enemies ? If so, who were they ?
7. Do we know anything about the religious life of the inhabitants ? What tribal organization did they have ? Why did they use kivas ?
8. How did the people make a living ? Were they pastoral, nomadic, or agricultural ? what did they eat ?
9. What were their chief cultural developments ? (Especially those developments which would distinguish them from other Indians ? How did they make the famous Pecos Glaze Pottery ?
10. How did they build their houses ? Why were holes dug into the cliff to live in ?
11. What is dendro-chronology ? What are the various methods used for dating ancient pueblos and cliff dwellings and other ancient dwellings ?
12. Do these ruins compare in extent, date, and culture with Chaco Canyon, Mesa Verde, and other well known sites ?

"That's just a dozen questions; I could write a million, but believe what is written here covers the idea you are getting at. On the following page is an attempt at a museum arrangement projected upon Shellbach's ideas. After you have checked it, and added to or detracted from it, the outline should be sent on to Louis Shellbach.

A PROPOSED MUSEUM ARRANGEMENT FOR BANDELIER NATIONAL MONUMENT

"The Museum and Administration Building will be one and the same structure. Leaving aside the administrative unit as another consideration, the museum should have five rooms, including the lobby. Aside from these rooms, there should be rooms for storage and a workroom.

The LOBBY will be the place for visitor entrance and registration. It should be fixed up comfortably as a place to sit and rest while waiting for the guided trips. In addition to being a comfortable lounging place, the Lobby should contain books, pamphlets, pictures, and should constitute a psychological key to the museum exhibits later to be seen. It should make the visitors decidedly "Indian-country"conscious with attractive pictorial representations of Indian scenes, life and environment, without creating necessity for an organized explanation. The LOBBY is thus an imaginative setting so essential to the appreciation of the guided trip through the ruins which follows. After the guided trip is finished, the museum proper, with thorough explanations, would be in order. Of course, at no time will people be prohibited from strolling about through the museum, which will be sufficiently labeled and pictured to be self-explanatory.

"Suggestions for LOBBY wall display would be as follows:
a. A large wall painting or tinted photograph of the Indian pueblo at Taos.
b. A painting of the Ceremonial Cave.

EARL JACKSON, CONT'D:

c. A large picture of Community House, showing it in part as it was when inhabited.
d. A large, colorful map of the Southwest, showing the various Parks and monuments of archeological interest as pictorial insets, with principal cities, roads, and distances designated.
e. A large colored picture of the Upper Falls in Frijoles Canyon, which is a spot of great beauty, and will make visitors conscious of the merit of a walk down one of the Nature Trails.
f. A large pictorial map of Old Santa Fe would not be out of order. On this, dates would be shown, and brief historical legend placed at the bottom. Since the Spanish occupation of the Southwest began before Frijoles Canyon was abandoned by the aborigines, even though the two peoples never contacted, the picture of Santa Fe would harmonize with the general scheme of things.

Suggestions for the First Museum Room:

"No artifacts will be shown in this room, if suggestion is adhered to. Here, rather, will be a complete, integrated, chronological picture and chart scheme of North American archeology and ethnology, leading toward the end to the specific Rio Grande area to be shown in the next room. In the center of the room might logically be placed a plaster relief model of North America. Charts and sketches could be arranged logically in somewhat the following fashion:

a. A relief map of North America, showing the northeast tip of Asia and Greenland. All of the probable migration routes of Amerinds would be shown; the Behring Strait Route, the Aleutian Island connection, the possibility of some Cro-Magnon influences having come over through Greenland and Iceland from Northwestern Europe. The southernmost extent of the Ice Sheet should be shown, and legend below the map would indicate probable date of man's first appearance in North America, and would refer to the possibility of Pleistocene Man. Also on this map should be shown possible routes of early travel through this continent which would account for the segregation at an early date of the different types of people and culture found.
b. A picture chart of the principal types of North American Indians both historic and prehistoric, should be shown. Legend at bottom would give a few of the principal anthropometric characteristics.
c. A chart of the different house types built by Amerinds, both historic and prehistoric, would be in order. These house types should be separately designated as belonging to farmers, hunters, or shepherd peoples.

Bandelier Museum, Contd:

d. A chart should be prepared showing how chronologies are worked out; in house type developments, in development of pottery design and technique, and in the study of tree rings. This tree ring explanation could be made interesting by careful sketches, and this must be done. The average person has no more conception of tree rings as they apply to ruins than I have of the growth of adenoids in archaic Martians.
e. A clever picture could be drawn to show what an archeologist has to do in uncovering a ruin; first showing the ruin, then showing the progressive stages of excavation, with detail of how the stratigraphy tells a graphic story.
f. A map of the Southwest, showing prehistoric ruins, or rather prehistoric culture areas, with the Rio Grande drainage distinctively marked, would be well as a finish to this display.

"I do not claim that the outline shows everything that might be necessary, but believe the suggestions made veever essentially the idea we should put forth. I hope this clicks with your ideas.

Suggestions for the Second Museum Room:

"This room will present a scheme of Rio Grande archeology, concentrating on Bandelier National Monument, and therein will be contained the artifact material which we find there. Only a representative collection should be shown; there is no use to show duplicates or triplicates, except on small articles, for they are not essential enough to warrant taking up the extra space.

a. A chart should show all of the principal sites of the Rio Grande area, both historic and prehistoric.
b. A chart showing all of the culture periods of the Southwest, from Basketmaker I to Pueblo V inclusive, with description of outstanding developments of each shown, and the point at which the Pajaritans tie in with this scheme, should appear here.
c. A relief map of Bandelier National Monument, with a panoramic view of Frijóles Canyon, enlarged, and showing the principal ruins groups.

d. Exhibit Case No. I: - This case will show skeletal material, separated and indicated according to age and sex. On a card will be mentioned a few of the sexual differences observable on bones. Above the display should be a picture of a typical Pajaritán man and woman, or family scene, in one of the cliff houses. With the skeletal material it would be nice if we could contrast the skulls of an Apache or Navajo, as illustrative of the nomadic, marauding type of people who sometimes made life miserable for the Pueblo Indians.
    1. In a separate part of Exhibit Case I could well be shown bones of animals and birds found in the ruins, with legend account of the significance they played in the lives of the peoples---whether sacred or used for food purposes.

EARL JACKSON, CONTD:

2. Contributory to Exhibit Case I, should be a case in the center of the room, with a flat or trapezoidal top, showing a typical burial, with everything in situ and undisturbed, even showing some of the grave dirt in place.

e. Exhibit Case II: -,Showing the development of pottery from the first type made in the Southwest, down to the latest historic, and showing where Frijolitan wares tie into the general scheme. Sketches will have to show something of the technique of manufacture, and the raw materials must be shown. Then will come a representative display of every type of prehistoric Rio Grande ware obtainable, with the Frijolitan wares shown from early to late.

f. Exhibit Case III:- Stone implements showing the sequence of types made from early to late, and technique, pictorially, in making axes, and possibly grinders and arrowheads. Arrowheads would show in display in the different types used for hunting small game, warfare, and the distinction, if found possible by future study here, between types used by nomadic Indians and sedentary tribes (as seen in Sonora, Mexico.) Other stone implements could represent types from different regions in a similar manner.

g. Exhibit Case IV:- This case will contain the textile specimens such as pieces of cloth, basketry, and matting, and jewelry displays. Raw materials should be shown wherever possible, and sketches should show clearly the types of weave employed, and any loom materials which might come to light should be illustrated as used. Any other objects which seem not to belong very definitely to any other category, and objects of bone, can be represented in a section of this case, and their uses stressed wherever possible, in the same manner other objects in use have been previously stressed.

"A suggestion made by Mr. Shellbach for a display in a flat, wall case seems excellent. A great many fragments of objects which would be useless in any other function would serve a definite purpose if placed in a cross-section of different levels of soil, according to layers of occupation. This would give a good idea of what the archeologist sees when he is running a trench into a trash mound.

"In the center of the room, on a flat table, should be a model of the Community House, partially restored, and with it a model of a cliff house and talus house group, as the latter two occur together here. A restoration of the Great Kiva, which lies 150 yards east of the Community House, would go quite well with these models; the roof would be

BANDELIER MUSEUM, CONTD:

removable, and details of the inside could be pointed out. Points of interest could be numbered, and reference to a legend written near, which in brief would tell the story of the kiva and its significance, could be made.

Suggestions for the Third Museum Room:

"This will be a room of othnology, and will deal only with the cultures of the living Indians of the region. On the walls should be pictures of the different important Indian pueblos of the section, as for instance: Taos, Acoma, Santa Clara, San Ildefonso, etc. Photographs of the different tribes of people should be shown.

a. One case in this room should deal entirely with the different types of native Indian foods. There is quite a story to tell about foods, and how the people gather nuts, berries, and obtain certain herbs for food and for medicinal properties. The story of food getting among Modern Indians will adequately convey the idea of how the aborig ines got theirs.

b. Other cases will contain representative specimens of the arts and crafts which distinguish cultural traits of the different tribes. Pottery will be the chief item, as little weaving is done in this section by true Indians. Jewelry, and garment types will make up the rest.

"House types are so characteristically similar that one pictorial representation will be sufficient as generally illustrative.

"Ceremonial paraphernalia, belonging properly to arts and garmenture, will be interesting if given a significance.

"Indian paintings and carvings of today must be compared with those of yesterday, especially with those of Frijoles Canyon. Points of dissimilarity, rather than similarity will be strongest, as Pueblo art of today in this region differs greatly from the old.

"As you can see, I have no completed plan of display for the Ethnology room, but I have a firm conviction that it should be an integral part of our museum; the ideal museum would have it, that we know.

Suggestions for the Fourth Museum Room:

"This room would combine displays of the geology, the flora, and the fauna of the region about Bandelier.

"An ideal center display would be a plaster model showing a cross-section of the geological formations between the Valle Grande, or great

EARL JACKSON, CONTD:

crater situated in the Jemez Mountains 12 miles to the west of here, and the Rio Grande, as shown in the cliff formations of Frijoles Canyon.

a. Labeled specimens of all the volcanic rocks in this section should be shown, and any sedimentary rocks that might be found.

b. One geologic chart on the wall would give the geological story of the Pajarito Plateau and the Jemez Mountains; This story, though but partially known, is fascinating.

c. Bird and animal life can be shown partly by pictures, partly by stuffed specimens of the smaller creatures; any wild creatures killed accidentally here can be saved and stuffed. Insects can be saved by paraffining the specimens and mounting in flat cases. Lizards and the like can be preserved in jars.

d. The multitude of plant forms can be shown by preserved specimens of twigs of the larger ones, and by complete examples of the smaller ones.

"Because of my ignorance of flora and fauna at present in regard to means of display and preparation, I cannot give a detailed idea of this project, but believe that you will see the interesting possibilities involved.

Store Room:

"A storage room is needed for extra museum material and for material which is not ready for preparation. The material could be so arranged here that students might have access for study and research.

Laboratory:

"A small laboratory is very essential. Here will be done all museum preparation, patching, labeling, etc. You are thoroughly familar with such needs.

"All in all, you will find a number of things in this outline incomplete; but if you agree with me on the essentials, I will feel very happy; if you disagree, I won't be hurt, for I will know that a more experienced reasoning than mine has changed the thing. Here's hoping that you can come up before this plan has to go in...." Sincerely, Earl Jackson".

All in all, the above outline is full of very fine ideas. A number of comments would be in order right here and will become a part of the tentative outline:

1. Would not a relief map of Frijoles Canyon and neighboring canyons showing trails and features to see, be a good thing in the LOBBY ? People seem to be greatly interested in looking on a model and tracing out either where they are going on their next trail trip, or where they have just been. It would seem a good thing to have such a model in the Lobby. In the above outline such a relief model is suggested for room II, and the relief model for the Lobby might emphasize trail routes while the relief model in the Second Museum Room could stress all of the ruins groups in the whole region.

2. Bandelier National Monument is in a key position with reference to tourist travel into the Southwest. It is the first archeological monument or park contacted by people on a west bound trip. It is near Santa Fe which is in itself an attraction for high type of tourist travel; yet Bandelier is isolated enough th automatically sift out people with little or no interest and appreciation. Hence, in view of the key position occupied by Bandelier, a rather thorough museum development would seem justifiable. The above outline seems to carry out a sufficiently broad development.

3. The suggestion that the Lobby be a comfortable lounging place and be introductory in character, seems an especially fine one. It will cut down the necessary field trips daily. The less the number of trips a given ranger has to conduct daily, the longer he can make each trip, and also the more efficient he is in his leadership of the field group.

4. It seems that faunal habitat groups for the various life zones represented in the region as a whole, are the most effective agents of popular instruction that can be used. All in all, the question as to whether one room is enough for geology and natural history had better be given more thought. If further thought and plans reveal the need of another room, two in all, for geology and natural history, then it could be included in the plans at the start.

As our program of museum planning in the Southwest continues, we should try to answer these two questions: (1) What questions should the museum at your particular monument answer ?; and (2) To what extent can you suggest arrangement of exhibits that should determine the number of rooms needed and the sequence of rooms ? These questions seem weak toward being full [illegible] in Earl's outline.

This about closes the Supplement stock for this month. I believe the letters and articles this month indicate some excellent thinking and planning on the part of the boys in the field.

Cordially, THE BOSS

E File m

SOUTHWESTERN MONUMENTS

MONTHLY REPORT SEPTEMBER 1934

OCT 1933 TO SEPT 1934

WE HAD

195,392

VISITORS

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

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

SOUTHWESTERN MONUMENTS

REPORT FOR SEPTEMBER

1934

INDEX

SOUTHWESTERN MONUMENTS GENERAL

Introduction---------- 94
Annual Travel Report---------- 94
Analysis of Annual Travel---------- 97
Meaning of "Educational Contacts"-------- 99
Construction----------101
Personnel----------101
Field Trips----------101
Travel for Month----------102
Closing----------102

REPORTS FROM THE MEN IN THE FIELD

Chiricahua----------103
Bandelier----------106
Aztec Ruins----------110
Chaco Canyon---------112
Montezuma Castle-----114
Navajo----------115
Natural Bridges------116
Capulin Mountain-----117
Canyon de Chelly-----117
Gran Quivira----------119
Tumacacori----------119
El Morro----------120
Pipe Spring----------123
Tonto----------124
Wupatki----------124
Walnut Canyon--------126
White Sands----------127
Casa Grande----------128

Engineers' Reports----------129

THE SUPPLEMENT

Frederick K. Vreeland----------131

Casa Grande July, August and September Trip Charts---------132
Analysis of Time Clock Records----------135
Discussion of Trip Records----------137

List of Inscriptions and Names, El Morro----------138
Bandelier Museum Studies----------142
Story of Bandelier National Monument (Earl Jackson)--------149

LOCATION AND PERSONNEL OF SOUTHWESTERN NATIONAL MONUMENTS

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

---

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
SOUTHWESTERN MONUMENTS

Coolidge Arizona, October 1, 1934.

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

Dear Mr. Director:

We again bring our good ship into port long enough to report on our activities for the month of September 1934.

SOUTHWESTERN MONUMENTS GENERAL

ANNUAL TRAVEL REPORT:

Travel figures for Southwestern Monuments for the travel year October 1, 1933 to September 30, 1934, inclusive, were submitted on the last day of the month. A listing of this travel by individual monuments accompanied with explanations and discussion, will make the list of figures mean something. Travel figures must be explained a little in order to be of very much value.

In the following tabulation, travel figures marked with the asterisk (*) have been estimated. Those not so marked represent either an actual count from registration, or were arrived at through very close year round observation.

Monument	1933	1934	
*Arches	425	275	
Aztec Ruins	7,546	10,142	
Bandelier	3,906	9,457	
*Canyon de Chelly	435	650	
*Capulin Mountain	14,000	22,000	
Casa Grande	21,771	26,776	
Chaco Canyon	5,817	6,068	
*Chiricahua	-----	15,331	(Pk. Serv. (7/1/34)
*El Morro	2,467	2,800	
*Gila Cliff Dwellings	-----	75	(Pk. Serv. 7/1/34)
Gran Quivira	3,563	4,342	
*Great Sand Dunes	550	-----	
*Hovenweep	425	125	

(Continued Next Page)

(Travel Report Cont'd)

Monument	1933	1934	
Montezuma Castle	13,899	18,619	
*Natural Bridges	654	750	
Navajo	375	675	
Pipe Spring	2,548	8,544	
*Rainbow Bridge	385	390	
*Saguaro	-----	2,500	(Pk. Serv. 7/1/34)
*Sunset Crater	-----	2,500	(Pk. Serv. 7/1/34)
*Tonto	-----	7,005	(Pk. Serv. 7/1/34)
Tumacacori	8,869	11,238	
*Walnut Canyon	-----	10,000	(Pk. Serv. 7/1/34)
*White Sands	12,000(Part year;3/4)	33,900	(Pk. S. Spring '33)
*Wupatki	1,250	1,080	
*Yucca House	300	150	
SOUTHWESTERN MONUMENTS	102,342	195,392	

1934 travel reported----------195,392
1933 travel reported----------102,342

Increase 90.9%..... 93,050

Examining the tabulations closely, we attribute the increase of 90.9% to the following factors:

1. On July 1, 1934 six new monuments were transferred to the Interior Department to become members of the Southwestern system. Increases due to this factor:

Chiricahua	15,331	
Gila Cliff Dwellings	150	
Saguaro	2,500	
Sunset Crater	2,500	
Tonto	7,005	
Walnut Canyon	10,000	
TOTAL	37,486	or 36.6% of the total increase of 90.9%

2. Last year's 12,000 at White Sands was based on the approximately 3/4 year this monument was in the National Park Service. In this year's report(1934) the entire year was included. Making a monument of White Sands added greatly to its popularity. To

S'WSTRN GENL. CONTD:

determine how much of the 90.9% increase is due to the extra one fourth year reported this year, the following computation is necessary:

12,000----------3/4 Yr. of 1933
33,900----------4/4 Yr. of 1934
8,475----------1/4 Yr. of 1934

8,475 accounts therefore for 8.3% out of the total increase of 90.9% reported for this year.

36.6%----------increases due to 6 new monuments
8.3%----------increase due to extra 1/4 year counted at White Sands
44.9%...(45,961 people)....due to both factors.

***

90.9%.....total 1934 increase
44.9%..... part due to above factors
46.0%.....due to increased tourist traffic generally, improvement of roads, publicity, etc.
46%----------(47,049)....1934 increase figured on same basis as 1933 figures.

3. Several monuments show substantial increases and these increases have been determined through very close observation the year round and actual visitor registration. A 1933 and 1934 tabulation for these monuments having quite accurate records should give the percent of visitor increase based upon actual count.

	1933	1934
Aztec Ruins	7,546	10,142
Bandelier	3,906	9,457
Casa Grande	21,771	26,776
Chaco Canyon	5,817	6,068
Gran Quivira	3,563	4,342
Montezuma Castle	13,099	18,619
Pipe Spring	2,548	8,544
Tumacacori	8,869	11,238
	67,909	95,186

INCREASE----------27,277 or 41.7%

a. The substantial increase of 41.7% for monuments keeping close check is doubtless directly attributable to increased tourist traffic, improvements and advertising.

S'WSTN GENL. CONTD:

b. The few hundred increase at Chaco is doubtless due to to increased travel generally together with somowhat improved condition of the road in from the north.

c. Bandelier's better than 100% increase is due for the most part to the new road to the floor of Frijoles Canyon. Formerly visitors had to walk down and up a 5/8 mile trail.

d. Increased travell generally and the rerouting of Zion National Park traffic past Pipe Springs account for the better than 200% increase there.

e. The 41.7% increase at monuments where close checking up is possible indicates that the 46% arrived at above after deducting 6 new monuments and 1/4 year at White Sands, is pretty close to the actual traffic increase.

f. The spiral road to the summit of Capulin has been greatly improved. With a general traffic increase of more than 40%, a 50% increase estimated for Capulin shouldn't surprise us.

g. More careful estimates for Archos, Hovenweep and Yucca House cause us to cut the travel estimates for them. However, it is realized that drastic reductions of figures not large in the first place, are not going to affect the grand totals and percentages materially. If their total of 550 were left out altogether, the effect on the total travel of the year would be less than three tenths of one percent.

ANALYSIS OF EDUCATIONAL CONTACTS ON BASIS OF ANNUAL TRAVEL:

In the tables below, we are listing the monuments where educational and general information services are given byour personnel. At some of the monuments having permanent personnel, the number of people contacted is for all practical purposes the same as the total travel count. First, we list the total travel; then the number of educational contacts thru field trips and general information; and finally, the museum contacts. Several monuments have small museums started but conduct only occasional parties through them; others have museum collections and exhibits viewed by practically 100% of the travel. While individual figures below may be subject to some revision, the table as a whole will give a pretty definite and correct picture of our public and educational contacts problem. The length of time field trips and lectures and museum services last, varies a great deal. In general, however, visits last from an hour

and a half to three and a half hours. Of course there are large numbers of half day to two or three day visitors included. Also nominal custodians and part time custodians contact many visitors not included in this table. Hence the figures given should be fairly conservative.

Monument	1934 Travel	Field trip and informational contacts	Museum Contacts
Arches	296	50	-----
Aztec	10,142	10,142	10,142
Bandelier	9,457	8,000	----
Canyon de Chelly	650	400	----
Capulin Mountain	22,000	3,000	----
Casa Grande	26,776	25,000	25,000
Chaco Canyon	6,068	5,500	5,500
Chiricahua	15,331	6,000	----
El Morro	2,800	1,800	----
Gila Cliff Dwell.	75	---	----
Gran Quivira	4,342	4,342	----
Hovenweep	125	---	----
Montezuma Castle	18,619	18,619	18,619
Natural Bridges	750	300	----
Navajo	675	200	----
Pipe Spring	8,544	4,000	----
Rainbow Bridge	390	---	----
Saguaro	2,500	---	----
Sunset Crater	2,500	---	----
Tonto	7,005	500	----
Tumacacori	11,238	11,238	5,000
Walnut Canyon	10,000	6,000	----
White Sands	33,900	3,500	----
Wupatki	1,080	500	----
Yucca House	150	---	----
25 Monuments TOTAL	195,392	109,091	64,261

Monuments with "Museum Contacts" column unfilled either have no museums or have small collections only occasionally shown.

Field trip and general information contacts..109,091
Museum contacts..... 64,261

(educational)
TOTAL/CONTACTS SOUTHWESTERN MONUMENTS 1934...173,352

RATIO EDUCATIONAL CONTACTS TO TOTAL TRAVEL...173,352/195,392

OR 88.72%

S'WESTERN GENL CONTD:

MEANING OF TERM "EDUCATIONAL CONTACTS"

At the bottom of the previous page we have just figured that our EDUCATIONAL CONTACTS in Southwestern Monuments for 1934 amounted to approximately 173,352 and that the ratio of this figure to the total 195,392 travel for the year is 88.72%.

Unless we are careful, we will jump to the erroneous conclusion that a Park Service unit that reports 350,000 educational contacts for the year has been more than twice as busy, or has done twice as much work, as we have with our 173,352 educational contacts.

To show how far from the truth such conclusion might be, let us take two examples of how 2,000 educational contacts might be reported and determine whether the effectiveness of an educational program can be judged the same:

Example I

Ranger naturalist John Doe of _____ National Park or Monument has about 12 minutes allotted him in a varied program at a camp or lodge. About 2,000 people were in attendance. This ranger naturalist describes interesting features to be seen on a nature trip which starts the next morning. His announcement---for it is little more---requires little or no preparation. Since he doesn't have to go into any phase of natural history, he is able to collect his thoughts in possibly 30 minutes to one hour preparation. Thus, counting 12 minutes for the talk; one hour preparation, and a half hour getting to and from the program, his work has lasted not over a total of two hours. His announcement was sandwiched into a program of music, skits, dances, etc., and it cannot be said that 2,000 people came to the meeting primarily to hear the 12 minute talk.

Example II:

Ranger Joe Smith of _____ National Monument (could be any one of more than a dozen Southwestern Monuments) has 80 people daily who of their own volition, visit his monument to view its ancient villages and see the materials recovered from excavation. These 80 daily come in about 8 different groups at about hourly intervals during the day. This necessitates Ranger Joe Smith's making about 8 trips each day, 10 people each party, and hourly parties. Thus, this ranger is busy fully 8 hours every working day of the month. With 25 working days monthly, he will, by working a minimum of 8 hours a day, conduct 2,000 people on field trips during the month.

S'WESTERN GENL:

We would then say this about the two extreme examples taken:

Example I:

Ranger naturalist John Doe made 2,000 contacts; his working time was not more than 2 hours at the most, about 12 minutes of which was actually in lecturing or talking.

Fortunately, 2,000 people were in attendance, otherwise he could not chalk up "2,000 contacts".

By no way of reasoning can we say 2,000 people came to the program primarily for the 12 minute lecture, talk or announcement.

Example II:

Ranger Joe Smith made 2,000 contacts also; but the following is true:

a. Joe Smith worked 8 hours daily, 25 days a month to do it.

b. He had to be talking almost the total time during the month.

c. His 2,000 people came of their own volition.

d. He worked a minimum of 200 hours making the 2,000 contacts.

e. He went more thoroughly into all phases, or some phases, of a story than did John Doe in example I.

YET IN OUR "CONTACTS" OR "EDUCATIONAL CONTACTS" TOTALS FOR THE YEAR, WE ADD THE CONTACTS OF TYPE DESCRIBED IN EXAMPLE I AND THOSE OF EXAMPLE II RATHER INDISCRIMINATELY! EXAMPLE I FOR 2,000 CONTACTS REQUIRED 2 HOURS: EXAMPLE II REQUIRED 200 HOURS, OR ABOUT 100 TIMES MORE HOURS.

This distinction is highly important for in Southwestern Monuments we have a preponderance of educational contacts to make which are classified under EXAMPLE II. Relatively small parties, grouped at approximately hourly intervals, with approximately hourly trips, requiring personal guidance the whole time of their visit.

It is also seen that unless we carefully explain the nature of the contacts, merely announcing the total number is no criterion of how busy a staff of ranger naturalists, rangers and custodians are keeping themselves. To see this, we have merely to recall Example I with 2,000 contacts made in 2 hours; and Example II with 2,000 contacts made in 200 hours, or a whole month.

S'WESTERN GENL:

As we close this explanation on the nature of our educational contacts, we wonder whether or not a sort of multiplying factor, or common denominator couldn't be found whereby we could reduce the "educational contacts" to "contact minutes per visitor", or contact hours per day per ranger or ranger naturalist. If such factor could be found, we might be able to produce a tabulation each month which would be a true reflection of the effectiveness of our educational work. In Southwestern Monuments our contacts practically belong to Class or Example II as described above, and if we had a very great number of the type described in Example I we would have to carefully segregate the two types in order to get a clear picture of our problem.

CONSTRUCTION:

ECW Camps continue in operation at Bandelier and Chiricahua national monuments. Trails construction, cleanup, parking area work and landscaping are the principle projects being worked on.

PWA work at Montezuma, Tumacacori and Gran Quivira is nearing completion. At Aztec the restoration of the Great Kiva is almost finished while the contract time is now running on the new Administration and Exhibit Building.

In our Report for October we hope to carry a list of the completed Public Works projects in the monuments for by then practically all projects will be finished.

PERSONNEL:

The status of personnel as listed in the reports for the last two months has remained unchanged during September, that is, the month closes with personnel the same as at the first.

FIELD TRIPS:

During the first four days of September several of the headquarters staff made a field trip to Chiricahua National Monument to assist in handling the Dedication Program held there on Labor Day. About 7,000 people were in attendance.

On September 12 Bob Rose made a field trip including Montezuma Castle, Walnut Canyon, Canyon de Chelly, Aztec Ruins, Chaco Canyon, Bandelier and White Sands national monuments returning on the 27th.

Chief Clerk High Miller made a field trip to Chiricahua about the middle of the month on business pertaining to the CCC Camp there.

SWESTERN GENL:

PARK SERVICE OFFICIALS:

Park Service Photographer George Grant has been in the district several weeks working especially at Canyon de Chelly, El Morro, Bandelier, Aztec Ruins and Casa Grande. Important photographic work remains to be done in nearly all of the remaining monuments in the system.

Assistant Forester Wirt has been working in the Southwestern District for a week or more going particularly into problems involving fire hazards.

TRAVEL:

September 1934 compared with September 1933 shows a material increase in visitors in most of the Southwestern Monuments. Increased tourist traffic on the road, improved facilities and favorable publicity are probably the factors contributing to the increase compared with 1933. However, travel in northern monuments is showing the usual Autumn decline while already in the monuments of southern Arizona it seems the usual winter increase is starting.

CLOSING:

All in all, September 1934 seems to have been a very satisfactory month among Southwestern Monuments. Already cold snaps are occurring in northern Arizona while the summer in the southern part seems to be definitely broken. Rains in the mountains and higher plateau regions are improving range conditions. The lower basin and valley areas are still suffering considerably from lack of rain but as the Autumn continues, the rains will probably occurr at lower and lower elevations breaking the drought.

A good many of the boys about the office are a little excited just at the present time but they will be back to normal as soon as the World Series ball games are over.

Cordially,

FRANK PINKLEY,
Superintendent.

RHR/

REPORTS FROM THE MEN IN THE FIELD

CHIRICAHUA NATIONAL MONUMENT — By Charley E. Powell, Ranger

We will begin the reports with the following good letter from Ranger Charley Powell, "Chiricahua Charley," of the Wonderland of Rocks. He has been at this monument during the past three months and in a few weeks will fold up his tent, take down the flag and wait for the opening of another season.

Dear Mr. Pinkley:

We have had a fine summer here in the Wonderland. Soon we will close the Ranger station and I hope no one will notice too closely, for I am afraid that our eyes will show a little moisture when we lower our flag for the last time from in front of the first temporary Ranger station. The privilege of being a part of the Park Service and the view of the public so obtained has been an experience which will be treasured for a lifetime. There may be other jobs, other Rangers, experiences, and Parks, but Chiricahua for the past three months has been an experience which will never be duplicated.

The Dedication is now history. After the hasty preparation, and the flurry of the unusual crowds, the usual routine appears quite tame in comparison. Each of us had different experiences during the big day. We watched the pits being dug, the fires being built, and the barbeque being roasted. We saw Mr. McDowell and his able men erect their camp, and the early arrivals pour in. In fact, we kept pace with everything that happened until things got too fast for us.

Sunday evening there were about two hundred and fifty cars in the camp ground below the CCC camp, and a camp fire party was held which was not on the schedule, though we did have a good time. There was no program arranged, but the boy scouts built a fire and everyone present was privileged to call upon whom they wished to sing, dance or recite, with nothing barred but politics. Wasn't it fun?

Monday morning, I arrived at the Ranger station shortly after six. The cars were streaming past when I got there. Mr. Newell of the highway patrol passed the station as we started our count and proceeded to the top of the hill, where he counted all who were ahead of him. These were added to our count. Our talley sheet was made in the following manner. We had two small counting machines, which counted to one thousand. One was used to count cars and the other passengers. The record stands as follows:

7:00 AM	1,000 Passengers	11:25 AM	1,000 Cars
8:00 AM	2,000 "	12:30 PM	1,120 "
9:00 AM	3,000 "		
10:30 AM	4,000 "		
11:30 AM	5,000 "		
12:30 PM	5,523 "		

CHIRICAHUA NATIONAL MONUMENT (CONT'D)

At 12:30 PM the traffic was held for an hour, permitting the departure of about two hundred cars which left early, and at 2:30 PM the traffic was again directed downward, until all had departed. The final count as shown by the counting machines was 6,476 passengers and 1,573 cars.

After the road became clear, Mr. and Mrs. Thomas Robinson of the American Consulate at Nogales, Sonora, Mexico, and Mrs. Pearl Ashcroft of Poignton, Devonshire, England, were shown the view from Massai Point. These visitors arrived while the traffic was streaming down the grade.

The next morning, Mr. McDonald, Chief Chef, brought us a sample of the barbecue.

(I hope that someone, who attended the Dedication, will write a full and complete article on the subject. This was one time when "Charley was not there.")

The day after the celebration, one of the visitors who lingered overnight timidly approached the Ranger station and with a familiar gesture reach for his hip pocket, saying that he had a real treat for us. Before we could either accept or decline, he poured out a small quantity of white sand and told us all about the wonders of a certain beautiful spot over to the east. Do you suppose that the custodian of the deposed baby was AWOL? Do you suppose that mysterious visitor intended removing one of our balanced rocks to attract more traffic to the White Sands?

We miss the engineering crew, Mr. Gene Gordon, Mr. Knox Borden, Mr. and Mrs. Bob Harris and Mr. Walter Attwell, since the celbration. They had seemed a part of the force here, and the work they accomplished will remain to remind us of their stay.

The CCC boys who took time off in lieu of the overtime earned while preparing for the celebration, have now returned, and the work which began before August 1st is being continued. They are moving into the new barracks, three of which are now complete. These barracks are being constructed by the Army Quartermaster Corps under the supervision of Lieutenant Rucker and Sup't. Charles Dixon.

We have had 9,000 visitors at Chiricahua since July 1st. A complete report will be forwarded to your office shortly. We count our accomplishments as follows: Temporary Ranger station established and a working system of checking traffic and of making contact with the public evolved. Passable story of the geology of the region; including a printed article by our Park Service Geologist, Mr. Robert H. Rose, and another by Mr. Carl Trischka, geologist of the Phelps Dodge Corporation. (We are pleased to note that these two authorities agree.) Classification of the principle trees and shrubs native to this region. Except for future discoveries, we are reasonably sure of our trees. A plan of study of the wild flowers and

the acquisition of two books on the subject. There are many flowers here which are rare, and which are not classified Western Wild Flowers, but we have made some contacts which will enable us to classify them when they bloom again.

A plan of study of Wild Life. We have learned the haunts of deer and several interesting animals, and have acquired three books on the subject. We are now able to show them to visitors when we find any who are sufficiently interested to follow us. Two subjects which we have not had time to study very much, will be taken up later. These are the study of insects and reptiles. This will be an interesting field, as we have noticed that there are differences between the snakes and lizards found here and those found elsewhere, and we hope to find differences in the insects as well. We have noticed nothing unusual about the birds, but may later.

We know that Mr. Dale S. King, Jr. Naturalist, will help us to get our studies under way next year, and we have Dr. E. D. Ball to help us too.

In addition to the above mentioned studies, we might mention that practically nothing has been done so far about Archaeology. This is a rich field for Indian relics, as we know it to be the haunt of the Chiricahua branch of the Apaches. We have its history as given by the Hands brothers, and Mr. Neil Erickson, who have lived in this vicinity since the time of the Indians. We have visited caves containing Indian writings, and have collected a few relics, but because we have not yet acquired a museum in which to house artifacts, not much has been done in this line.

I am enclosing a copy of Ass't. Forester Wirt's report. This, together with a report of the celebration which I suppose will be written by some one of the NPS visitors who attended the celebration, will be about enough from Chiricahua this year.

Goodby and good luck, until next year. Yours very truly,

C. E. (CHARLEY) POWELL
Ranger, Chiricahua National Monument

REPORTS FROM THE MEN IN THE FIELD

BANDELIER NATIONAL MONUMENT By Earl Jackson, Custodian

Dear Mr. Pinkley: Following is the report on Bandelier National Monument for the month of September, 1934.

Visitors: Travel, while considerably lower than for last month, reached 1,492, which was over twice the figure of 634 for September, 1933. Our visitors came in 393 cars, from 34 states, the District of Columbia, and six foreign countries (Ireland, England, Germany, Greece, Spain and China). So that, although the close of summer cut our travel considerably, the regional representation is still quite good.

Weather Conditions and Roads: Rain has been good in this region and roads have suffered. On several occasions, visitors have had to wait for washes to run down before they could cross them. One tourist lost a new car in Tesuque Wash during a flood. On the mesa between here and the paved highway, the road is good, but once down Culebra Hill they are abominable. Precipitation in Frijoles this month amounted to 1.85 inches.

Special Visitors: On August 27, I met Ansell Hall, Carl Russell, Leffler Miller and Louis Shellbach of the Field Division of Education, in Santa Fe. Carl and Leffler had already been out and talked with me. Ansell almost came out to Bandelier, but didn't.

On August 29, Louis Shellbach came to Bandelier and spent the better part of two days with us. His museum organization ideas sound mighty good to me, and I hope to see him again soon. On August 28, Dr. William Mann, Director of the Washington ZOO, spent a short but interesting period with us. On September 1, George Grant, Photographer, left after a five day stay. If his pictures turn out half as good as they looked through his view finder, Bandelier should be one of the pictorial scenic beauties of the world. On September 2, E. S. Larsen, Jr., Professor of Petrography, and Kirk Bryan, Associate Proffessor of Physiography, both of Harvard University, came to Frijoles to tie in some finishing touches to a geological survey they have been making of the region for several seasons. Dr. Sylvanus G. Morley, of fame in Mexican archaeology, paid a short visit on the same day. W. H. Dunham, an iron and steel manufacturer from Evanston, Illinois, was a very interested visitor. On September 5, Mr. Kittredge, Chief Engineer, and Walt Attwell, Associate, appeared. Mr. Kittredge was on short time, leaving on the afternoon of the 6th, but was as busy as three men while he was here. I believe he was favorably impressed with developments here, and look forward to his return. Walt remained here until the 8th, and left things so busy he will have to come again soon. Alfred Peterson was a welcome visitor for a night and half day. Was from El Morro and headed back to the University of Arizona. On September 7, Burton Frasher and son, photographers, of Pomona, California, were in, and spent the day taking pictures in the Canyon. Frashers need no introduction in the Southwest. On September 13, Chuck Richey and Frau arrived. He spent three active days with Assistant L. S. Architect Morse and myself going over everything here which had a landscape interest.

BANDELIER NATIONAL MONUMENT (CONT'D)

On September 19, John L. Nelson, of the Museum of the American Indian at New York, spent an afternoon with me. With his party was Miss Harriet Hammond of Peabody Museum. On September 22, Assistant Superintendent Bob Rose came in. I wish he could have stayed a week, but we got a good deal accomplished in the two days he spent. He straightened me out on a good part of the geology of the region, and one half-day we spent going over the museum plan.

Improvements: C.C.C. work has gone on smoothly, with no interruption on account of weather. The Lower Falls trail is now entirely finished clear to the Rio Grande river. A week will finish the upper canyon trail to the Upper Crossing, seven miles west. This trail is going to be one of the most beautiful scenic trips in the southwest. The trail side cleanup down the canyon is finished, and is going rapidly ahead up stream. Planting of trees in the camp ground has been well under way for several days. Fencing of the detached portion of the monument is drawing toward a close.

Nature Notes: A recent estimate on wild animals in Bandelier National Monument was as follows: 200 deer, 6 bear, 25 raccoon, 12 beaver, no lion, 25 badger, 25 coyote, 50 grey fox, 25 bob cat, 25 ringtail cat and 25 civet cat.

I fear a hard winter is in store for rodent life here. I have seen not one solitary pinon nut or acorn in many a ramble through wooded areas. One also wonders what the Merriam turkey will do without one of its favorite foods, the pinon.

Recently a visitor picked up the large molar of some herbiverous creature, which was on top of the ground near the trash fill of the Long House. I got interested in the size of the tooth, and sent it to Raymond S. Hall for identification. Ward C. Russell, Assistant Curator in Osteology of the University of California, returned the specimen. I had had a grave fear the molar might be an abnormally large horse's tooth, and expected a great horse laugh to be forthcoming from the folks hereabouts, but it turned out to be the tooth of a bison.

Bison were known to be rare west of the Pecos, but the early settlers reported a few. This molar was undoubtedly thrown out with trash by the aboriginal inhabitants of the Long House.

Practically no fishing has been done in Frijoles Canyon this month. One encouraging bit of information I recently got from the Secretary of the New Mexico Fish and Game Commission was to the effect that the State is quite willing to stock Frijoles Creek with 20,000 additional trout by the first of next July.

REPORTS FROM THE MEN IN THE FIELD

BANDELIER NATIONAL MONUMENT (CONT'D)

Fire Report: Ordinarily no fires would be expected in this section after the middle of September, but every once in a while the powers decide to show we mortals they can be sportive and erratic. Two fires occurred this month, and I am going to quote the exact report rendered by James Fulton, ECW Forestory Foreman for Bandelier, as he led the crews which handled both blazes.

Fire Report by James Fulton

After spending two days on a fire fighting trip, eleven men returned to camp with blistered feet and numerous aches. However, the fact that we had successfully performed a difficult task heartened us considerably. After supper on the night of September 9th, a fire was reported by telephone to camp headquarters. The location was supposed to be about one mile east of camp on the south mesa. Four local experienced men, Custodian Jackson, and I searched for two hours, but found no fire. We returned to camp, stumbling down the rock strewn trail in the dark.

At 8:45 the next morning another telephone call reported the fire to be at Painted Cave. Sup't. Chase reached me at station 55 on the upper trail where I was working a crew on trailside cleanup. It was 9:20 when ten of my crew and I left only to stop in camp long enough to get tools and rations. At 2:15 we arrived at Painted Cave and no fire was in sight.

In order to reach Painted Cave, we had traversed twelve miles of rough trail in four hours and fifty-five minuts. We rested at Painted Cave for ten minutes as we had been doing each hour. Then we gan to climb the mesa which provides the locus of the cave, in order to obtain a better view of the surrounding area. That fire was some place in the vicinity, so we were going to scour the country until it was found. Just as we began to climb a cowboy came along and told us that he had just ridden past the fire, which was at Yapashi Ruins.

We labored up to the top of the mesa another four and one-half miles. We reached Yapashi, where the brush, remaining within the burned area, was all that was burning. It being 5:45, we immediately partook of fire rations. There was no water, so we tried to forget our thirst. As soon as supper was over, I dispatched two men to search for water, while the rest of us put the finishing touches to extinguishing the fire.

Within an hour not one burning amber was visible so I posted two guards whose duty it was to extinguish any blazes which might break out. At ten O'clock the two boys I sent for water returned with the canteens as empty as before. To be sure it was a disappointment, but there was reason to believe water could be found in the light of day. All through the night, those who were not guarding the fire, were trying to get some sleep. I never fully appreciated how hot the side of a man next to a camp fire and how cold the side away from the fire could be until that night. The first light of day found two of the men renewing the

BANDELIER NATIONAL MONUMENT (CONT'D)

search for water while the rest of us made a thorough inspection of the fire. We found that the fire was completely out, thanks to the work of efficient guards. The extent of the fire was about two-thirds of an acre. It was on a north slope in a stand of Pinus ponderosapoles with no reproduction or underbrush. What had actually happened was that lightning had struck a live tree and ignited the duff and litter. This probably took place on the afternoon of September 9th when we had a small rain storm here in Frijoles Canyon. The duff and litter burned slowly by virtue of the fact that there was little wind. Had there been an appreciable amount of wind, the fire would have spread rapidly. There was none other than soil damage, the trees on the area being only slightly scorched.

The fire being suppressed, there was nothing for us to do but eat breakfast and wait for the water monkeys to return. For thirteen hours we had been without water. During the hour before the water boys returned, the waiting boys were casting glances in all directions. I could tell they were anticipating the return of the boys and wondering if they were going to have water with them. A disappointment like that of the night before would have been tough to take. However, at eight o'clock the two boys returned and thanks to Him they were loaded down with full water bags. The search had taken four hours and had led the two boys for a distance of four or five miles. We headed northwest at nine o'clock and soon picked up the trail for camp.

On the afternoon of September 25th, lightning struck a snag, literally blowing the upper three-quarters of it to pieces and setting it on fire. I was riding to camp on a truck at five p.m. when I spotted the fire just as we had passed the warehouse. I stopped the truck and determined that the fire was in the direction of Saint Peter's Dome just this side of Alamo Canyon. We proceeded to camp, I picked up a crew of men, and we were well on our way by five thirty. At 6:15 we reached the fire after having crossed four canyons without even seeing a trail, let alone walking on one. We extinguished the margin of the fire and then cut down the remainder of the burning snag. After burying the few remaining logs that were burning, we built a camp fire and waited so that we could walk home in the light of the moon. The moon obligingly appeared within a couple of hours, and we began the trek home. This experience was much more enjoyable than the Yapisi Fire. We traveled a little less than four miles, a distance which was not objectionable even though four canyons had to be crossed without aid of a trail. End of fire report.

General: It is interesting to know that New Mexico is fast realizing the worth of its National Monuments and Parks. At a conference held in Santa Fe shortly after the first of September, State Highway Engineer Mecey instructed the district engineer to start the relocation of State Route No. 4, as a trunk line from Santa Fe to Mesa Verde, passing near Bandelier.

REPORTS FROM THE MEN IN THE FIELD

BANDELIER NATIONAL MONUMENT (CONT'D)

Mr. Macey has asked Park Service engineers to cooperate in the location of that portion of the road which would near Bandelier's boundary. The prospective road wouldleave Santa Fe on Agua Fria Street, cross the Caja Del Rio Grant to White Rock Canyon opposite the mouth of Ancho Canyon, then down a rincon into the Rio Grande, to a bridge on the River. From here the road would follow the north side of Ancho Canyon, between the detached and main portions of Bandelier National Monument on into the Valle Grande and the Jemez Mountains.

This road would not only cut twenty miles from the distance to Santa Fe, but it would open one of the greatest travel vistas in the Southwest, taking in Santa Fe, Bandelier National Monument, entering Chaco Canyon, Aztec National Monument, and on to Mesa Verde National Park. A new road would be the answer to a problem on present State Road No. 4. This road is very poorly located, and even with a lot of repair work would never be a good, safe route.

* * *

AZTEC RUINS NATIONAL MONUMENT By John Hill Faris, Custodian

Visitors for the month total 1,673, which is the largest September in the history of the monument under my supervision. We feel that the visitors have been very effectively handled, though we did lose Mrs. Rogers, Ranger, the last of August. We have been very fortunate in our numbers coming in groups and at reasonable intervals, thereby making it possible for one man to handle a group very satisfactorily. Since this is also the end of our travel year, I take pleasure in reporting the largest year since 1930-31, the total being 10,142 for 1933-34 travel year. We hope that with the help of our various departments we have been able to give this number the maximum amount of service with the minimum personnel.

This year has seen excellent cooperation between our Educational Departments and the monument. Able assistance has been given by Dr. Bryant, Ansel Hall, Carl Russell and Louis Shellbach and our own Naturalists.

The necessary mess and unsightly appearance of many features connected with construction are, of course, regretted, but our visitors seem particularly appreciative of the fact that we are attempting to preserve these prehistoric features and have gladly accepted detours around rock piles, under scaffolds, etc.

George Grant, photographer, was in for a time and, of course, we enjoyed having him, with his genial manner.

We have had many comments, nearly all favorable, on the reconstruction

of our Great Kiva and such men in the Archaeological field as Dr. A. V. Kidder, Paul Martin and Earl H. Morris, have been high in their praise of this project

Naturalist Rose, from Coolidge, stopped off with us a couple of nights and we had the pleasure of going over in some detail monument problems which were contingent upon decisions of either yourself or Mr. Rose.

I am pleased to report in this month's report that the construction of our Administration unit is now under way. The contractors have arrive with minor equipment and actual construction will begin within the next few days. Everyone seems to be looking forward to an early Fall and rather severe winter. Just why so many entertain this idea I cannot say. We have hopes of no interference from the elements in our work.

Mr. Morris expects to leave Aztec in about ten days or two weeks and I certainly want to express our gratitude and appreciation for his constant help and cooperation. Through his help Miss Adams was carried, without cost to the Government, an additional month. During this month, and with Mr. Morris devoting almost his entire time to this work, restoration of some of the most unique specimens ever taken from our ruin was made possible. To complete the index system which we have hoped for, these additional pieces had to be indexed and a duplicate of the entire system made. Of course, our Civil Works was finished and we could not complete it under this program and, having no money within our own Department for its completion, Mr. Morris, again without cost to the Government, retained the girl, who had worked on this index for a period of some twenty odd days and your office is now in receipt of this completed duplicate set.

We have asked several of the visitors mentioned in this report to comment on this system and give us recommendations for its betterment, and without exception, it has been pronounced the most complete and accurate system of museum index yet devised.

The problem of roofing our Great Kiva of course was in itself one of magnitude, and here again Mr. Morris supplied from without, two men and a light truck, which have been used almost constantly for the past six weeks. The man in charge of the roof work was the more or less internationally known figure, Gustav Stromsvik, of whom we have read in Temple of the Warriors and other publications about restoration, etc., in Central America.

Jim Hamilton and Chuck Richey have been down several times during the month. Gay has reported for several visits. With every good wish to the monuments personnel and a sincere hope that each has experienced in this "National Park Year" as satisfactory a season as we. Johnnie Faris.

* * *

REPORTS FROM THE MEN IN THE FIELD

CHACO CANYON NATIONAL MONUMENT — By Thomas C. Miller, Custodian

Dear Mr. Pinkley:
The activities in the Chaco Canyon National Monument for the month of September are:

General: The approach roads have been passable, but very rough, due to fact that there was no maintenance and the September showers made them quite slippery at times. The Custodian pulled two cars out of mud holes within the monument boundaries, south of the Chaco Canyon bridge on the 20th. These cars were stuck in the middle of the road after a light rain. Travel for the month was 52 persons less than for September, 1933, but what they lacked in quantity they made up in quality. The Indians held two squaw dances in the Monument during the month. At least 300 Indians attended the dances, but are not included in the travel record. All office work has been kept up to date.

Travel: Six hundred and seventy people visited the monument in 212 cars and busses. Thirty-one states, Washington, D. C., and two foreign countries, Canada and Austria were represented. These visitors were conducted through Pueblo Bonito, about 40% of this number through Chetro Ketl, 20% drove to Rinconado and visited the great Kiva. Some experiments were made with Caravans, but I find it does not work out so well due to fact that you can not contact all the cars or divide your time with the visitors. When you leave Pueblo Bonito with your caravan en route to Chetro Ketl and Rinconado and say you have another party coming into Pueblo Bonito, they will miss the Ranger, climb around on the walls of the Ruin and run the chance of getting hurt or tearing down a good wall, then leave the monument before the Ranger returns. I find the prehistoric trail in back of Pueblo Bonito, where you climb to the top of the mesa is the most popular trip in the monument. From the top of the mesa you can not only see and photograph Pueblo Bonito, but can walk on up the mesa to the east one-half mile and see Chetrol Ketl as well as many of the other Ruins and points of interest in the monument. That is also a fine place for a nature trail. Lots of wild flowers are found along the trail. Many kinds of birds and lizards are seen. At the top of the hill people who are interested in Geology can find many fossil and concretions. Overnight campers totaled 48.

Excavations: The School of American Research has continued the work of preserving the Kivas in the East Tower of Chetro Ketl, this work is about 95% complete. Excavation of a small house ruin across the arroyo south of Yellow House has proceeded. To date nine rooms have been excavated to the latest floor level, and two Kivas opened. Beneath this level in one of the rooms a full length burial was found. The burial was in an adobe cyst five feet six inches by one foot six inches in width, one and one-half feet beneath the floor. This burial was found September 19th, it was protected by stone and planks of wood. The skeleton was in fair condition and that of an adult male. No artifacts or cultural materials were found other than a little matting with the burial.

REPORTS FROM THE MEN IN THE FIELD

CHACO CANYON (CONT'D)

Another small house-ruin has been partly excavated across the Canyon east of Chetro Ketl. This ruin has been left in a bad state of preservation. From studying the location and all, I think this ruin is located on Section 18, belonging to the National Park Service. Part of this excavation was made in 1933.

Special Visitors: State Senator Mr. Clarence F. Vogel and party were here September 2nd. This was Mr. Vogel's first trip to the monument in several years. He expressed much interest in the monument. Ranger Fish of Montezuma Castle, Mrs. Fish and daughter (the little minnow) visited the monument on the same date.

Mr. John D. Rockefeller, Jr. and son, David, spent the day here on September 5th. This was Mr. Rockefeller's first visit to this monument and I can honestly say he knows his ruins. He visited the 800-room Pueblo Bonito, Chetro Ketl and the Great Kiva at Rinconada. What seemed to puzzle him most was that he could not understand why these Bonitoans would plaster over the finest type of masonry ever found in a prehistoric wall in the southwest. Mr. Rockefeller and party ate their picnic lunch under our little ramada on the camp ground. We feel honored in having such visitors as Mr. Rockefeller and we hope he will return.

Mr. George Grant, Park Service photographer, and Mr. Louis Shellbach of the Educational department at Berkeley arrived September 10th. Mr. Shellbach departed on the 11th. He left some good ideas about museum and handling visitors. Mr. Gran remained here at Chaco until September 15th.

Assistant Engineer J. B. Hamilton arrived on the 16th. Mr. Hamilton and I mapped and measured a trail through Pueblo Bonito, photographed and measured fallen walls, established a permanent station and took measurements of the four-story wall at the back and to the north side, opposite the east wall of the court.

Professor and Mrs. George S. Monk and party from the University of Chicago were monument visitors on the 19th and 20th. Assistant Superintendent Robert H. Rose arrived and departed on the 21st. Mr. Rose and I spent two hours looking things over, inspecint excavations, telephone lines, etc., including getting his car stuck in the sand at one location. We hope Mr. Rose doesn't wait too long to come to see us again. T.C. Miller, Custodian.

* * *

REPORTS FROM THE MEN IN THE FIELD

MONTEZUMA CASTLE NATIONAL MONUMENT By M. L. Jackson, Custodian

Dear Mr. Pinkley:

Have had quite a lively month on this monument. This month, in fact, has turned out to be among the biggest in umber of visitors that we have ever had. September is usually one of our best months. Our records show that we had 1,735 for September, 1933 and 1,839 for this year, or an increase of 104.

Associate Engineers Attwell and Gordon spent a night with us during the month. Mrs. Gordon accompanied them. It is the Gordon's first trip to our monument and we invite them to call again. Ass't. Sup't. Robert Rose was a visitor. We had hoped that Bob would be able to spend a little more time with us but he was on short time and promised to drop in again soon. Louis Shellbach dropped in for a few minutes last Sunday afternoon. We enjoyed his first short visit but was so busy with visitors that I did not get to talk over a number of things that I had in mind.

I was away during the latter part of July and a part of August. The monument was administered by Ranger Frank Fish and was assisted by Charley Steen of Tonto National Monument. On my return, I found everything was carrying on in good shape, and have heard some mighty nice things about both boys since Charley has gone back to the Tonto, where I hope and believe he will make good. Will not be at all surprised that if in the near future we hear of him broadcasting to the world that the Tonto is the finest cliff dwelling in the entire southwest. Needless to say I will be a little sore if he does after working at Montezuma Castle.

Of course, Fish being an old head as a Ranger, we just naturally expect him to go over big with the visitors. Just to show you that he makes no discrimination as to class or color, we recently had an early visitor, a colored gentleman from Los Angeles. Fish showed him through the Castle and on leaving he invited Fish to call on him any time he was in Los Angeles, and said his address would be the city jail as he hung out there most of the time.

Mrs. Fish and little daughter are visiting friends and relatives in New Mexico. We think she ought to hurry back with the baby daughter that has the million-dollar smile.

A representative from one of the nearby dude ranches was a visitor this afternoon and reports that they are expecting a large number of guests this winter.

Some work has been going on here during the summer under PWA. As I have not taken any active part in the work, prefer to let those that have report on it.

M.L. Jackson, Custodian

* * *

REPORTS FROM THE MEN IN THE FIELD

NAVAJO NATIONAL MONUMENT — By John Wetherill, Custodian

Dear Mr. Pinkley:

I have just returned from the monument after a three days' trip with Jimmie Swinnerton and Irvin Cobb. Irvin Cobb was after local color. He got lots of it as his horse put him down just as we were leaving Keet Zeel, and we had a hard rain in the Marsh Pass. The Shonto road is almost impassable. The washouts were bad and the rocks in the road are fierce. Cobb will write up the trip when he feels the spirit moves him. I know it will be good. I would feel so small if I tried to write it and a good story from Cobb came out that I would never write again.

The trails we put in except on the hillsides are all gone. There are many more bad washes than when you were in last. Milton Wetherill has been doing some good work on the trails near camp. He cannot get far away as someone is dropping in on him at all hours. There will not be many more "this year" over the Shonto road unless there is a lot of work done on it. There has been 97 at Be Ta Ta Kin in August and 34 at Keet Zeel. We have had quite a few interesting experiences here since our last report went in. Jimmie Swinnerton and party came in with us from the snake dance. Dr. Parks from Las Vegas, Nevada, was with Jim in his own car, and the car stopped running on Cedar Ridge between Hotevilla and Yula. It was nine o'clock when we got the car to Yula and moved on to Kayenta, arriving there at twelve thirty. The next day Irvin Cobb came in with his driver, and the following day we all started for the ruins. After getting in a heavy rain storm in the Pass and losing an hour and a half and having a lot of trouble getting over the rocks on our good road, we arrived at the top of the mesa above Be Ta Ta Kin. Our Navajo "Bitsi Clitsoie Begay" was waiting for us with horses and pack outfit. By nine o'clock we had everything at the camp, and Milton was making exterminators (Milton's biscuits) for supper.

The party all visited the mines and thought they were wonderful, as usual, and then started for Keet Zeel. We found the trails badly washed out. After three hours in the saddle we arrived at Keet Zeel. The party were all good sports and had only a few remarks to make on the hard saddles and rough horses. Irvin Cobb with his two hundred and forty pounds had an idea that his horse was played out. He found out differently the next morning when the horse got frightened at the Keet Zeel devil, and left Irvin lying on his back in a sand bank. He was able to make it back to the car at Be Ta Ta Kin and on to Kayenta. He was pretty sore the next day. The riding and the car jolting over the rocks had as much to do with his soreness as the fall from the horse.

Sunday evening a boy 13 years old and his dog, Rover, hitch-hiking through from Fredonia to St. Louis stopped to ask the way to Mexican Hat. He had no food and no water, and expected to get through the 55 miles of dry country on what he could kill with a small gun that he had with him. We tried to hold him here, but he went on regardless. We let him go for about an hour and then sent Preston Coston and Bob Brooks after him. After he had eaten his supper, Mrs. Wetherill let him have some food and her flashlight to go down the road about a mile to feed a hungry dog that he had passed while he was on the way to Mexican Hat. John D. Rockefeller, Jr. and his son, David, happened to be out walking in that direction, and they found the dog in such a condition that we had to send a man down to kill it and put it out of its misery.

NAVAJO NATIONAL MONUMENT (CONT'D)

In the morning, Mr. Rockefeller gave Preston money to take the boy to Flagstaff and buy him a ticket for St. Louis for him and his dog and enough money for food for both. They got out of Flagstaff at 11:40 after much trouble keeping the boy away from his dog.

This is enough for this time, except to say that Jimmie Skinnerton said that it would make a good story. John D., one of the richest men in the world, and Ervin Perry, the poorest boy, going down the road afoot with flashlights to find a starving dog. Hosteen John.

* * *

NATURAL BRIDGES NATIONAL MONUMENT By Zeke Johnson, Custodian

Report time again and here I come with mine. This month has been one of the best in the history of the monument as over 200 people have been there. The associated civic clubs of southern Utah have just held the monthly meeting here and San Juan county never before has had such an important event; such a representative group never gathered here before and talk about boosters for the scenic wonder of this county!

Many people visited the Bridges beginning on Friday and continuing over the week-end. We registered 93 and 20 or 25 got away without registering. There were boosters from most all the southern counties including two members of the road commission, members of the Salt Lake Chamber of Commerce, all the leading papers of the State had reporters here. We also had Samuel O. Bennion, Manager of Desert News of Salt Lake City. I feel that much good will come from the meeting. They left here Monday morning via Monument Valley with myself and Mrs. Johnson accompanying them to the goose-necks. We then bid them goodby at the Mexican Hat Bridge. All were very enthusiastic over the scenery here and declared they would work for the road to connect bridges with the Wayne County Wonderland via the White Canyon and Dandy crossing. It seems that the Wayne County Wonderland will soon be declared a Monument, then the hook up between Mesa Verde and Bryce Canyon will soon be complete, according to word received.

The weather here has been ideal with not much rain, but enough to keep things looking very fine and insure plenty of water. I have done quite a lot of work on the road down the mountain south of Bears Ears, so the roads all the way from Blanding are in good shape, and I received many compliments concerning the patching up I had done and at my liesure hours I made needed improvements on the trails between Edwin and Augusta Bridges.

There are lots of pine nuts near the monuments, so I know we will have a number of people going out there until snow shuts them out. I am surely rejoicing over the thouts of having Custodian's quarters next season. I know there

NATURAL BRIDGES (CONTD)

I know there is enough traffic to justify some very fine improvements and we will soon have better roads and will have to be prepared to take care of the increase in visitors.

Zeke Johnson

* * *

CAPULIN MOUNTAIN NATIONAL MONUMENT By Homer J. Farr, Custodian

Dear Mr. Pinkley:

Visitors for the month of September, 1934, to Capulin totaled about twenty-five hundred.

FERA work on Roads and Trails: Our FERA work has been quite satisfactory this month. We have also been able to complete the fencing of the monument, with a very good cattle guard which was made according to the specifications of the Federal Bureau of Public roads and even better for we used 90 pound rails instead of forty-five. Two stone posts forty inches square and six feet high made from red lava set in cement are in the center and at the right and left of the cattle guard, giving a sort of park entrance effect. With the fence now completed and a splendid cattle guard and good gate, we should be able to keep the cattle off the Monument and the road and trails will be much more easily maintained.

Parking Area: The parking area has been widened and made slightly longer and Mr. Richey's request for the retaining wall, stone laid in cement with wing to the north, extending along the road for about 100 feet, has been completed.

Rim and Crater Trail: This trail has been widened according to request from Mr. Richey, but is not complete. The trail to the bottom of the Crater will need considerable work before it is finished and several rests or stone seats will be constructed at desirable vista points along the rim trail. All FERA work has been stopped in the county until October 1st, at which time we hope to be able to resume.

Homer Farr, Custodian.

* * *

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

Dear Mr. Pinkley:

Travel for the month has been very unsatisfactory, the register showing a total of only one hundred and two visitors. Of these, seventy-one went into the canyons by car, three by horse, and twenty-eight drove to the rim of the canyon overlooking White House. Of these twenty-eight who drove to the rim, eighteen descended the trail to the White House.

Water in the canyons kept visitors from them during the early part of the month, but during the middle and latter parts of the month, the canyon floors

CANYON DE CHELLY NATIONAL MONUMENT (CONT'D)

have been in excellent conditions for automobile travel.

Soil erosion work in the canyons was temporarily discontinued during the month, but will shortly be resumed. A meeting of the Indians owning land in the canyons was held on the 21st, the object being to reach an agreement between the Indians and the Soil Erosion Service whereby the flocks of sheep and goats would be moved from the canyons to the rim for a period of three years. This is to protect the planting which will be done in the canyons by this Service. A tentative agreement was reached, with the understanding that provision would be made for watering of the flocks, either by the construction of reservoirs off the monument, or by providing watering places in the canyons, with grazing there prohibited, or both.

Work on the trail opposite White House is progressing in a satisfactory manner. About 2,900 feet of trail has been completed. The lower tunnel is finished, the compressor has been moved from the bottom of the canyon to the rim, and work has commenced on the upper tunnel.

Mr. Henry E. Cutler, Jr. reported for Ranger duty on the ninth and has been accompanying car and horseback parties in the canyons.

Mr. George A. Grant, Chief photographer, National Park Service, spent several days here, securing photographs of the monument. Assistant Superintendent Bob Rose was with us the 18th and 19th.

Mr. John D. Rockefeller, Jr., and son, David, were visitors to the monument during the month. The San Francisco office was well represented by Chief Engineer Frank Kittredge, Asst. Engineer J. B. Hamilton, and Mr. and Mrs. Chuck Ritchey.

Cozy McSparron, of Thunderbird Ranch, has been of inestimable value in the control of visitors to the monument. There are six possible ways of cars entering the canyons, two roads leading into the monument at the rim and the White House trail is now in use by visitors. With insufficient personnel, no headquarters, checking station nor living quarters at the monument, the problem of properly handling visitors is a great one, and Mr. McSparron's help is greatly appreciated.

Weather was mild during most of the month, but now it has turned cold, and we have had ice in several places on the rim of the canyons.

With the approach of cold weather, a decrease in the number of visitors is to be expected. This is not to be regretted, however, for it will give me time in which to accomplish some much-needed work about the monument.

Robert R. Budlong, Custodian

* * *

REPORTS FROM THE MEN IN THE FIELD

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

Dear Mr. Pinkley:

As the close of the month approaches, I will try to record some of the activities of our monument. We have registered 328 visitors from nine states, Washington, D. C., and England. These entered the monument in 94 vehicles. This shows a slight decrease in number compared with last month, which I suppose was caused by the heavy rains the last ten days of August. However, taking the month as a whole the weather has been fair and cool.

The work on the road approach here is progressing nicely. The graveling is finished and a general cleanup begun. They will begin on the stock-guard soon and with the completion of that we will have a road that is passable for all modes of travel. This project is adding much to the appearance of the monument and to its accessibility. I am greatly pleased with this road but I fear there isn't going to be any fund left for the construction of trails and we certainly need them.

The University of New Mexico is undertaking some excavations at Quarai Mission near Mountainair, N. M. Mr. Paul Huddleston is in charge of the work there. They are making some very nice finds in the way of burials and fragments of cloth. He has a crew doing restoration work while another group is cleaning out the interior of the mission down to the floor level. Apparently these burials are of a comparatively recent date as they are buried above floor level. The floor in the Quarai Mission is laid in flagstone of red sandstone.

The rains in the latter part of August have helped the country in general. Although they came too late to produce any crops, they have brought on a nice stand of grass and the outlook for wintering stock is much better.

* * * W.H. Smith, Custodian.

TUMACACORI NATIONAL MONUMENT — By George L. Boundey, Custodian

Dear Mr. Pinkley:

Visitors for September numbered 788. Visitors for this month this year exceed those of the same month last year and visitors for 1934 exceed those of 1933 by 2,369, and I am in hope the next year will see us up to normal again.

Toward the middle of the month, the Boss came down and I always notice an increase in visitors and things in general always pick up after a visit from him.

Mr. Attwell's crew of engineers were also down tying in the water system sewerage, etc. They helped us locate some plaza levels that have been rather elusive.

A California concern is putting in several hundred acres of peas, spinach, etc. Several days ago they had a dusting plane down from San Francisco, dusting

TUMACACORI NATIONAL MONUMENT (CONT'D)

the new peas. This project has taken a number of men away from the project here at the Mission with the result we have been short-handed most of the month and considerable work is still unfinished. Mr. Collic informs us the state has just set aside $5,000 in labor for Tumacacori, but as we are about out of funds for purchases other than labor, we may have to discontinue work.

George L. Brundey,
Custodian.

* * *

EL MORRO NATIONAL MONUMENT By Even Z. Vogt, Custodian

The Fall season has brought some unexpectedly heavy rains which have so flooded the roads that travel was stopped and some bridges pretty well damaged. However, people continue to arrive here at the monument at the rate of about ten a day. Some few camp over night but most of them spend several hours and go on the Ice Cave or to Zuni, the other direction.

During the last of August many fine visitors en route to, or returning from the Indian Ceremonial at Gallup and the Snake Dance at Hopi visited us. Nearly always such people are those of most discernment and interest in our monument, and it was a pleasure to show them around.

The greatest calamity of the month was our missing both Director Cammerer and Dr. Bryant, who touched Gallup but did not "pase por aqui" as the old Spanish escrituras say. Had I known they were going to be in Gallup, I certainly would have gone in to see them.

By syphoning off all the water we could from the reservoir, we managed to irrigate the 1,475 squares of grama grass sod we transplanted in the filled area in front of the water cove. When the water got so low we could not syphon it, I went to our Atarque ranch 35 miles southwest and brought up a thresher pump with which we got most of the water out before the last heavy rains.

The 160 feet of galvanized pipe which we borrowed during the drouth from Mr. C. E. Trotter, head of the Zuni Agency, was returned on the 24th. It was through the loan of this pipe that we were able to supply the settlers for 30 miles around the monument with drinking and stock water during the drouth. They were able to get the water at the end of the pipe line and haul thus preventing their driving over the soft sand, which we were protecting..

On the 14th in company with a committee representing western Valencia County, I appeared before the State Highway Commission asking completion of the road from the end of the CCC road on Oso Ridge to El Morro, a distance of twelve miles. The Commission was friendly and favorable, but tied their compliance onto cooperation of the FERA for labor on the road. It is not

certain that FERA can work on the road, but I understand the project has been put in and it may be that we will get the worst part at least of this road finished before it snows. Otherwise, this approach road which is also a farm to market road may get impassable altogether as it does many winters.

While at the River, I attended the Grazing Bill conference, regarding the administration of the Taylor Public Domain Bill. This conference was attended by some 300 sheep and cattle men, foresters, landmen, bankers, lawyers and observers. I had the pleasure while there of meeting assistant solicitor of the Interior Department, Rufus Poole, and Ass't. Secretary Chapman who conducted the meeting.

The prehistoric hand and foot trail which was mentioned last month in our report proved to lead up to a ledge 105 feet above the ground where there was a water hole about the size of a tub. It took three ladders to reach the ledge and considerable chiseling to make a foot rest on the precipitous sides of the dark crevice. The petroglyph just to the south, around the arm of the mesa, really pointed the way in the water hole as suggested by the Zuni Indian who was here and saw the petroglyphs and the faint notches here and there up the steep crevice to the dark recesses where water would last a long, long time.

One of the discoveries of the month was a petroglyph in a cave not over two feet high and three feet deep. The cave is located 50 feet east of the first carved steps in the stone trail on the east side of the mesa. Part of the figure is under the ground and one must stoop down very low to see the carving at all.

Prowling one day about 50 feet south of the hand and foot trail from the water cave to the top of the mesa, I squeezed my body into a narrow crack to look at the hidden side of the cliff. To my surprise, I noted a very small pecked toe hold, then another, and another higher up. Bringing a ladder, I pushed it up into the crack and climbed up until I could pull myself up on a footing some three feet higher. The toe holds continued on up into the very narrow hole in the rocks. Daylight can be seen through a hole triangular in shape with perhaps 15-inch sides and 18-inch base. The steps continued up this very small hole and out above apparently onto a ledge some 40 feet above the ground.

What could have been the purpose of these little and numberous hand and foot holes leading into a tunnel so small only a small child could enter? My explanation may be faulty, but it seems to me that the trail led to a baby cache. A hide-out for children who were won't to come down with their mothers to the dam for water. In case of sudden emergency, the mother could stuff her babies up into the hold and they could climb up on the ledge where a sheltering rock offered a screen for a dozen or so little Indians. The mother could then

EL MORRO NATIONAL MONUMENT (CONT'D)

make her getaway to the top of the mesa over the water trail and be safe in her fortress home. I intend pushing our little girl Patty up into that hole and let her climb up on the ledge in hopes of finding further Indian signs

The pinon nuts are about all gone here. There were never enough to feed more than the pinoners, jays, the chipmunks, and squirrels and pack rats. On the Navajo Reservation at places, there is a fair crop while the Zunis are also gathering some off of their land.

The Navajos are preparing for some big Ye-Bit-Chi sings now that frost has made this possible. They will have to dance and sing a lot to forget the very disasterous condition of their range.

Fresh wild cat tracks and a baby cat press into the mud around the monument and coyotes with a bunch of puppies yelp at the moon here within our fenced grounds. The humming birds have left now that the bee weed has gone to seed and many flocks of duck pass over us to the south not following the course of the Pesh Na Tai(iron flies or airplanes)which fly east and west over us every day.

Our travel figures for the year were conservatively estimated at 2,600 which is a gain of 800 over last year. The percentage of contacts made by Ranger Peterson and myself this year was very much greater than ever before.

Neither of us recalled any complaints at all. We have had many delightful compliments at the wonder of our monument and its neat and inviting condition. This will not be so easy to maintain when travel runs into many thousands in futureyears. With regards to all Park Service folk.

* *

---We were wondering who, or if the babies themselves, cut the toe holds.

* * * E.E. Vogt, Custodian.

REPORTS FROM THE MEN IN THE FIELD

PIPE SPRING NATIONAL MONUMENT — By Leonard Heaton, Acting Custodian

Dear Mr. Pinkley: How the time does fly. It seems as if it were only last week that the August report was sent in and now the September report is to be on its way if it is to get into monthly assembly.

As I am writing, the wind is and has been changing the surface of the earth up here. Commencing Friday the 21st, the wind started from the Southwest and has continued up until now, making the air so full of dust for hours at a time that it is impossible to see 200 yards, and from the hill the desert looked like a sea of red sand always on the move. This is the worst sand storm that we have had for 18 months or more, it being worse because of the dry summer and no grass, weeds or other plants on the flats to stop the wind from picking up the sand and small stones. Also colder weather has come, most all of the trees have begun to show yellow in the leaves, the squirrels and rats have gathered in their supply of pine nuts for the winter, and a lot of birds have passed here going south. It feels like we will have an early Fall.

Our travel this month is as follows:

Record No. 1-Visitors

Arizona	104
Utah	137
California	33
Nebraska	2
Illinois	7
Virginia	1
Total	284
Last Month	251
Increase	33

Record No. 2

Local travel including cars, trucks, wagons and horsemen	847
Last Month	825
Increase	22
Total travel, Sept.	1131
Do Aug.	1076
Increase	55

I think this month will be our high month until next summer as the last few days have not yielded many visitors, yet the local travel is about the same.

Mr. A. E. Cowell and wife spent a few hours here on the 21st, getting figures and measurements to start the road work as soon as approved plans are received from the San Francisco office. The Indians completed the pipe line so that the water was turned into the line on Sept. 4th. Several leaks occurred which were fixed and by Sept. 18th, the pipe was covered and our meadow pond is about dry.

I was told the other day that the Stockmen were working on a project to have Pipe Spring made a shipping point for cattle in the future--that is, this place will be where the cattle will be loaded onto trucks and hauled to the railroad. There is a lot of talk and meetings being held about the Taylor Bill and how it will effect the industry. There are two main groups of people: one group wants the Strip for just Arizona residents and all other stockmen will have to move out regardless of their holdings; and the other group wants to give every man his right to the grazing in proportion to the extent of his holdings.

During the month, I have been quite busy showing people around, getting out the dry woods and doing some work on book binding.

* * *

REPORTS FROM THE MEN IN THE FIELD

TONTO NATIONAL MONUMENT — By Charlie R. Steen, Ranger

Dear Mr. Pinkley: I returned 'home' on the afternoon of the sixteenth and a half-hour later the cash customers started to come in--there have been more visitors than I expected, as there are one hundred seven names on the register, forty-one of whom have signed up since my arrival. As far as I can gather not more than a fourth of the visitors went up to the ruins. I have an approximate count of three hundred five for the month.

Two days of rain over the week-end has kept down travel a little. Apache Trail was very slick in spots, I understand. The trail has nothing on the entrance road to the monument, however. This monument would be a paradise for an ornithologist. There are hundreds of Gambel quail--among the more prominent birds are Arizona cardinal, cactus bird, canary, humming bird, oriole, several I don't recognize and two crows that roost in the ruins at night.

This report, I believe, would be incomplete without an account of an incident which occurred last week. Before I made my cooler, I woke one night and heard an animal after my food. I walked inside, scared the animal away and rescued my bacon from the middle of the floor. The next night I thought I had things pretty secure, but some time during the wee sma' hours I heard another commotion inside. That man Steen again ran into the house, but the animal, instead of running out, stayed behind the shelves I have built. I took some newspaper, fired it, and pushed it under the shelves. The odor of burning hair filled the room but my visitor played possum. Grabbing the shelves, I pulled them from the walls, took one look and saw a none too friendly skunk and immediately decided he could have all the bacon he wanted. I went back to bed. Next morning, I considered writing the Carnegie Institute to find out if a medal could be struck for the most considerate skunk in Gila county, if not in the entire Western Hemisphere. Now I lock my house at night.

* * *

WUPATKI NATIONAL MONUMENT — By Jimmie Brewer, Ranger

Dear Mr. Pinkley: We submit our September report with a great deal of pride. Our effort to stimulate traffic to Wupatki (194 visitors) has been rewarded with a 130% increase over September of 1933.

We can see you raising your eyebrows, so hasten to explain the why and wherefore: First--the road signs we have placed are cutting down the number of potential visitors who would otherwise have been lost. Second,--the mimeographed pamphlets you furnished are distributed and are bringing results. Seven cars out of ten have a copy with them when they arrive. Third--the Desert View-Cameron highway is lacking only four miles of being complete. This, of course, makes it possible for Grand Canyon visitors to reach Flagstaff and highway 66 via Wupatki and Sunset Crater. With the distribution of the pamphlets and a little "pep talk" by Ranger Naturalist Disher of the Wayside Museum at Grand Canyon, many of our increased number are thus accounted for.

REPORTS FROM THE MEN IN THE FIELD

WUPATKI NATIONAL MONUMENT (CONT'D)

The weather has been mighty fine here and the range looks good. The chamise has long new shoots and I think the pleasant cool weather and the .39 inches of rainfall recorded in August are the contributing factors.

We had the good luck to meet Assistant Superintendent Bob Rose in Flagstaff on the 17th, but in spite of all our persuasion his limited time on this trip didn't allow of a visit to Wupatki. Bob suggested that any information regarding deer and antelope on the monument might be news. Those I have personally observed have been limited to one deer herd of 8 or 9, and several herd of antelope varying in number from 3 to 10. Mr. Wall of the Forest Service gives me the following information: Wupatki and the surrounding area averages a couple of deer to the square mile and three antelope. His observation also discloses a migration trail between Wupatki and O'Leary Basin that is used by approximately 200 head.

Today I am sending to Mr. Cliff Armack, Curator of Biology for the Museum of Northern Arizona, a representative collection of the flora of Wupatki. I am requesting sub-specific identification so that specimens in the field can be identified by the use of the metal tags that Naturalist Dale King advises.

Sallie and I took an "educational holiday" to the Grand Canyon where we were guests of Mr. and Mrs. K. D. Disher. After dinner Sallie and Connie visited Mr. and Mrs. McKee (where Mr. McKee, Park Naturalist, was interested in a small self explanatory exhibit of geologic features of Sunset Crater, to be put on the monument) while I attended Ken's talk on the Canyon. The next morning we stayed on for the Caravan lecture at the Skyside Museum where were fortunate in talking with Louie Shellbach concerning his ideas of museum display for visitors. We were intrigued by the simplicity of Shellbach's "continuous story" contained in this small museum. We wish we could have something similar at Wupatki--enough general charts to give the layman a background, and facilities for displaying, some of the 2,000 artifacts that have been excavated and preserved by the Museum of Northern Arizona from Wupatki. By the way, have you seen Miss Bartlett's re-arrangement of the Wupatki exhibit in the Museum of Northern Arizona? It's swell! A complete little story to date with progressive photos.

Coming back to our visitors--of the 194 total, 143 were registered at Wupatki. This is a marked increase in the number who come as far from the highway as the major site. Of this 143, a personally conducted field trip and incidental lecture was "administered" to 137. Next month we hope to catch 100%.

* * *

REPORTS FROM THE MEN IN THE FIELD

WALNUT CANYON NATIONAL MONUMENT — By Paul Beaubien, Ranger

Not much to report this month. Visitors come and go but not as often now as before Labor Day. Only 1,124 registered this month in comparison with 1,910 for August.

The bright spot of the month was Bob Rose's arrival on the 16th. Every other day was about the same as the one before.

Last month I spoke of placing some informative notices along the trails in order to have more time elsewhere. They have had the opposite effect. Being brief, they arouse in many visitors, the desire to know more besides giving them a broader base for asking questions. Have experimented quite a bit with the wording and with their location and believe that I can make them more effective. Hope to have more to write about next month. Respectfully.

* * *

WALNUT (SUPPLEMENTAL NO. 1)

On the 25th, the engineering crew, consisting of G. H. Gordon, R. S. Harris and Knox Burden, arrived to assemble data and make plans for future construction on the monument. As the water supply was nearly exhausted, it was necessary to beg the Forest Service to furnish me with water. It is twelve miles from the monument to their supply which has been transported sixty miles from Winslow.

The dwellings are badly in need of repairs, but being without material tools or approved plans, I have been unable to do any of this work. It is now a race between the agents of erosion and pot hunters to see which one will destroy the ruins first.

Nearly all of the roads on the monument are in excellent shape. However, the public has two faults to find, 1st the approach road between Highway 66 and the monument, 2nd there are no road signs between Walnut Canyon and Wupatki. The engineers tell me that they will make a study of these conditions and then make their recommendations accordingly.

I was informed yesterday by the Forest Service that our present Ranger quarters are not on the monument. This is not as serious as it might be as one visitor told me he thought the house exhibited signs of falling down twenty-two years ago. Any plans developed in the near future should take into consideration the dire need of living quarters as well as an administration building and museum. It has been embarrassing on several occasions, when visitors asked to see the museum, to tell them that all artifacts are in storage at Flagstaff. My entire collection here consists of a potato and a skull and some corn cobs.

* * *

REPORTS FROM THE MEN IN THE FIELD

WHITE SANDS NATIONAL MONUMENT — By Tom Charles, Custodian

Dear Mr. Pinkley: Last week we had a letter from a friend who recently secured a position with the Park Service; she said she was so happy that she pinched herself occasionally to make sure that it was not a dream. I have the same feeling. But just now it seems that the more job I have, the more trouble I have. Time was that it didn't matter whether the lakes at the White Sands turned red or dried up or what became of them. With added responsibility, I have doubled my worries. Visitors seem to think that I am personally responsible for the color of every little puddle at the Sands and they want them red. The more urgent the visitors become, the more anxious I am for the things to turn a flaming crimson. But this year the drouth has shrunken these lakes until they are mere mud holes, and it is humiliating to take a highfalutin' guy from some place "on the Hudson" out for an hour's ride to show him "red lakes" and have to point out a little puddle sailing under the name of lake.

But one little old puddle has saved my reputation. Today the little lake at Herd Springs is a beauty. It carries the blush of a crimson rose. I certainly hope that Bob Rose gets over here in time to see it. I want to be vindicated. I want Bob to decide if this thing is a lake or a puddle--whether I am to display it with pride or hide it under a bushel basket. It is red alright. Bob will not be ashamed of the color if he comes soon.

The White Sands put on an initiation party for two of the National Forest officers this month. Carol Dwyer, Supervisor of the Lincoln National Forest, moved his family to Alamogordo from Tho'sand forty of the U. S. Forest family gave him a party at the Great White Sands. This week A. D. Holohon, Assistant Supervisor, arrived and the first party having been so successful, he also was given an initiation at the White Sands. This party drew sixty of the Official Family. That same night there were thirteen other carloads at the Sands for parties.

Mr. W. R. Leigh and Miss Traphagen of the Traphagen School of Fashion, both of New York City, were guests at the White Sands this week. Mr. Leigh is a well known artist, connected with the American Museum of Natural History. He expressed regret that he was unable to stay and paint a picture of the White Sands, but assured me that he will try to return in the near future and spend considerable time at the monument.

Frances S. Dean, Assistant Editor of the National Park Service Bulletin, writes that she walked on the White Sanded floor of the New Mexico building at Chicago and she expects to walk on the Sands in their natural state on her next visit to the Sunshine State. We hope that her visit may be soon.

Later: Bob Rose has come and gone. He and I went out to that lake or puddle and he said, "Oh, my, well, well!" I have never found out whether his surprise was on account of the size of the thing or the color. However, I have decided to use my influence with the local Chamber of Commerce to have their advertising read, "Red water."

You will be glad to know that Charlie Powell and I have settled our differ-

WHITE SANDS NATIONAL MONUMENT (CONT'D)

ences. Someone must have convinced him that the White Sands had nothing to do with the white haze on the day of his party. He sent us a beautiful picture of his monument this week with the message, "Greetings from Chiricahua to White Sands;" one child to another.

* * *

In reporting on his trip, Bob Rose says that he and Tom Charles actually slipped up on one of those little lakes and found it red. True, it was small, and we believe this time it was blushing a little from embarrassment at its small size instead of through pride.

On this same trip, Tom Charles and family gave a Sunset and Moonrise picnic at the Sands. A hearty welcome meets all Park Service folk visiting the White Sands and the Sunset and Moonlight views of the Sands are scenes long remembered.

* * *

CASA GRANDE NATIONAL MONUMENT By Hilding F. Palmer, Custodian

Dear Mr. Pinkley: Casa Grande rings the bell with 1,429 visitors for the month--an increase of 359 over the 1,070 who visited the monument last September. This increase of over 33% is very gratifying. These 1,429 visitors came in 408 automobiles from 37 states, District of Columbia, Mexico, England and The Sudan, Africa. Arizona furnished 855 of these visitors, California was second with 213, Texas third with 52 and Illinois fourth with 38. The total 1,429 visitors were personally contacted on 302 ruins trips and 270 museum trips. In addition to these contacted visitors, there were 146 during the month who used the picnic grounds or some other of the facilities of the monument but who required no personal service, making a total of 1,575 visitors for the month. Other statistics compiled by the personnel regarding visitors, length of stay, etc., will be found in the Supplement.

The number of visitors for the travel year ending September 30th also shows a nice gain for Casa Grande. In 1933, we reported 21,771 contacted visitors; in 1934 we contacted 23,636, an increase of eight per cent. In addition there were 3,369 visitors who entered the monument and used some of its facilities, but did not take advantage of our Educational service.

The weather for the month has been seasonable with a mean maximum of 99°, a mean minimum of 62° and a mean temperature of 80°. The maximum temperature for the month was 111° on the 4th and the minimum was 43° on the 28th and 29th. A

CASA GRANDE NATIONAL MONUMENT (CONT'D)

shower on the 22nd brough us .2 of an inch of rainfall and much cooler weather. There were 28 clear and 2 cloudy days.

Assistant Forester W. H. Wirt spent a day at the monument in conference with Superintendent Pinkley and in inspecting our buildings for fire hazards. He made several suggestions, which we hope to carry out in the near future if funds become available.

Our very enthusiastic Park Service friend Francis P. Farquhar arrived on the last day of the month and spent a day and a night learning about the interesting features of the monument.

The old quarters on Compound A, which we have been planning for several years to tear down is being remodeled into two apartments to be occupied by Junior Naturalist King and by Park Ranger Caywood as soon as his appointment has received Presidential approval. Lack of quarters to house personnel forces us to use this house year after year, even though it has been condemned by the B.P.& D. because of its location in the prehistoric compound.

Junior Naturalist King completed a fine model of a prehistoric pit house during the month and it is now much easier to explain to visitors the construction of the earliest type of house used by the Hohokam. The model is constructed with one end complete but the other open so that all details and steps of construction are shown. It has been placed on display in the museum with pottery and other artifacts belonging to the same period.

Louis Shellbach, Museum Expert, spent a couple of days at the monument consulting with everyone and giving many valuable suggestions which Naturalist King plans to put into execution as quickly as time and funds permit.

* * *

ASSOCIATE ENGINEER'S REPORT By Walter G. Attwell, Assoc. Engineer

Dear Mr. Pinkley: I started the month at Chiricahua, preparing for the Labor Day celebration. These preparations were completed on the third.

The following day, I went to Bandelier to check up on the ECW camp there, returning to Southwestern headquarters on Sunday, the eighth. The following day I drove to Montezuma Castle to inspect the construction of a sewer system, a garage, the revetment work, road work and ruins trail. This is Public Works with additional FERA men under Engineer Brown. The garage, revetment and sewer system have been completed this month. The ruins trail is 75% complete and the road work about 50%.

REPORTS FROM THE MEN IN THE FIELD

ASSOCIATE ENGINEER'S REPORT (CONT'D)

On the 15th I drove to prison camp No. 10, near Tucson and completed the negotiations for the transfer of a Chevrolet pick-up to the Park Service. I towed the pick-up back to Coolidge with a one-man tow-bar.

I left Southwestern headquarters again on the 17th for a two day visit to Chiricahua where I checked up on the month's work and helped inventory all tools and equipment. On the following day, I took Engineer Gordon and his crew to Tumacacori where they assembled the field data to prepare maps and plans for a water system, repair to ruins, boundary fence, wall construction and the refilling of the old adobe pit. The entrance gate and adobe walls now under construction at Tumacacori are about 97% complete. The crew is FERA and the foreman is P.W.

On the 25th I accompanied Engineer Gordon and his crew to Walnut Canyon, Sunset Crater and Wupatki where we laid out future projects. Mr. Gordon is now preparing plans for topographic maps, roads, trails, water and boundaries at these places.

* * *

ASSISTANT ENGINEER'S REPORT By J. B. Hamilton, Ass't. Engineer

Weather and Travel: Fine fall weather all month, except for two rains, neither of which amount to much. Turning foliage and snappy nights warn that winter is coming. From Mesa Verde National Park as headquarters, I made one trip to Gallup, two to Canyon de Chelly National Monument and one to Aztec and Chaco Canyon National Monuments. Chains were required on part of last de Chelly trip.

Aztec Ruins National Monument: An additional grant of $2,500 for ruins restoration and repair has permitted restoration of the Great Kiva to go ahead, though slowly, as the money was not made available until near the last of the month. The peeled poplar cross beams and split cedar roofing material were placed on the main supporting beams and the whole covered with mud. Mr. Earl Morris has spent most of his time this month personally directing and working on this job.

Chaco Canyon National Monument: I spent a day with Custodian T. C. Miller, going over some of the construction problems most urgent at Chaco Canyon. August rains caused much damage to ruins. Money for ruins repair is most urgently needed. The monument should be fenced and roads and erosion control works built; all of which I have reported recently.

Canyon de Chelly: Trail work only is being done this month as erosion control work was stopped, pending the working out of an agreement between the Canyon Indians and the Erosion Control Service. While not finally determined as yet, it appears that the Indians will keep stock out of the canyon for a period of three years; in return the Erosion Service will complete the fencing and revetments for stream control, build three watering places on high country for use of stock during dry season, and will plant trees and otherwise improve the canyons.

S U P P L E M E N T

Dear Chief:

Some time ago I asked our good friend Frederick K. Vreeland to write three or four pages giving us his ideas of the operation of the National Parks and Monuments. He has responded with the following, which we quote verbatim:

THE BASIC PURPOSE OF THE NATIONAL PARKS AND MONUMENTS IS TO PRESERVE FOR ALL TIME THE TREASURES WHICH THEY CONTAIN. Any Exploitation, Development or Use that is inconsistent with this principle is not and cannot be justified.
(A National Park Axiom).

"Once you build a ROAD
You start a chain of circumstances
That no man can stop.
B follows A
C follows B
D follows C."
(The Executive of the Concession, Yosemite National Park).

"THE BEST WAY TO PRESERVE NATURE IS TO LET IT ALONE".
(Superintendent Rogers, Rocky Mountain National Park).

During the past eleven months of field observation, following 25 years of active work in the interest of the National Park System, it has been impossible to escape the conclusion that these basic principles have sometimes been overlooked in the zeal for the conduct of the Show Business, and the thoroughly human desire of men to make their mark by building something or destroying something.

Some men scribble their names on a wall.
Others dig an ancient dwelling to pieces to find out what is inside.
Others build a Motor Road into the very Holy of Holies of Nature.
All are activated by the same basic impulse.
This impulse is deeply rooted in human nature, but it needs to be held in leash in our National Parks and Monuments.

We are reminded of an excellent editorial in the October issue of "Westways", in which the policy promulgated by Franklin K. Lane is quoted: "The policy to which the service will adhere is based on three broad principles: First, that the national parks must be maintained in absolutely unimpaired form for the use of future generations as well as those of our time; second, that they are set apart for the use, observation, health and pleasure of the people, and third, that the national interest must dictate all decisions affecting public or private enterprise in the parks."

CASA GRANDE JULY TRIP CHART

	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9
1.															
2.															
3.															
4.															
5.															
6.															
7.															
8.															
9.															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															
25															
26															
27															
28															
29															
30															
31															

SOUTHWESTERN PUBLISHING 132 S.PT.B.R SUPPLEMENT

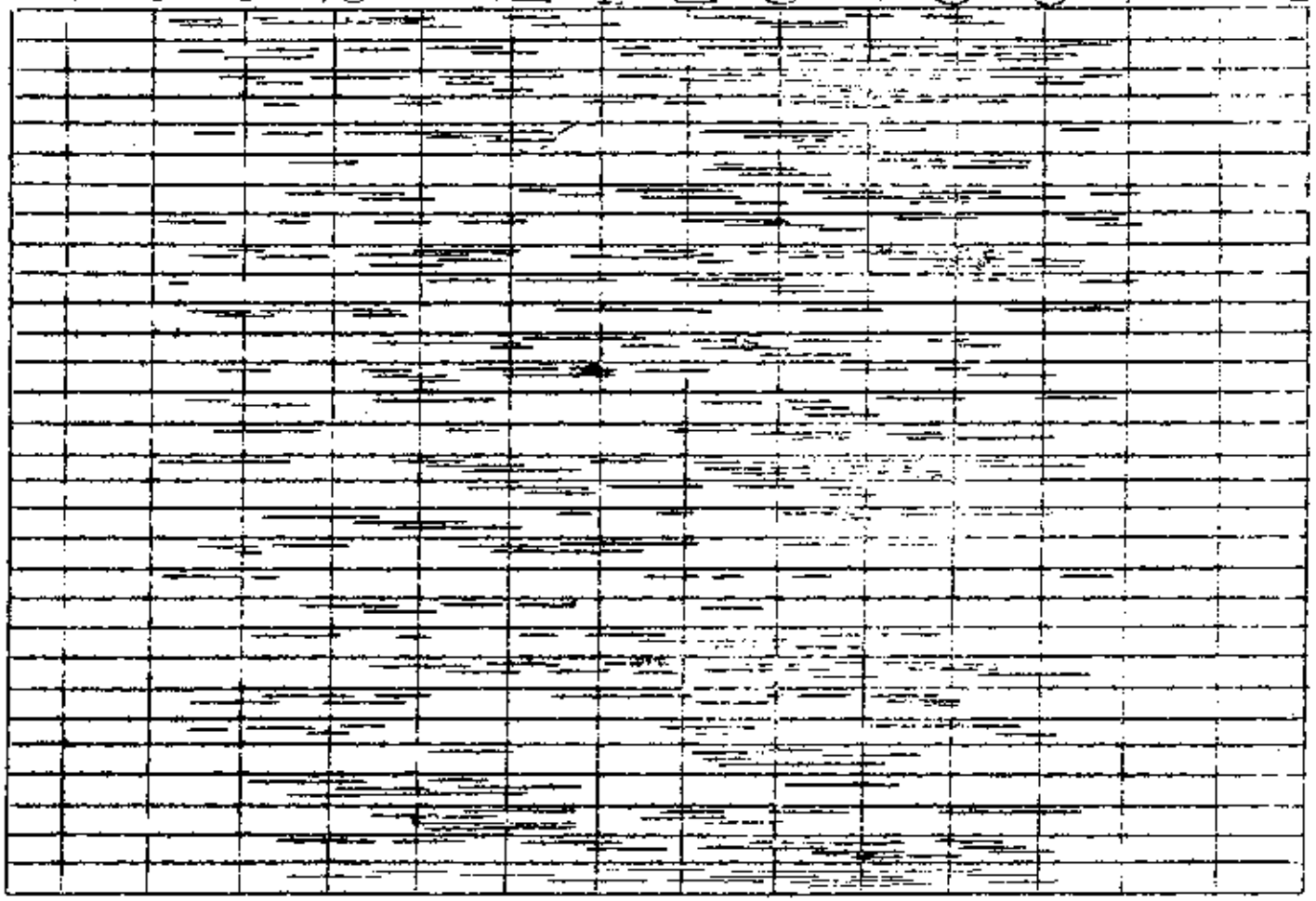
CASA GRANDE AUGUST TRIP CHART

	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															
25															
26															
27															
28															
29															
30															
31															

SOUTHWESTERN AUTOMOBILE CLUB RECORD SHEET 1934

CASA GRANDE SEPTEMBER TRIP CHART

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



JULY TIME CLOCK RECORD

Day of week	Date	*--Ruins-- Parties	Persons	Parties	Av. stay	Total stay	% of stay	Parties	Av. stay	Total stay	% of stay	Total stay	Av. total stay
						--Museum--							
Sun.	1	14	78	14	31	435		13	19	247		682	48
Mon.	2	4	14	4	24	96		13	19	247		682	48
Tues.	3	7	23	7	24	121		6	15	91		262	37
Wed.	4	15	107	15	37	559		14	24	339		898	59
Thur.	5	8	34	8	32	262		8	22	176		438	65
Fri.	6	8	24	8	39	318		7	19	139		457	57
Sat.	7	8	24	8	29	235		8	26	213		448	56
Sun.	8	11	47	11	34	378		8	26	212		590	53
Mon.	9	11	34	10	31	311		10	17	171		482	44
Tues.	10	8	37	8	33	265		5	27	136		401	50
Wed.	11	3	9	3	21	62		3	23	68		130	43
Thur.	12	10	30	9	29	269		10	20	200		469	47
Fri.	13	3	11	3	[illegible]	62		2	18	36		98	33
Sat.	14	7	16	6	28	169		5	21	104		273	39
Sun.	15	15	61	14	37	519		14	25	355		874	58
½ month		132	549	128	32	4111	61.57	117	21	2567	38.43	6678	50
Mon.	16	6	21	6	37	224		6	35	214		438	73
Tues.	17	9	41	8	35	286		8	37	301		587	66
Wed.	18	4	17	4	36	146		3	20	59		205	51
Thur.	19	8	43	8	43	342		7	33	229		571	71
Fri.	20	9	32	8	36	285		9	22	202		487	54
Sat.	21	7	24	7	33	234		6	25	153		387	55
Sun.	22	15	79	15	39	590		13	33	431		1021	68
Mon.	23	8	25	8	27	221		6	25	149		370	41
Tue.	24	10	37	10	30	306		10	22	224		530	53
Wed.	25	6	17	6	34	208		5	33	166		374	62
Thur.	26	6	26	6	45	268		6	35	208		476	79
Fri.	27	9	34	9	27	245		7	21	147		392	43
Sat.	28	6	21	6	34	206		5	28	140		346	57
Sun.	29	12	67	13	35	426		9	37	339		765	64
Mon.	30	4	20	4	46	184		4	25	101		285	71
Tue.	31	2	4	2	30	61		2	24	49		110	55
½ Month		145	513	119	35	4232	57.62	106	29	3112	42.37	7344	50
MONTH		277	1062	247	33	8343	59.49	225	25	5679	40.50	14022	50

AUGUST TIME CLOCK RECORD

Day of week	Date	Parties	RUINS Persons	RUINS Parties	RUINS Aver. stay	RUINS Total stay	RUINS % of stay	MUSEUM Parties	MUSEUM Aver. stay	MUSEUM Total stay	MUSEUM % of stay	Total stay	Aver. total stay
Wed.	1	9	26	9	31	283		7	27	186		469	52
Thu.	2	5	17	5	44	220		4	42	171		391	78
Fri.	3	10	33	10	32	327		9	20	182		509	51
Sat.	4	11	44	11	27	301		10	22	219		520	47
Sun.	5	16	95	15	32	481		14	20	280		761	47
Mon.	6	13	65	13	39	505		12	37	443		948	73
Tue.	7	9	37	9	40	358		8	33	268		626	70
Wed.	8	10	31	10	38	381		9	32	292		677	68
Thu.	9	7	21	7	30	213		4	30	121		334	48
Fri.	10	9	33	9	36	312		7	22	155		467	52
Sat.	11	7	28	7	38	265		6	26	156		421	60
Sun.	12	13	60	12	36	436		13	30	387		825	63
Mon.	13	12	58	12	42	512		12	30	364		876	73
Tue.	14	9	31	9	40	354		8	20	156		510	57
Wed.	15	9	56	9	26	251		9	22	199		450	50
½ Month.		149	625	147	35	5205	59.25	132	27	3579	40.74	8784	59
Thu.	16	7	17	7	30	210		7	34	238		448	64
Fri.	17	7	17	7	37	263		7	24	170		433	62
Sat.	18	10	43	10	36	369		10	21	217		586	58
Sun.	19	17	96	17	33	566		17	22	361		927	54
Mon.	20	12	47	12	34	411		12	26	294		705	59
Tue.	21	15	68	15	33	494		15	25	358		852	40
Wed.	22	11	31	11	33	400		11	21	194		594	54
Thu.	23	11	34	11	34	412		11	21	254		666	60
Fri.	24	8	29	8	40	321		8	29	233		554	69
Sat.	25	10	36	10	30	306		10	20	183		489	48
Sun.	26	14	111	14	37	529		14	24	337		866	61
Mon.	27	8	36	8	26	208		8	19	156		364	45
Tue.	28	7	30	7	28	198		7	20	143		341	48
Wed.	29	6	31	6	32	197		6	29	172		369	61
Thu.	30	12	61	12	34	406		12	21	209		615	52
Fri.	31	10	36	10	32	320		10	29	261		581	58
½ Month		165	703	165	34	5610	59.74	165	23	3780	40.25	9390	57
MONTH		314	1328	312	34	10815	59.50	297	24	7359	40.49	18174	57
JULY		277	1062	247	35	8345	59.49	223	25	5679	40.50	14022	50
July-Aug		591	2390	559	34	19158	59.50	520	25	13038	40.49	32196	54

SEPTEMBER TIME CLOCK RECORD

Day of week	Date	Parties	Persons	RUINS Parties	RUINS Aver. stay	RUINS Total stay	RUINS % of stay	MUSEUM Parties	MUSEUM Aver. stay	MUSEUM Total stay	MUSEUM % of stay	Total stay	Aver. total stay
Sat.	1	15	86	15	21	314		25	21	301		615	41
Sun.	2	18	126	18	26	469		18	26	443		912	51
Mon.	3	18	108	18	21	304		18	17	335		719	39
Tue.	4	8	25	8	19	136		8	15	105		241	30
Wed.	5	10	31	10	26	239		10	36	287		526	52
Thu.	6	7	28	7	31	219		6	21	127		346	50
Fri.	7	11	28	11	37	406		7	25	176		582	53
Sat.	8	12	38	12	25	302		9	22	204		506	42
Sun.	9	17	90	17	33	564		13	27	355		919	54
Mon.	10	8	35	8	32	260		6	25	153		413	51
Tue.	11	7	28	7	32	225		6	21	128		353	50
Wed.	12	10	24	10	27	278		8	27	219		497	49
Thu.	13	11	33	11	27	307		10	24	243		550	50
Fri.	14	9	28	9	24	219		9	20	187		406	45
Sat.	15	7	25	6	33	203		7	25	177		380	54
½ Month		168	703	165	27	4525	56.81	144	23	3440	43.28	7965	47
Sun.	16	15	57	13	38	485		15	23	354		839	55
Mon.	17	6	14	6	18	112		6	26	160		272	45
Tue.	18	9	17	9	28	255		7	25	175		430	47
Wed.	19	8	23	8	30	243		8	25	203		446	55
Thu.	20	6	15	6	18	108		5	14	69		177	29
Fri.	21	5	10	5	27	139		5	19	96		235	47
Sat.	22	8	31	8	31	250		8	20	165		415	51
Sun.	23	13	75	13	28	366		13	22	297		663	51
Mon.	24	10	44	10	36	362		9	19	175		537	53
Tue.	25	8	21	8	30	247		6	21	130		377	47
Wed.	26	6	21	6	31	191		5	31	157		348	58
Thu.	27	6	27	6	47	280		5	45	224		504	84
Fri.	28	10	41	10	35	355		10	29	297		652	65
Sat.	29	11	62	11	35	391		10	26	258		649	59
Sun.	30	14	128	14	38	540		13	26	346		886	63
½ Month.		135	586	135	31	4324	58.19	125	24	3106	41.80	7430	55
Month.		303	1289	298	29	8849	57.47	269	24	6546	42.52	15395	51
August.		314	1328	312	34	10815	59.50	297	24	7359	40.49	18174	57
July.		277	1062	247	33	8343	59.49	223	25	5679	40.50	14022	50
3 Months.		894	3679	857	32	28007	58.84	789	24	19584	41.15	47591	53

DISCUSSION OF CASA GRANDE TRIP RECORDS

The rather complicated six pages which precede this brief and incomplete analysis sum up three months of accurate check by a time clock on guided trips at Casa Grande National Monument.

Before dealing with some of the interesting facts thus disclosed, it might be worth while to point out that these figures include only GUIDED TRIPS. Thus, the average total stay per party at the end of three months is found to be 52 minutes---28 in the ruins and 24 in the museum. Don't forget that these are guided minutes----many parties spend half a day walking around to the other compounds on the Monument; many picnickers stay at the Monument campground the greater portion of the day or evening. Naturally, their time is not included.

TRIP CHARTS

Now for the three charts which show the duration of each party during the months of July, August, and September.

JULY. a. It is evident that one ranger had to come on duty at 8 a.m., for 10 parties during the month arrived before 8:30. It really was not necessary for the second ranger to come on duty before 9 a.m., because the first man could have handled the visitors except in one case.

b. Lunch hours were almost hopelessly complicated, for on 6 days more than one man was needed between 11:30 and 12:30. On five days we needed two men; on 3 days, three men, and on two days, four men. With a two-man staff, how can we take care of visitors these nine days?

c. Quitting time apparently was about 8:30 p.m. Had we closed at 8 p.m. we would have cut short four parties. Had we closed at 7 p.m. we would have turned away six parties, and cut short 11 others. If we had closed our gates at 6 p.m., we would have refused service to 20 parties, and on 10 days we would have worked until 8:30 or past taking care of visitors already inside the gates.

d. Eleven times during the month three men were guiding at one time. Four men were necessary four times.

AUGUST. a. One guide coming on duty at 8 a.m. and the other at 9 a.m. would have been satisfactory in August also. Only three parties would have had a considerable wait.

b. Lunch hours were hard to arrange, for on 11 days two men were needed between 11:30 and 12:30, and on two days three men were needed.

c. Quitting in the evening an hour earlier was possible---7:30 would have missed only one party, and shortened two more. Had we closed the gates at 6 p.m., we would have refused entrance to 15 parties. Even

then, on 13 days we would have had to work until 6:30 or longer to take care of the parties already started on trips. On four days we would have had to work almost until 7 p.m.

Twenty two times during the month three guides were needed. Four guides were required three times.

SEPTEMBER. a. Again we see that the two guides could have come on duty at 8 a.m. and 9 a.m. respectively. Only two parties would have had to wait, and then only a short time each.

b. Lunch hours again were a difficult "one man" problem. On 11 days we needed two men; on 3 days we needed three men; and on one day we needed four men between 11:30 and 12:30.

c. Quitting at 7 p.m. or even 6:30 p.m. would have been quite possible in September. Had we closed our gates at 6 p.m., we would have turned away 8 parties. We would have worked on 11 days until about 6:30.

d. Three guides were needed on 20 occasions. Four guides were needed on four occasions.

CONCLUSIONS FOR MOVE THE GATES:

1. As far as guiding visitors is concerned, it is perfectly satisfactory to start one man at 8 a.m. and the other at 9 a.m.

2. Lunch hour is a problem. Visitors are relatively numerous, and unless we continue the practice of calling in the whole personnel of the Headquarters Staff to handle them, we shall have to work out a new system.

One way to work it would have the guides take consecutive half hour lunch hours, but this works a hardship not only upon the men but upon their families.

If we try to cut down our trips by holding them at scheduled times, at 12 and at 1 p.m., for instance, then we are faced with the problem of visitors who refuse to wait. At the present time there is no lobby or comfortable place where visitors can find interest during such a wait.

It is impossible for one man to handle the visitors with the aid of a sign saying "Join the party now in the ruins." If this scheme were adopted, visitors would join the ruins trip at any time, and would receive at the best a very garbled story. It is possible to join late comers to a ruins trip during the first 10 minutes, but after that the

story has progressed so far that the late comers miss too much important background. Moreover, they constantly interrupt the guide with questions which already have been explained or answered and which are irritating repetition to the rest of the party---although the guide is trying as hard as he can to answer those questions in a new way.

c. The charts prove what we already know---that the summer quitting hour is late, but that approaching winter solves the problem. Increasingly early nightfall cuts our working day. But when next summer rolls around we will face the same dilemma. If we close the gates at 6 p.m. in the summer time we are going to turn away about 15 to 20 parties a month, and will have to work until 6:30 or 7 p.m. to take care of the ones already inside.

d. During the three months period we needed three guides on 53 occasions. On 11 other occasions we needed four guides. The facts are evident---we must cut our service to conform to our two-man staff, or must have more personnel. As shown in a preceding paragraph, we cannot meet the situation by joining late comers to trips already started,---that is, only in a small number of cases. Last month's analysis (August) showed that trips every half hour were impractical. It may be that trips every hour will be the solution. Yet we are situated close to the highway and draw a great many visitors who are in a hurry---they have a set destination, and can spend little time. Until we have a waiting place which will keep them interested, we shall lose quite a number of visitors unless we take them as they come. But this fact bears repetition---we are giving too much service, or else we need more personnel.

STATISTICAL RECORD

First of all, let us examine the three month's total at the bottom of page 147---it shows some rather astonishing things. We produced 47,491 guided minutes....more than 790 hours....more than 99 eight hour days. Since there were only 92 days in the three months, you can imagine the rather stupendous performance of a mythical leather-lunged guide, talking solidly for eight hours a day, seven days a week, for three months, and then failing by seven straight days of talking to handle all the visitors. Even had the parties followed each other successfully, it is physically impossible to perform such a feat. Then when you consider that at a two-man monument one of the guides is also the Custodian, and must handle the administration detail, you can see why this is a remarkable record. We are justified in being proud of this service.

The total shows that our average party stayed 53 guided minutes.

The average ruins trip was 32 minutes (or about 59% of the time) and the museum trip 24 minutes (about 41% of the time). The reason that 32 plus 24 does not equal our average guided stay of 53 minutes, is that there were fewer museum trips than ruins trips. Our visitors came in 894 parties, composed of more than 3,679 persons.

The records of the three months are rather consistent. The low July average of 50 minutes probably was due to the fact that we had a temporary guide not quite up to Park Service standards, and that one new man was broken in. The average jumps to 57 in August with experienced personnel. The September average drops to 51 because of heavy travel the weekend of Labor Day when visitors were handled by two temporary guides while the regular force was detailed to the Chiricahua celebration. But these minor fluctuations do not seriously affect our figures, and we now have an accurate survey of the summer guided visitor problem at Casa Grande. As the museum is improved and other changes are made, it will be interesting to see how they make themselves apparent in future figures.

These figures and charts are to be taken as a typical example of the summer run of visitors at Casa Grande National Monument. The next thing to do is to get a similar typical cross section of the winter traffic when this monument is in its busy season. It will be interesting to see how much change there is and where the changes occur.

Later we expect to gather similar data at our other Monuments and thus gradually build up a picture of what is actually happening. As soon as we find what is happening we will want to find out Why the public reacts in certain ways, which may entail some research along other lines.

We think we have reached the maximum time of holding visitors in the ruins at Casa Grande under present conditions . The trip entails little walking and much standing while the guide talks. Physical fatigue comes before mental fatigue; the visitor wants to sit down and rest and the reaction comes when he gets back to the museum where he seems to cut his trip short in order to get back to his car. We are going to experiment with benches at two points on the ruins trip and see if we can lengthen the trip and how much. It will also be interesting to see if we do lengthen the ruins trip, whether it will cut a corresponding time out of the museum trip; in other words, does the visitor have only a certain time to spend, and if you extend it at one end do you cut it short a like amount at the other? We are also considering trying some seats in the museum and see if we can hold the visitor there a little longer. Again we have the difficulty of having to keep them standing so long that physical fatigue comes before they are mentally tired.

Any suggestions on these charts and tables will be mighty welcome.

THE RECENT INSCRIPTIONS ON EL MORRO.

We have a very timely report from E. Z. Vogt, Custodian of El Morro National Monument in which he sends us 369 inscriptions of American and other names which he has copied from El Morro. The data is important enough that we include it in this Supplement and thus make it a part of the Government records.

Dear Frank:

As a P.S. to my monthly report which I sent to you yesterday, I am inclosing a list of all the names, American and others, which were carved on the cliff after the visit of Lieut. Simpson and R. H. Kern in 1849.

I thought that as a matter of historical record these names should be copied and preserved as they are getting very dim.

We worked on a ladder most of the time as the effort of the carvers seemed to be to put their names higher than the ones before them. In many cases the names could not be read at all, but sometimes by rubbing the moss off with my hand I was able to decipher the letters.

As Ranger Peterson and I were doing this very tedious work we noticed many very dim Spanish inscriptions which dated away back no doubt as they were of the old script. It was impossible to read them as they were placed on the cliff where the rain washes over them and show the signs of weathering very much more than our principal Spanish inscriptions which were placed at carefully selected sites.

E.Z.V.

Beginning immediately above the concrete wall of reservoir dam in Camp Cove and proceeding east to the Ramon Garcia Juldo, 1709 inscription.

". Bolmar (or Bolman) '57. J. M. Bell '57. J. Sharpy (or Sharry). Negrie. H. B. Cotton. C. L. Lowery. D. Leier. L. Morino. Le Gus '5. J. J. Marin, Co. E Rifles. L.H.D. Co. - Rifles. G. Holbrook, large letter 4. S. P. Thayer, Kansas City, Mo. 1890 ? G. H. Doriot/ John M. Gunn June 12, 1884. (He surveyed here with Marmon and Pradt. Gunn, who sectionized this region is still living at Laguna.) Focher. Lews.(very dim). Lt. D.R. Hubbell, 186 ? 1st Inft. Cal. Vol. Gen. E. A. Carr, 1890. C.M. Carr. M.E. De s. H.A. Benoist St. Louis. L. Levis. Geo. Zika Aug, 26, 1866, Iowa City, Iowa. H.B. Hanson. Wine 9, S. Ostrom 1853. A. MRae 1853. C.B. Bunty. E. Ben Long, Baltimore, Md. R.C. Logan, Ohio 1866. F. Shoenner Co E M.A. 1858. J.A. Lucero 1890. Epifanio Anaya. F. Engle Jr. New Jersey, 1859. P.B. Byrn. G.H. Whitaker, 1863 Conn. P. Gilmer Breckinridge, 1859. Va. Horob 1853. J.G.C. 1890 F. Doggs Cal. J. G. Mather, Wash-L.C. ../20

Here occurs the Ramon Garcia Juldo inscription, 1709. Between it and the De Vargas, 1692 inscription we find the following:

W.J. Crow. Jonman E 2nd Cav. 1896. F. Schuster. J.P. Stinger, Cin. O. 1863. J.P. Allen, Troop C, 6 U.S. Cav. 1890. Curtis Allison of N.C. B.E. Comins Oct22 1866. C. Bell. W. Bird 1849. Dan Donahue. W. Wood July 8, 1870. R.H. Orton Capt. 1st Cav 1866. Hale K. Wesley of Ills. 1868. Ed. Cook. R.B. Emsay. Ph. Linquist. P.B. Byrn. Jose E. S.M. Taylor Ohio Apr 7, 1859. J.L.Hawks 1851. Th. O' Sullivan 1873. Lieut. McCook, 1857. Peh Williamson, Ohio July 8 1858. C.H.Fry, 1857. S.D. Gray, 1858. John Udell age 63 First Emigrant July8, 1853. Isaac Holland First Emigrant train from Mo. July 8, 1858. C.C. Clark. S. Leovido Kaliez Polen 1663.

On east of the De Vargas inscription towards the Juan Garcia 1636 Cove:

C.Holbrook, 1 11 1858. Thos. A. Stombs Capt 1st Cav Oct 22 1866. P. McLowell 1864. Joe Ayers 1895. E.L.Medler 1905. Abner Frazier 1864. M. Cuerty 1859. Martin 10 Junio 1883. J.J.Quinlin. Leroy W. Riggs, J. Burges. J. McCormick Sept. ?. John Kermede. J.R.M. Aug 19-1864. Pat K.T. Rower. J. McCudden Troop A 6th Cav. Apr. 24, 1890. C.G.Parker Iowa. N,F.Smith, July 4 1864. H. Kingsley. Wickerson '63. T. Kelley. Jo Tc 1854. P. Rocking 1854. Beale. A.B.Hanna Pa 1863. L.J.Green Pa 1863. Henry Hurst Groesburg ? Holstein Germania D Company. F.L.LeBoeuf N Y Apr 25 1864. John Hambleton. Perkins, 1858. J.M.Poole of La 1858. J.W.Patrick Aug 28 1860. J McCormack, Troy, N Y '71. J Cameron July 30 1858. J.H.Watman 1853. R. T. Barnes July 7 1858. L.J.Rose Iowa July7, 1858. C.W.Allen 1890. Jp and Emma Coover Mo July 4, 1876. C.E.Cooley. F. Hayes, Apr 1875 Marlboror N H or N Y. J.H.Hatch Aug 18 1864. J.H.Hatch 1890.

East of the Garcia Cove to the point of the cliff:

E. Millicut. J.E. Clutter. Maj. J.R.Hughes, U.S.A. 1852. W.T.Hartz 3/24/7?. Eustis Baker 1876 Bradford Mass. M.Goldman Feb 11-71 Iowa. Fred Hughes 1858 Iowa. W.C.Stiger /58 '58. Coff - 1857. L.W.W. Pa 1857. L Ullman U S A 1873. R. Allen Co T? U.S. Cav 1890. W.C.Harper, 1858. W.E. and David Langston from ? N. Bibo 1871. W. Howell U.P.R. 1868. E.D. Palmer. F.Hodges. Old Joe very high up on face of cliff. D.D. Graham----on the Hudson, Dutchess County New York 1832. (This name is that of the first trader and first Indian agent at Zuni. It is well carved but back of a chapparo bush hanging on ledge.) E.M.Volh. C.S. Miller 1866 U.P.R. J.V. Morrison 1896. Frank Lee ? L.C.Smith, 1896.

Names on north face east of Gov. Martinez Inscription towards point of cliff.

E.L.Siman or Simons, Co. F, 18th Cal C. 1868. C.H.Kelsey, 1913. H. Rodem. Corp. C. Roey. J. M. Williams, 1913. C.T.Brown (very large letters) 1863? Hellman Oct 5 1876. A. C. Kelly 1876 Cambridge Mass. R.J.Ellis. H. Noel. R. L. Howse June 26 1892 or 82. T. Reidsnider 1867. Chas Scone. R.H.Stone. Geo W. Hazedron Nov 12 1912. Wm Barthol Co F. G.B.Sealy. F(rederick)? J. White, Cambridge Mass 1876.

H.B.Keys. J. Meyers N.M.M. Police, July 18, '05. C.Parres. C.J.Montague July 6, 1884. W.J. Gill Co F. W. Walker May 24. J.G.Morse 1854. H. L. Doage 1849 '51 & '54. C.H.Fry 1358. H. Sloan Ky 1858. J.H.Quinn 1355. H.D.Gorham July 28 1858. H. Brand 1358. Chas Carson. J.L. Tribin 1857. W.A.S. LeCr. A. Schmatrz July 22 1863. Robt Caldwelle Ottumwa Iowa. J.H.Howard Co 1363. C. Meyer. E.J.Harwood Col. 3rd U.S.C. 1867 and 8. W.F.Banning. F. Kerney Altoona Pa. M.Maloney. Franz Huning. E.W.Woodman Greville, Coulter Co., Cal. G.W. Rakhan Boston Mass. Frank Mercer. J.Williams 1871. Dick Merkle. S.Leovick. M.Forster. J.A.Martin. D.Weaver. J.Little 1865. F.Nevins 1889 New York. John . Conway July2, 1873, Santa Fe, N.M. J.Foster. S.P.Wells Clinton Mich Nov 13 1867 ?. C.P.Green Brighton Ohio U.P. Eng.Corps Nov 13 1876. A.Cagnon, Canada, 1876. G.Brukner St. Louis Mo 1869. Lippel 1866. W.Z.Wilson Roseville Ohio, April 8th 1867. H.M.Preston, April 30, 1870. C.A.King, Wisc. John Krauth Den. Colo. Joseph Kerr, May 3 1867. Pablo Castillo, Sbre 11 de 1873. W.Ramplmeir. W.P. Freese 1868. J.D.McClusky. J.Bryet. E.W.Wells '64. M.Healy. G.W.Coward. C.Weltz Va. H. .Easton. Joams Jordon July 29 1859. Mark C. Evans. Jesus Mazon (who was killed at the Tinaja, his ranch).

On the point of the cliff:

J.G.Davis 1857. E.V.Stahl April 29 1870. C.Williams Co D 1866. P.Maddux 1870. I.O.Maddux 1878. J.H.Meyers Pa. T.Kerr. Joe Taylor. D.C.Ogsbury N.Y. H.A.Wilson 1871. P.H.Howlett, Zuni N.M. 6th 21 st 1903. Harry Howlett, Fairfield Iowa 1908. Marmon Bros.-1881. (Government surveyors whose home was at Laguna). P.Marcy '72. C..Bess, 187? G.W.Graves, 1866. S.Lambden, Md 1864. B.Bibo 1864. (This was Ben Bibo who in his last years had a store at Moquino near Sobeyetta, N.M.) Chas Watkins. ---? Craven Mo. J.J.Hornbrook or Holbrook, May '97. Jones Buckman 1864. J.Riner, 1883. J.E.Morrison 1896. P.S.Miller, U.P.R. 1868. J.T.Mapes, June 23, 1872. N.C.S. 1859. I.S.C. U.P.R. L.Dorsch 1856. S.H.Taylor Aug- W.Watkins U.P.R. S.D.Gray 1868. W.Shaw, 1868. U.P.R. P.W.Strahan. W.E.Pinegar, Zuni Mt. Ry Survey, Level, 1891. J.W.Cowyers. G.Slattery. Above Slattery is an old cross and below it the words: "Es la Cruz y lo Pinto." Translation: "It is the Cross and I carve it or he carved it." The balance of the escritura is lost. S.A.Smith, 1867. W.C.Stephens June 23 1872 Texas. W.Mack 1910 M 3rd Cav. J.R.Summer 1858. L.M.Steen. J.S.Smith July 4 1873 Col. M.J.Bixby. E.S. Ho Aug 29 1858. R.J.Hamilton Aug 23 1858. R.L.Howse. Wm M Crosby 1905. H.B.Stafford N Y 1858. J.C.Day Aug 23 1858. A. .right. H.Schuyler, U.P.R. 1858. W.J.Howard Mar 2 1859 (followed by maltese cross). N.A.Keene N.H. Joseph Tasher. Thos A. Walker N.d. H.Weber, July 25, 1873. W.H.Bradley Weymouth N.C. Apr 7, 1876. J.P. Williams. W.J.Williams Apr 4 1876, Santa Cruz Calif. Horace E. Mann Rockland Mass Apr 8, 1876. S.R.Leonard U P R 1868. J.Storms.

The following names are on El Morro on north face of cliff west of the Letrado 1632 Inscription:

Sossy. Minty 1889. J.Forster Aug 8 -73, Kansas. Hale Kingsley. W.G.Thomson Dec 23 1861. J.N.King Aug 8 Pike Co Mo. Trumptr. R.M.Clayton 1872. S.L.Underwood may 1872. A.H.Maloy. C.W.Turman, Iowa 1870. Lt. A.Gray 1889. C.Woltz Va. Thos H. Reilley, (carved and painted black), Dec 23 1863. Asa Walmer 1870 Iowa. A.A.Wilt Aug 8 Pa. D.L.Nemitz 1873.

On rock lying on surface ground below the Manuel de Silva Inscription is the name of Wm McKinley Apr 8 1876, also, nearby A.H. 1866.

On the south side of the cliff from the reservoir dam to Petroglyph Point we have the following names:

Ano of 1863 Andubo Julian Trujillo por este sitio en la campana. A.P.Wickoff June 9 1852. R.H.Korn 1851. Dr. S.M.Woodhouse, Aug 30 - 1851. L. Sitgreaves U.S.A. Aug 30 1851. T.Sullivan M 3rd Cav 1909. Horabin '64. J.G.Parke. Henry Newman Aug 25 '67. J.D.Slight May 5 1853. E.T.Hamby. W.V.Hamby. J.Syrue.

From Petroglyph Point to new stone steps:

W.R.Braden Sgt. Troop M 3rd Cav. 1909. F.J.Cory, T.M. 3rd Cav. Apr 17 1909. J.C.Montgomery Aug 1863 N.Y. L. Bongey, T.M. 3rd C. L.L.Krodinger. J.Pollock June 1 1865. S.Smith 1866. J.B.Moore 1874. Domingues ano 1874 de 1863 Compania efe (F). J.McCord July 30, 1858. Ohio. A.Rothwell, Nmcos Colo 1898. (This name appears again on wall of cave at foot of stone stairway. In Nine Pine Cove is a pair of antlers with a figure 2 and the words "Camp May - 1897" marking the fact that in this Nine Pine Cove was a cavalry camp. C.T.Carver Canton Ohio M 3rd Cav July '09. B.C.Rogers July 24 1910 T.M. 3rd Cav. J.Keegan M Troop, July 25-09.G.H.Smith T.M. 3rd Cav July 25-09. J.G.A. Beadgas 4-09, St. Louis Mo. C.A.Bernius, Leipsic Ohio, July25-09. T.Hickey 1909 July 1910 Troop M 3rd Cav. H.D.Mulligan 7/10. B Ham 3rd Cav. S Hubbell 1866. McKee Tm 3 Cav. S.R.Moskowitz ...D. July 24-1910 U.S... 3rd Cav Newark N.J. E.A.Donnelly M 3rd Cav 1909. R.M.Dover 1865. Capt. J.S.Crouch 1866. Guy H. Smithers. E.N.Perkins 1879.

Names carved in Water Cove above former ground level:

N.H.Hutton. Anthony O'Doherty. B.Grether (Stone chipped off below). J.Bondorf '57. T.Evolatch. J.Hunley 1852. Alcario Gallegos (not inold script). O.A.Armstrong, T.Harlow July 29 1868. U.C.Harding. T.A.Field. A.J.Doe. Love. W.W.Miller May 7, 1890; Simon Garcia Wm Krug 1858. C.W.Noel 1864. Halliday, Meigs Co, Ohio May 1863. W.C.Jackson. J.P.Baker Buffalo N.Y. Maj. Ayarl. John R. Hurd No.1 Cond. U.S.O.M. Portsmouth Ohio 1859. J.L.Lincoln Newark Ohio. W...Costa. Thos Doherty. Dennis. V.S.C. 1872. C.G.Sawtelle 1894. J.deB. 1880 (in a small square or frame.) Jack C. May 1868. L.K.McGaffey 1908. M.R.Skanez '08. Hyram Dyer. Maj.Iman.

W.G.Marmon 1881. J.H.Mouin (not plain) Pontiac or Peoria Ill. P.Turner. W.R.Havacan Aug 23 1853 or 58. M.Hadley 1858. F.H.Upham 1st Cav. 1870. S.Weaver Aug 30 1851. Andras Ruhling, August/ Kroht July 8, 1854. [illegible]L.Jannell Co. 2 2nd Art June 9, 1852. J. Dillin B.C. [illegible]B.How. J.B.Ayer. S.T.Grant 1875. [illegible]T.Moore Mo '75. P.T.Homp. P.M.Kehoe 1872. Pablo Jaramillo 1892. R.W.Tahon 1849. J.Lay. P.Snyder. Betol 1853 Co. B 3rd Inft. J.D.O'Connor. Chas Hole 6. C.Deus. J.B.Calldrag S . 52 W...Hilldrett Man. M.Hamilton.

Names on left, or south wall of water cove above water line:

H.Richards 1872. H.Hampton. Wm.H.Camsfield 2nd Lieut. U.S.... Fort Wingate 1919. A.V.d.V. (Vanderwaggen no doubt), Zuni 1898. E.Hofmn 1901. Mr. and Mrs. Amos Tiejen. Hedreth. J.Nichols. M.C.Jones. F.Wade. David G. Robbins. F. McKinley U.S.G.L.O. 5/23/1903 D.C. Frank Salazar. Alejandro Salazar. Bony Chavez.

BANDELIER MUSEUM PLANS.

The following is a letter from Earl Jackson, Custodian, Bandelier National Monument, to Mr. Rose regarding museum plans for the proposed museum at Bandelier. It is put in at this place to show that we are getting museum minded in the southwestern monuments and to call out any latent ideas from anyone who may read it so we get all the angles of the problem on the table before we come to drawing the actual plans. The letter follows:

Dear Bob:

Following is the revised museum study for Bandelier National Monument. As it stands it is what you and I figured out on your visit here added to Shellbach's ideas.

THE FUTURE MUSEUM FOR BANDELIER NATIONAL MONUMENT

The museum should have a lobby, five museum rooms, a laboratory, and a store room. The order in which visitors should see the exhibits would be as follows; lobby, first museum room, ruins trip, second museum room, ethnology room, geology room, and flora and fauna.

LOBBY

This is the place for visitor entrance and registration. It should be fixed up comfortably as a place to sit and rest while waiting for guided trips. In addition to being a comfortable lounging place, the lobby should contain books, pamphlets, pictures, and should constitute a psychological key to the museum exhibits later to be seen. It should make the visitors decidedly 'Indian-country' conscious with attractive pictorial representations of Indian scenes, life and environment, without creating necessity for an organized explanation.

The lobby is thus an imaginative setting so essential to appreciation of the coherent scheme which follows in room 1 and the guided trip which follows in turn before room 2 is seen.

Suggestions for Lobby wall display would be as follows:

a. A large wall painting or tinted photograph of the Indian pueblo at Taos.

b. A painting of the Ceremonial Cave.

c. A relief map showing Frijoles and neighboring canyons, with trails and places to see located.

d. A large picture of the Community House, showing it in part as it was when inhabited,

e. A large, colorful map of the Southwest, showing the various parks and monuments of archaeological interest as pictorial insets, with principal cities, roads, and distances designated.

f. A large colored picture of the Upper Falls in Frijoles Canyon, which is a spot of great beauty. This picture would help make visitors conscious of the merit of a walk down one of the Nature Trails.

g. A large pictorial map of old Santa Fe would not be out of order. On this dates would be shown and brief historical legend would be placed at the bottom. Since the Spanish occupation of the Southwest began before Frijoles Canyon was abandoned by the aborigines, even though the two peoples never contacted, the picture of Santa Fe would harmonize with the general scheme of things.

FIRST MUSEUM ROOM.

No artifacts will be shown in this room. Here, rather, will be a complete, integrated, chronological picture and chart scheme of North American archaeology and ethnology, leading toward the end to the specific Rio Grande area, to be shown in the next room, after the guided trips.

In the center of the room might logically be placed a plaster relief model of North America. Charts and sketches could be arranged logically in somewhat the following fashion:

a. A relief map of North America, showing the northeast tip of Asia and Greenland. All of the probable migration routes of Amerinds would be shown; the behring Strait Route, the Aleutian Island connection, the possibility of some Cro-Magnon influences having come over through Greenland and Iceland from Northwestern Europe. The southernmost extent of the Ice Sheet should be shown, and legend below the Map would indicate probable date of man's first appearance in North America, and would refer to the possibility of Pleistocene Man. Also on this map should be shown possible routes of early travel through this continent which would account for the segregation at an early date of the different types of people, and culture found.

b. A picture chart of the principal types of North American Indians both historic and prehistoric, should be shown. Legend at the

bottom would give the principal anthropometrical characteristics.

c. A chart of the different house types built by Amerinds, both historic and prehistoric, would be in order. These house types should be separately designated as belonging to farmers, hunters, or shepherd peoples.

d. A chart should be prepared showing how chronologies are worked out; in house type developments, in development of pottery design and technique, and in the study of tree rings. This tree ring explanation could be made interesting by careful sketches, and this must be done. The average person has no more conception of tree rings as they apply to ruins than I have of the growth of adenoids in archaic Martians.

e. A clever picture could be drawn to show what an archaeologist has to do in uncovering a ruin; first showing the ruin, then showing the progressive stages of excavation, with detail of how stratigraphy tells a graphic story.

f. A map of the Southwest, showing prehistoric ruins, or rather prehistoric culture areas, with the Rio Grande drainage distinctively marked, would be well as a finish.

The reason for showing the first museum room before the ruins trip is simply this: a great many visitors are utterly unfamiliar with archaeology or Indian life, and before they can have the fullest appreciation or comprehension of the points seen on the trip they must have some preliminary explanation. That preliminary explanation can be given at some convenient stop near the beginning of the trip, in a stereotyped outline, to a group of visitors who are seeing so many things to distract their attention that they do not remember what the guide is telling them, and constantly the essential groundwork of understanding has to be repeated and repeated to them.

Or, we can give that preliminary talk in the first museum room, before the trip, in a very colorful way. By means of the charts and pictures the attention of visitors will be held, and when they leave the room with the guide they will have a concept which is much clearer than that presented by words alone.

SECOND MUSEUM ROOM:

This will be the main actual museum room; it will be the largest room of all, a little larger than the spacious lobby, and considerably larger than the first museum room. Herein will be presented a scheme of Rio Grande archaeology, concentrating on Bandelier National Monument, and here will be shown the artifact material. Only a representative collection should be shown; there is no use of showing duplicates or triplicates, except in small articles, for they are not essential enough to warrant taking up the extra space. This museum is not to be merely an exhaustive collection, with every thing in it we can cram there; the store room is the place for every object not needed to fulfill the general story told by the representative pieces alone.

a. A chart should show all of the principal sites of the Rio Grande area, both historic and prehistoric.

h. A chart showing all of the culture periods of the Southwest,

from Basket Maker I to Pueblo V inclusive, with description of outstanding developments of each shown, and the point at which the Pajaritans tie in with this scheme, should appear here.

c. A relief map of Bandelier National Monument with a panoramic view of Frijoles Canyon, enlarged, and showing the principal ruins groups.

d. Exhibit Case No. 1. This case will show skeletal material, separated and indicated according to age and sex. On a card will be mentioned a few of the sexual differences observable on bones. Above the display should be a picture of a typical Pajaritan man and woman, or family scene, in one of the cliff houses. With the skeletal material it would be nice if we would contrast the skulls of an Apache or Navajo, as illustrative of the nomadic, marauding type of people who sometimes made life miserable for the Pueblo Indians.

1. In a separate part of Exhibit Case I could well be shown bones of animals and birds found in the ruins, with legend account of the significance they played in the lives of the peoples ---whether sacred or used for food purposes.

2. Contributory to Exhibit case I should be a case in the center of the room, with a flat or trapezoidal top, showing a typical burial, with everything in situ and undisturbed, even showing some of the grave dirt in place.

e. Exhibit Case II. Showing the development of pottery from the first type in the Southwest, down to the latest historic, and showing where Frijoles wares tie into the general scheme. Sketches will have to show something of the technique of manufacture, and the raw materials must be shown. Then will come a representative display of every type of prehistoric Rio Grande ware obtainable, with the Frijoles wares shown from early to late.

f. Exhibit Case III. Stone implements showing the sequence of types made from early to late, and technique, pictorially, in making axes, and possibly grinders and arrowheads. Arrowheads would show in display the different types used for hunting small game, warfare, and the distinction, if found possible by future study here, between types used by nomadic Indians and sedentary tribes (as shown in Sonora, Mex.). Other stone implements could represent types from different regions in a similar manner.

g. Exhibit Case IV. This case will contain the textile specimens such as pieces of cloth, basketry, and matting, and jewelry displays. Raw materials should be shown wherever possible, and sketches should show clearly the types of weave employed, and any loom materials which might come to light should be illustrated as used. Any other objects which cannot seem to belong very definitely to any other category, and objects of bone, can be represented in a section of this case, and their uses stressed wherever possible, in the same manner other objects in use have been previously stressed.

A suggestion made by Mr. Shellbach for a display in a flat wall case seems excellent. A great many fragments of objects which would be useless in any other function would serve a definite purpose if placed in a cross section of different layers of soil, according to ...

layers of occupation. This would give a good idea of what the archaeologist sees when he is running a trench into a trash mound.

b. In the center of the room, on a flat table, should be a model of the Community House, partially restored, and with it a model of a cliff house and talus house group, as the latter two occur together here. A restoration of the Great Kiva, which lies 150 yards east of the Community House, would go quite well with these models; the roof would be removable, and details of the inside could be pointed out. Points of interest could be numbered, and reference to a legend written near, which in brief would tell the story of the kiva and its significance, could be made.

THIRD MUSEUM ROOM (ETHNOLOGY)

This room will deal only with the cultures of the living Indians of the region. On the walls should be pictures of the different important Indian pueblos of the section, as for instance: Taos, Acoma, Santa Clara, San Ildefonso, etc. Photographs of the different tribal types of people and dress should be shown.

a. One case in this room should deal entirely with the different types of native Indian foods. There is quite a story to tell about foods, and how the people gather nuts, berries, and obtain certain herbs for food and for medicinal properties. The story of food getting among modern Indians will convey adequately the idea of how the aborigines got theirs.

b. Other cases will contain representative specimens of the arts and crafts which distinguish cultural traits of the different tribes. Pottery will be the chief item, as little weaving is done in this section by true Indians. Jewelry and garment types will make up the rest.

House types are so characteristically similar that one pictorial representation will be sufficient as generally illustrative.

Ceremonial paraphernalia, belonging properly to arts and garmenture, will be interesting if given a significance.

Indian paintings and carvings of today must be compared to those of yesterday, especially with those of Frijoles Canyon. Points of dissimilarity rather than ~~k~~ similarity will be strongest, as Pueblo art of today in this region differs greatly from the old.

FOURTH MUSEUM ROOM (GEOLOGY)

This would be a small room. The geological story of this region is fascinating, and when the ecological and geographical features in the life of the aborigines are brought out in full significance the value of a separate room for such will be quite manifest.

What made this valley habitable?

What climatic change may have caused its abandonment?

These questions bring to mind the problem of what titanic natural forces welded an land fit for human occupation, and how these forces juggled a race of men in an amazing probable sequence of cause and event.

What is almost a philosophic problem can be reduced by geological charts and pictures to a very entertaining and educational presentation.

An ideal center display for this room would be a plaster model showing a cross-section of the geolgical formations between the Valle Grande, or great crater situated in the Jemez Mountains, 12 miles to the west of here, and the Rio Grande, as shown in the cliff formations of Frijoles Canyon.

Labeled specimens of all the volcanic rocks in this section could be shown, and any sedimentary rocks that might be found.

All types or rock which were used for stone implements should be identified with such articles, or shown with type specimens. One geologic chart on the wall would give the geological story of the Pajarito Plateau and the Jemez Mountains.

FIFTH MUSEUM ROOM (FLORA AND FAUNA):

This could be one room about once and a half again as large as the Geology Room, or could be in two long narrow rooms equalling the same area.

Bird and animal life could be shown partly by pictures, partly by stuffed specimens of the smaller creatures; and wild creatures killed accidentally here can be saved and stuffed.

Fauna habitat groups should be shown according to the various life zones, as Upper Sonoran, Transition, Hudsonian, etc. Charts can well amplify specimen displays into a really educational scheme. Each life zone should have a separate case.

Dioramas can make of a commonplace museum room a place of romance and beauty. At least one here for showing both bird and animal life in connection with some plant types should be had. All representative smaller animals should be shown in such a plan and the commonest birds.

The multitude of plant forms can be preserved for display and study by preserved specimens of twigs from larger ones and by complete examples of the smaller ones.

STORE ROOM:

This should be a good sized room with both floor and wall cases. Extra museum material would be kept there, arranged according to type and age, and would be available in cases so that students might come in and find an orderly place for study.

LABORATORY:

The laboratory should be a fairly large room, in which will be done all museum preparation, patching, labeling, etc. Any Service man is aware of the great need of laboratory space in all museums.

* * *

The Bandelier Museum should have recessed wall cases, not over twenty inches in depth, 6'6" to 6' in height, 6' to 8' wide, and should have the base of the recess 6" to 12" above the floor. Recess cases would be needed in the Second Museum Room, the Ethnology Room, the Geology Room, the room for Flora and Fauna, and the Laboratory and Store Rooms.

Indirect lighting is favored for this museum. Direct light in this section is not dependable. There is too much cloudy weather, and in the winter the sun goes down at 4:30 o'clock in the evening. From the standpoint of utility and stage effect, indirect lighting would fix us up. By use of different colored light bulbs, beautiful effects may be realized, at any time of day or night. Neon tubes might be ideal.

A general summing up of the ideas advanced in this museum might say "It's too elaborate. Why such a museum for a National Monument?"

Our answer to this would be easy. Bandelier National Monument is one of the vital key-points to the whole scenic Southwest. The impressions people get here will determine whether a great many forge on to other points. Since for many this is a beginning of the Southwest, it is our duty here to lay down certain educational features which will better enable people to enjoy the rest of the West. Really, this plan is a minimum rather than a maximum answer to necessity.

Earl Jackson, Custodian

* * *

This plan represents a lot of thinking on the part of Earl, Louie Shellbach and Bob Rose. If some benificient magician were to bestow such a museum on Bandelier tomorrow, we would all be very happy, but undoubtedly, before an actual museum is built, the plan will experience many refinements, additions and improvements.

The point we wish to make is this: It is almost imperative that each Custodian in the Monuments, permanent or temporary, should start mulling over his plans for the development of his monument, particularly in regards to museums. He should first determine what proportion of his museum should be devoted to Archaeology, History, Geology, Biology, Botany, etc. He should then start to plan the number of rooms, the arrangement, and the actual exhibits to be placed in each. He should make a survey of his present collection, determine which pieces will be suitable for the final museum, make a list of needed specimens. Perhaps, even a little trading and accumulating can be done right now. In other words, when things do break, we will know exactly what we want and how we want it.

THE STORY OF BANDELIER NATIONAL MONUMENT.

Bandelier National Monument is one of a group of 67 National Monuments administered by the National Park Service, under the direction of the Department of the Interior. A National Monument is an area set aside by a Presidential proclamation because of outstanding scientific, historic or prehistoric value, as distinguished from a National Park, which is reserved by act of Congress to protect some area of outstanding scenic beauty. Bandelier has somewhat of the merits of both, for in addition to the great numbers of ruins contained in the reserve---between 2,000 and 4,000 (estimated) in a 26,000-acre area---it has great beauty of forest and canyon.

This reserve was set aside by President Wilson on February 11, 1916, and until February 25, 1932, was administered by the Forest Service. Since that time the Park Service has been in charge, and provides a Custodian at all times, whose function is to greet visitors and interpret for them the story which Nature and man have laid down in the interesting areas.

The monument is named in honor of Adolph F. Bandelier, the distinguished Swiss ethnologist and writer, who was the first man to carry on an extensive survey of prehistoric sites in this region, and who first studied the ethnology and mythology of the living Indian groups around the present Santa Fe. From 1880 to 1886 he carried on his studies, living in one of the cave kivas of Frijoles Canyon, and at the end of his stay wrote that famous ethno-historical novel, "The Delight Makers," which has as its setting Frijoles Canyon and the Tyuonyi ruins.

Canyon is Deep Gash

Frijoles Canyon is a deep gash 17 miles in length, varying from 300 feet to 1,000 feet in depth, running from the east slope of the Jemez Mountains to the Rio Grande River, entering in White Rock Canyon. It cuts through a great crescent-shaped volcanic plain which spreads out south and east of the mountains, dropping off when the river is reached. This plain is known as the Pajarito Plateau, and was formed by volcanic ash thrown forth by the several extinct craters of the Jemez Range. Overlying the ash in many places are later extrusions or outthrusts of basalt, which stand in the shape of great black stone thumbs.

The famous Black Mesa, which you see to your left as you drive back toward the paved highway leading north of Santa Fe, is a basalt mass well known in the Indian history of this region as a living place for the San Ildefonso Indians in the early period of Spanish occupation of New Mexico.

Long ages made of the Pajarito Plateau and its various abrupt canyons a very beautiful forest area,---a land which was suitable for human occupation. Heavy growths of pine and juniper occupy the higher land, while the canyons, some of which are well watered, have in addition to the pines a great profusion of hardwood growths, shrubbery, vines, and flowers. Deer and turkey abound in the region. Black and brown bear are frequently seen, and the raccoon, one of the most discriminating of furry gentlemen, claims

the canyon as his home.

Many Ruins

Scattered over the plateau are hundreds of ruins of small groups of stone houses, which were occupied by the primitive farming people over a thousand years ago. Until that time the mesa country seems to have been well watered, but with the gradual drying up of the Southwest, which has been taking place ever since the last Ice Age ended, the rainfall evidently became so slight the aborigines could no longer depend on dry farming to produce their crops of corn, beans, and squash. These people (whom we shall call Pajaritans, for want of a better name) probably became so hard pressed by long periods of dry seasons that they finally decided to abandon the mesa homes, and so from there they drifted into the lower lands, into the well watered canyons, such as Frijoles and Pajarito Canyons, where a year-round water supply made successful irrigation possible. Frijoles must have been first occupied not later than 1250 A.D.

An estimated population of between 2,000 and 2,500 people built their homes in Frijoles Canyon, near the Rito de los Frijoles (Bean Creek), and lived in 15 separate house groups, within a two and a half mile stretch. Thirteen of these groups were built in and against the cliffs, while the other two were on the level ground. Each house cluster is believed to have been the home of a clan, the sum of which clans made up the tribe. A clan is nothing more than a kinship group of families or close relatives, all descended from a traditional maternal ancestor.

Evidently, it was not long after the Pajaritans came into the canyon before the ancestors of the Apaches and Navajos began making themselves disagreeable. There were the fellows who would pay a brief, violent visit to the farmers at night, usually about the time the harvest was in, and make off with all the corn and beans they could carry, after setting fire to the houses and capturing any fair maidens they could get. Such difficulties made it necessary for the peace-loving Pueblo people to build fortified houses.

Houses Easily Defended

The defense idea is well shown in the construction of Tyuonyi, the great community house built on the floor of the canyon. This structure is in the form of a flattened circle. There is a large open inner court, on the north side of which were situated three kivas. There was only one entrance to the whole building, a narrow passage through the center of the east wall. Entrance to rooms must have been gained by ladders going over the inner walls from the court, and from there by ceiling doorways. This building had 250 rooms on the ground floor, and was two stories in height over all, with a three-story section on the northeast side. Since the same degree of curvature is seen in each room section as in the complete outer wall, it is evident the building was constructed according to a carefully preconceived plan.

All of these facts about Tyuonyi were learned when it was excavated in the summers of 1908 and 1909 by a group of students of the School of American Research, under the direction of Dr. Edgar L. Hewett.

One or two definitions may be of assistance. Pueblo Indians is a name applied to a large group of Southwestern Indians of medium stature, averaging about 5'4" in height, who build permanent houses of mud and stone, or of mud alone, and who live mainly by farming. Several tribes and languages are represented in this large group, but the people are all of a peaceful, domestic nature. A typical pueblo is a village built in open country. Cliff dwellers were one and the same as the Pueblo people, but happened to build their houses in the cliffs or on the cliff slopes.

Cliff Dwellings Equal in Age

It is of interest to note that the cliff dwellings of Frijoles Canyon were undoubtedly occupied at the same time as the community house on the valley floor. In some other places in the Southwest it is thought cliff dwellings were occupied later than pueblos, as having been the last places for retreat in case of attack by enemies. Here, however, the community house was the better fort of the two.

The cliff houses consisted of (1) the artificially excavated cave rooms dug out by means of stone implements in the soft volcanic ash, and (2) the rock and mud walled rooms built on the slopes in front of the cliffs. The cave rooms averaged about 7 by 9 feet in size, while the front rooms reached a height of as much as four stories, connecting with the cave rooms.

Each house cluster in the canyon has a kiva. A kiva is a place of prayer, a council chamber for the men, and is a true ceremonial place, about which most of the religious activities of the clan centered. All of the kivas in Frijoles Canyon are circular in form, and either sunken in the level ground or dug back into a cliff.

Dated by Tree Ring Study

The houses in Frijoles Canyon were occupied clear into early historic times, or until shortly after 1550 A.D. Tree ring study has found, on examination of ceiling timber fragments found in a large community house, a late date of about 1545. The structure must have been abandoned not many years after that date, as the Spanish chronicles have no mention of them, and it is evident that Coronado and his men, in 1540, never saw the Pajaritans.

Drought probably was the cause for departure from the canyon. A period of dry years could have caused the people to suffer, since their crops could not have matured, and the deer and turkey which populated the mesas would have drifted farther into the mountains. Hence, many of

the Indians would have moved in summer time into the Rio Grande Valley, returning in winter, but finally moving out entirely. Groups would have scattered in several directions, joining up with the tribes of Taos and Acoma Indians, and by the mixture losing their identy as a people. Many of the Indians of this region today are related to the Pajaritans, but none in a direct or pure blood line.

The Pajaritans may have been the first people ever to occupy this region, or at least a restricted group of an early people of similar type had left entirely the other regions of the Southwest or been supplanted by incoming Pueblo Indians of a different type. All other civilizations of the prehistoric southwest which lasted as late as that of the Pajaritans were developed by the type of Pueblo Indians we know today, a short, stocky, broad-headed type, as contrasted with the short, slender, long-headed Pajaritan.

Much of the information contained in these sheets is only theory; there is little about the life of the people who lived in Frijoles Canyon that we can positively say is true or false. But at the present time these theories are the soundest ideas we can offer. Next month, next year, they may be changed.

Easily Reached

Regardless of theory, you will find Bandelier National Monument a mighty interesting, enjoyable place. It is only 48 miles from Santa Fe by good roads, 20 miles of which are paved. Until June, 1934, visitors had to walk down into Frijoles Canyon from the rim, but now an excellent road leads onto the floor of the canyon.

A large campground has recently been finished, with fireplaces and water provided. A lodge concession in the canyon provides comfortable cabins and good food at reasonable rates. Trout fishing is allowed in Frijoles Creek, subject to the regulations of the New Mexico Fish and Game Department.

Bandelier National Monument is open to travel the year around. Free ranger guide service is provided every day in the year.

Visitors are always welcome, and are subject to such regulations only as are required for the continued welfare and preservation of an area of great historic interest and charm.

Collection of plant specimens or objects of interest pertaining to the ruins, or defacement of ruins, is strictly prohibited.

PLEASE BE VERY CAREFUL WITH FIRE!!!!!

SOUTHWESTERN MONUMENTS

MONTHLY REPORT OCTOBER 1934

LAST YEAR we had 195,392 visitors

BUT we could give educational and information service to only 109,091 of them.

THE OTHER 86,000 got no information and many of our monuments where they visited got no protection.

TRANSLATE these figures into letters and they spell; M-O-R-E- P-E-R-S-O-N-N-E-L.

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

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

R E P O R T F O R O C T O B E R

I N D E X

SOUTHWESTERN MONUMENTS GENERAL

Introduction----------153
Travel and Weather----------153
Construction----------153
ECW Camp Activities----------154
Personnel----------154
Field Trips----------155
Park Service Officials----------155
Museum and Education Summary----------156
Closing----------156

REPORTS FROM THE MEN IN THE FIELD

Tuzigoot----------157
Chiricahua----------158
White Sands----------160
Gran Quivira----------161
Aztec Ruins----------162
Navajo----------163
Tumacacori----------165
Walnut Canyon----------165
Capulin Mountain----------166
Montezuma Castle----------164
Dying Trees at Capulin----------166
Canyon de Chelly----------167
Chaco Canyon----------167
Tonto Cliff Dwellings----------168
Bandelier----------169
Pipe Spring----------172
Natural Bridges----------173
Report of Engineer Attwell----------174
Chiricahua ECW Progress----------176
Casa Grande----------177

T H E S U P P L E M E N T

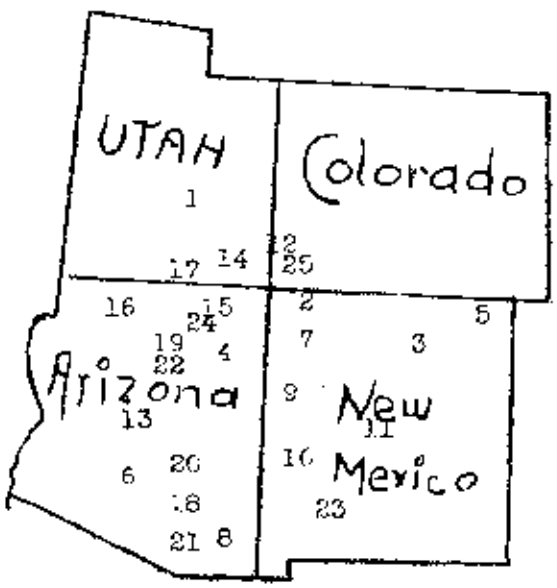
Another Chapter on Bandelier Museum, by Acting Assistant Superintendent Robert Ross----------187
"Desert Associations--The Mesquite", reprinted from the "Masterkey", July, 1934----------191
Something About a Thousand Parties at Casa Grande National Monument, by the Boss----------196
Casa Grande October Trip Chart----------199
Statistics on 1,014 Guided Trips----------200,201
Graphs of 1,014 Guided Trips----------202,203
How a Thousand Parties Come and Go, by the Boss----------204
Analysis of October Trip Chart----------207
Letters of Alfred Peterson----------208
Ruins of Tsankawi, by Custodian Earl Jackson----------213
Petroglyphs from Tsankawi----------215
The Ruins of Tshirege, by Custodian Earl Jackson----------216
Petroglyphs from Tshirege----------217

LOCATION AND PERSONNEL OF SOUTHWESTERN MONUMENTS.

HEADQUARTERS.---Southwestern National Monuments Office, Coolidge, Arizona. Frank Pinkley, Superintendent. Robert H. Rose, Acting Assistant Sup't. Dale King, Junior Park Naturalist. Hugh M. Miller, Chief Clerk.

---

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



UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
SOUTHWESTERN MONUMENTS
Coolidge, Arizona,
November 1, 1934

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

Dear Mr. Director:

We come to the office the morning after Halloween to assemble our October report and in looking about, it seems the merrymakers have passed us by. This report will be divided into (1) Southwestern Monuments General; (2) Reports from the Men in the Field; and (3) The Supplement.

SOUTHWESTERN MONUMENTS GENERAL

TRAVEL AND WEATHER

The general impression gained from the individual reports coming from all sections of the Southwest is that thus far the customary cold weather has not yet come. Rainfall reports generally denote that there has been no considerable precipitation. Unless a marked change comes very soon, we shall be entering into a second winter of almost unprecedented mildness and lack of precipitation. Surface water is scarce, springs and seeps are running low or have vanished and the great storage reservoirs are low. It is not encouraging to have to look forward to such open winter as passed in 1933-1934.

Travel for October over the whole district shows the usual decrease compared with last month. The gain in southern monuments is a little more than offset by the decline in northern monuments. However, the significant fact on travel is that October 1934 shows a substantial gain over the same month of 1933. Improved road conditions and some temporary ranger assistance at others, accounts for some of the increase. Travel increase for monuments reporting last year is doubtless due largely to the heavier travel on the road this year compared with last.

CONSTRUCTION

Engineer Attwell's report (see index) carries notice of the completion of projects at Montezuma's Castle. The list of completed projects follows:

Revetment along Beaver Creek	Ruins Trail and Walk
Garage and equipment shed	Walks among ruins
Septic tank and Sewer line	Reconditioning Entrance Road

SOUTHERN GENERAL CONTD:

We are also able to report the completion of the grading of the Entrance Road at Gran Quivira National Monument.

ECW CAMP ACTIVITIES:

ECW Camps have been in operation during the month at Chiricahua and Bandelier national monuments. At Chiricahua the camp is being entrenched into more adequate winter quarters. We will follow with the list of work accomplished by these camps.

Chiricahua
- Telephone lines to Massai Point via Rhyolite Canyon
- Telephone line to Sugarloaf Mountain for fire lookout
- Rhyolite Canyon horse trails
- Continuation of some items of cleanup

Bandelier
- Digging of flood control ditches to protect ruins and trails
- Start of work on the foot bridges
- Vehicle bridge, administration site to campground, 75% complete
- Grading of new parking area well started
- Rock quarrying for curbs
- Trailside cleanup finished
- Planting of trees and shrubs
- Cattleguard under construction
- Range fence around cut-check section Bandelier, 98% complete

--

Under the reports from Bandelier and Chiricahua, and from ECW Landscape Architect Sisk' report, these projects are described more fully. All in all, some most beneficial work is being accomplished by our CCC Camps. The engineering crews under Assoc. Engineer Attwell have been getting maps and plans, needed for years, into shape. Upon completion of surveys relating to immediate needs, we will begin to have something upon which to base plans, estimates, justifications, etc.

At Tumacacori the construction work on walls, gates and other physical improvements are completed. Custodian Brumley reports that there is a great improvement in the matter of visitor interest and handling of guided parties now that these facilities give more effective control.

At Aztec the Reconstruction of the Great Kiva is nearing completion. Contract time is running on the new Administration and Exhibit Building. Mr. Paris reports that within about a week the clean-up work should be completed.

PERSONNEL:

STATION GENL. CONTD:

The following changes in status of personnel in Southwestern Monuments have occurred during the month or have not been previously reported:

1. The appointment of Louis R. Caywood to the position of Ranger, Casa Grande National Monument, received Presidential Approval and became effective October 7th.

   As a matter of introduction, Louis comes to us with the M. A. Degree in Archaeology from the University of Arizona and will be remembered as one of the two archaeologists in charge of the Tuzigoot excavations conducted under C.W.A near Clarkdale. His rating with the Civil Service was made through the recent Junior Park Naturalist examinations. He was seasonal ranger at Casa Verde immediately prior to coming with us.

2. Charlie R. Steen's full time temporary appointment terminated October 20 at Tonto.

3. Ranger Charlie Powell's ranger status came to a close at Chiricahua on September 30th.

4. Ranger Paul Beaubien's full time service at Walnut closed October 31.

5. Ranger Jimmie Brewer, still at Wupatki, came to the end of his service period at Wupatki on October 31.

6. PWA foreman Harry Brown and Howard Leslie ended their PWA service during the month and are now assisting on the engineering crews of Asst. Engineer Attwell(see index).

FIELD TRIPS BY HEADQUARTERS PERSONNEL:

A field trip to Chiricahua by the Superintendent Chief Clerk Hugh Miller in connection with CCC Camp clerical and project business were the only field trips made by headquarters personnel during the month. Engineer Attwell outlines his field trips in his section(see index).

PARK SERVICE OFFICIALS:

Engineer Burney, Assistant Chief Engineer of Field Headquarters, San Francisco, Mrs. Burney and her mother, Mrs. Sellers, were headquarters visitors early in the month. Asst. Engineer Attwell accompanied him on an inspection trip to some northern monuments of the district. Casa Grande, Chiricahua, Tumacacori, White Sands and de Chelly were among some of the monuments Mr. Burney included in his itinerary.

S' ERN GEN'L. CONTD.:

Reports from several of the custodians and rangers about the district indicate that Mr. Paul Wilkerson, a Park Service Cameraman, has been working in some parts of the Southwest during the month.

MUSEUM AND EDUCATION SUMMARY:

During the month the usual conducted field trips and museum talks have been a part of the educational service offered the public. Personally conducted field trips were given at (1) Aztec Ruins; (2) Pendelton; (3) Canyon de Chelly; (4) Casa Grande; (5) Coker Canyon; (6) Chiricahua; (7) Gran Quivira; (8) Montezuma Castle; (9) Navajo; (10) Pipe Spring; (11) Tonto Cliff Dwellings; (12) Walnut Canyon; and (13) Tumacacori; and (14) Wupatki. Occasional conducted parties were conducted at El Morro, Natural Bridges, White Sands and Capulin Mountain. Field trip services at 14 out of 30 monuments show a still have great opportunities in Southwestern Monuments for conducts. Too, we must remember that at Chiricahua, Tonto, Walnut Canyon, Wupatki, we as yet have only seasonal ranger positions.

Casa Grande is the only monument having a structure built primarily for museum purposes. Contract time is running on a new structure at Aztec. Some of the other monuments have excellent collections in cramped quarters consisting of one corner of a store or in Park ruins rooms. Compared with the great need, the surface has not yet been scratched as to museum and administration facilities.

The completion of a restoration model of Chetkam Pit House made by Junior Naturalist Dale S. King for the Casa Grande Museum has been previously reported. The Chetkam Creation Burial Models made in the Berkeley Laboratories and the securing of three horizontal exhibit section museum cases for arrangement of exhibits in them, comprise other noteworthy improvements made in recent months at Casa Grande.

Junior Naturalist Dale S. King has been circularizing monuments custodians for lists of plants, trees, shrubs and flowers. After getting these lists he has consolidated them submitting them to the Berkeley Field Headquarters where the approved metal labels are being stamped. Upon receipt of these labels, Dale will distribute them to the custodians for use along their nature and archeological trails.

Ranger Louis R. Caywood and Junior Naturalist Dale King have been compiling tabulations on birds, plants, reptiles, etc., observed about headquarters and the monument. The bird and plant lists especially, are getting quite complete. Plans for a bird banding station at Casa Grande are worked out.

Actg.Asst. Supt. Bob Reed gave an illustrated talk on "Arizona's National Monuments" to a fine audience of about 60 people at the Henry Museum in Phoenix on the evening of October 31.

Thus concludes a good busy month of October in Southwestern Monuments.

HHR/. Cordially, FRANK PINKLEY, Supt.

REPORTS FROM THE MEN IN THE FIELD

WUPATKI NATIONAL MONUMENT — By James Brewer, Ranger

This is the first report we've mailed dated later than the 25th and I hurry to explain the reason. Sal and I came in last night intending to get this off to you then, but the whole town was in such a stew over the circus we just couldn't pass it up. We know that if this was mailed this morning you would have it in time--and--well, it was a dandy circus.

October, as you know, is our last month on salary at Wupatki and here's some real good news for all of us: Dr. Colton has some museum preparatory and research work that Sal and I can do at Wupatki! That really simplified a lot of things. We won't need to move off the Monument to earn a living, so we'll be here for protection during the pot-hunting season; and part of the work, as outlined by Mr. Lyndon L. Hargrave, will give us a chance to make accurate observations on the bird and animal life of the Monument. We are tickled pinker than the lemonade we drank last night.

Dr. Colton, Mr. Hargrave, and Mr. and Mrs. Gordon came out on the 24th to discuss plans for trails and preservation. We were putting up an "Ancient Ruins" notice when they arrived. The "we" is not editorial--it means that a friend of mine who happens to come from Hawaii was helping me. Dr. Colton, remembering the day he came out and found Dave Truscott mixing cement, remarked that fellows were crossing both oceans to help out at Wupatki!

Speaking of Dave, reminds me that we got a nice long letter from him early this month. We also heard from some Berkeley people who visited us in September; they inclosed a few snapshots of Wupatki and us and said they were enjoying the memory of their visit very much.

Travel to the Monument was noticeably less during October; a larger percentage of visitors were local people. Mr. Miller and Mr. Oldham of the Forest Service have been in the vicinity at different times checking up on range conditions. On the 24th Mr. John McGregor brought his Archaeology class from A.S.T.C. out on a field trip. The field lecture for this party of 16 had to be revised considerably because John had not reached Pueblo III study in his classroom. He explained that the premature trip was made because snow might make it impossible at a later date.

This was the largest single party to visit the Monument during the month. Exclusive of this party we had an even hundred guests.

The register at Citadel records 57 visitors, 40 of which are duplicated on the Wupatki book. Total for the month is 141 visitors.

For the 23rd of October there are two names on the Wupatki register--Donald and Peter--no surnames given and "home" was personally indicated by a wave of the hand northward--so we're supplementing the scanty written record. Donald

and Peter are two Navajo boys who appeared at the pueblo about noon, accompanied by a dog who ran at sight of us. The boys were completely uncommunicative for almost an hour--then Donald said they wanted to "look over the house". They were as interested in our gasoline cooking stove as in the more ancient parts of the ruin and continued their observations of us and our tools when we went down to the lab to do some sign-painting. Evidently they had made the trip especially to see Wupatki and us and they belonged to none of the nearby hogans that we knew of, so dinner and blankets for the night were in order.

We were absent from the Monument for three days the middle of the month when we visited headquarters at Casa Grande. We had a grand time and gained a lot of encouragement from talking things over with you and finding again what darned good friends everybody at headquarters is with these Service people scattered over the Southwest.

During the last two weeks I have been doing a little work on biology and ornithology; prepared the skeleton of a Western Red Tail hawk found dead near Wupatki and made a skin mount of a bat (wing spread 13 inches) found in the tank just off the Monument. I also prepared some birds taken near Flagstaff by the Museum of Northern Arizona, and all of these specimens were delivered to the Museum.

I had a very harrowing experience a couple of days ago. Sallie sent me down to the dining hall-lab to bring up some sweet potatoes, so I went down and stuffed my pockets full of spuds in school-boy fashion and grabbed three for each hand and hiked up to Room 36. Right here I'd better stop my story and tell you that since you have seen Wupatki ten feet of talus has been removed from what was once our front porch and now our only access is a ten-foot ladder. Well, I negotiated the ladder to the top rung in my very best Hopi style, and I stepped across to the wall-turned to say something to Howie who was standing below--and lost my balance. In "drowning man grasping straws" desperation I let go of the tubers and got off a real purty swan dive. Howie says it was quite a sight to see arms and legs in the air and then the three point landing in a shower of potatoes!

And now I must stop reporting and get back to help out with the surveying. The Gordons and the Harrises and Howard Leslie moved out yesterday--which makes a family community of Wupatki for the first time in several hundred years.

P. S. (Primary Supplement) Since the 7th of October, when a register was put up at Sunset, 107 people have registered at Sunset Crater National Monument.

* * *

CHIRICAHUA NATIONAL MONUMENT By C. E. Powell, Ranger

At this time I feel embarrassed, as I have lingered after saying "goodby" until it is now time for another report. But who can be blamed for staying at Chiricahua as long as is possible!

One very interesting bit of information which my prolonged stay has caused

me to notice, is that more visitors have registered since the Dedication than were registered before.

Deer hunting and a "Home Coming Fiesta" at Douglas caused a very slight drop in the number registered Sunday, October 21, but the week just ending shows that we are having more visitors from distant points, as out-of-state people are now patronizing the Monument in equal numbers with those from Arizona.

Mr. W. A. McDowell of the U. S. Forest Service who shows pictures at the CCC camps made a slight mistake last night. Among other pictures he happened to show some balanced rocks, and our boys did not hesitate to tell him that he did not have pictures of any real scenery of that particular variety. He has just left the ranger station after completing preliminary arrangements, which will probably result in some slides for his program, showing Chiricahua scenery.

Although the frost has turned the leaves of our trees and has destroyed our flowers, we are gradually making progress in the work of identifying our trees and plants. Next year we will have most of the trees and a large number of the flowers and plants tagged with metal tags, to help students who wish to use our trails for nature study. In this work we will have the assistance of Dr. Wyatt W. Jones, of the Phelps Dodge Corporation, who will check up with us to avoid errors. Dr. Jones is known locally as the "Snake Doctor", I am told. Also, we expect to consult Dr. J. J. Thornber, of the University of Arizona.

We have been trying to find a cure for bashfulness. We have lost two of our best assistants because of excessive modesty. This malady appears to be extremely painful to the victim, although to everyone else, well, judge for yourself. David Thurmon (Pinky) was the first to show symptoms. He was sent to the camp grounds to assist a party of visitors who wanted to visit the Big Balanced Rock. Two young ladies complained later that he was tongue tied had made no effort to entertain them, and had been such a good boy that he was rather uninteresting. The result was that we lost an excellent guide.

More recently we had some blonde visitors from Minnesota. Wm. Bonham ("Whimpy) happened to be up on Massai Point, when he was approached by a gentleman with the request that he, Whimpy, show his daughter around. Whimpy said, "That fellow over there will," and believe it or not, Whimpy took to the hills and failed to show up in camp until after dark. What can be done with fellows like that?

I wish something could be done for our deer. Most of the deer we have are now widows. Have not seen a set of horns since the season opened, but plenty of does.

Mr. H. Langley, Landscape Architect, from San Francisco, has recommended some improvements on Massai Point, which are being carried out. We expect that nature will assist a great deal with improving the appearance of the parking areas, during the next year.

Dick Sias, Jr. Landscape Architect, has announced that he will start

November first in a supervisory position at Randolph Park in Tucson. Mr. A. E. Clark, the engineer who started the topography of this area under the Forest Service, arrived today as an employee of the National Park Service to finish the job. Welcome, Mr. Clark!

Have recently enjoyed visits from several friends in the Immigration and Customs Services, and expect to see more of the boys, together with their families, over in the cacti.

* * *

WHITE SANDS NATIONAL MONUMENT By Tom Charles, Custodian

The White Sands have certainly had the "breaks" in publicity the past month. The El Paso Chamber of Commerce is doing a lot of advertising in eastern magazines and is advertising the White Sands alongside the Carlsbad Caverns as one of their chief attractions. Today the Albuquerque Journal gave us a paragraph on the editorial page. The Alamogordo Chamber of Commerce recently displayed a White Sands booth at the state fair at Roswell, viewed by an estimated 50,000 persons. At this booth Mr. Jack Voyde, the local specialist in plastic art, cooked White Sand, mixed it into a creamy mass and moulded it into attractive souvenirs for free distribution. Reports from Roswell said that Mr. Voyde stole the show. Best of all is the description of the White Sands in one of the Southwest's "best sellers", Rev. Ross Calvin's new book, "Sky Determines." Following his description, Rev. Calvin says, "If a bit of the desert is ever preserved in a museum of paradise, it will be lifted from the virginal White Sands."

Our visitor's list for October carries the names of such distinguished persons as Ass't. Chief Engineer and Mrs. Barney and Mrs. Barney's mother, Mrs. Sellers, all of San Francisco; Associate Engineer Walter Attwell and Mrs. Attwell; Paul Wilkerson, Park Service movieman from Washington, and family; Frederick F. Frankle, a well known X-ray specialist from New York City; Dr. J. B. Lawrence, African missionary and movie photographer; Mrs. Lockhart from Japan and many others. We are also promised a visit from George B. Grant, chief photographer of the Park Service, within a few days.

Our four days of making motion pictures with Paul Wilkerson were thrillers. Fred Goodeau, master mechanic of the local Ford agency, did the stunt driving. He took those big White Sand bowls in his V-8 at 70 mph. Like the bicycle riders in the racing bowls he kept creeping higher and higher, the car tipping more and more onto its side, centrifugal force holding it to the sand until it bounded out over the top of the ridge. A dive down a 60 foot, almost perpendicular bluff, was just play for him.

It is interesting to study the many uses to which the White Sand is put by different people in various parts of the country. When the first Anglo-Americans came to this valley, they found that the native settlers were plastering their adobe houses with White Sand, giving them a beautiful alabaster finish. When Alamogordo was founded 35 years ago, Chas. E. Thomas, then private secretary for one of the founders of the town, built a White Sand house. Mr.

Thomas is now cashier of the local bank and still lives in the same house. Twenty-five years ago, Wm. Fetz of Alamogordo, had a factory at the White Sands and shipped as high as 60,000 pounds of White Sand at a time to San Francisco. It was used in making statuary. A well known stockman at Fort Sumner, N. M., has for years kept a supply of White Sand in which to pack his "undies" and other woolens, he recommends them highly. A Carlsbad firm shipped White Sand to that city by the carload to clean wool before it went to market. A prominent cleaner in Oklahoma keeps a supply of White Sand to clean the best furs which come to his establishment. White Sand is used freely as a fertilizer in all parts of the country where soil is short of lime or strong in alkali. The leading hotels of New Mexico use it in their lobby cuspidors, around potted plants and for window decoration.

A prominent sheep man of this county boasts that he uses White Sand to clean his teeth. Baron Auriemma, the well-known Salvation Army singer, has recently published a long treatise on how to cure rheumatism by taking White Sand baths. Jack Voyde of Alamogordo has established an enviable reputation for the beautiful work he has done in plastic art with White Sand, while a Kansas City firm is said to use it for grit in making soap. Women in local communities use the sand for a sweeping powder on the floors and the garages and filling stations use it to clean up the oil on the runways of their business establishments.

Children at the New Mexico school for the blind use the White Sand for their play tables and thousands of people enjoyed the New Mexico building at the Century of Progress which was carpeted with White Sand. The latest use of which we have heard is that a bootlegger sends down here for White Sand to fill his pipes as he bends them for his still. The sand keeps them round. However, we are not making any personal recommendations.

* * *

Tom probably thinks the gates of Heaven will be swinging from White Sand posts. Somebody remarked that a little sand on the stairs might not be out of place in Tom's case just as a bit of insurance.

* * * *

GRAN QUIVIRA NATIONAL MONUMENT By Wm. H. Smith, Custodian

My register shows 288 visitors entering the Monument in 69 vehicles, representing 12 states. Among this number we find Mr. W. G. Attwell, Associate Engineer. Mr. Attwell came by on his way to Bandelier. While here he went over the road of approach, giving it an inspection and giving a few final orders relative to its completion. We also find Dr. Floyd V. Studer, Archaeologist and head of a school at Canyon City, Texas. Mr. Studer's visit was enjoyed and while here he advanced some practical ideas concerning the future development of our Monument and museum collection. Mr. Studer was accompanied by Mr. W. S. Izzard, Managing Editor of the Amarillo News-Globe.

Weather conditions for the month have been fine with the temperature standing above normal for this section. We haven't had a killing frost yet, which

puts it about 30 days late according to previous years. We have had fair days all month, with the exception of October 11 and 12, which were cloudy with some rainfall.

The road of approach is practically completed and is in good shape. The lower portion of the road is finished on a 6% grade with a crown cap of 4" gravel placed on a 6" base of caliche clay, making a very firm and substantial road bed. The last three hundred feet of road before topping the hill are finished likewise, but the 6% grade goes into 7%. There is left uncompleted at present but one grate of steel for the stockguard which will be placed as soon as the welding is completed.

I am glad to say Mr. Leslie has given us most satisfactory work here and has accomplished the maximum with the money appropriated for this job.

* * *

AZTEC RUINS NATIONAL MONUMENT By Johnwill Faris, Custodian

Our new travel year is starting out with a bang and October shows 645 visitors as compared with 528 last October. While this number exceeds that of last year, it doesn't seem that we have been snowed under. Mark Norton was on the forepart of the month, and I have taken care of visitors of late. Many of our visitors, of course, are from local points and drive in to see the Great Kiva as it is nearing completion. This project now awaits only the finishing touches and we have made arrangements for the painting as soon as all plaster is properly dried. We can hardly wait for the finished product with the red and white interior and with the enthusiasm and interest that the structure as it exists is creating we are anticipating a great reception from the general public. This is the only public works project that has taken any of our time during October.

We are in the process of a general clean-up, which will be completed by the end of the week. In regard to this clean-up, we are moving the entire debris and rock from the court and the north and west sides of the Ruin proper. The rock on the east side we are more or less placing in wind rows and leaving them separate from the wall about thirty feet. While I am not enthusiastic over this, the result is not going to be any more displeasing than to increase our stock pile to the extent this addition would bring about. This general clean-up program is bringing to our minds forcibly the drastic need of an adequate tool and implement shed. Much of our material is too good to discard entirely and consequently necessitates a storage problem which we have not solved to my satisfaction, but which must be considered a temporary arrangement.

The museum contract project is moving along in a very satisfactory manner; the adobe bricks are all made and in the process of drying. The rock is being shaped and the foundations are all laid. Actual construction of the wall proper started this week and while neither Chuck Richey nor myself are at all pleased with the contrast of our rock colors we are unable to suggest an adequate

solution. Much of the rock is being obtained from the very source of our ruin rock proper, but having been spared the weathering and exposure of an exterior wall, it is quite constrasting when placed side by side.

We certainly want to express our appreciation of the Landscaping and Engineering Divisions for their splendid cooperation in our behalf. In lieu of an inspector which was promised us, but has not arrived, Mr. Kittredge's office authorized Jim Hamilton to come down and supervise all form work. Jim was down and spent two days with us getting me acquainted with what he desires on the balance of form work and that part is now completed in most every detail. Mr. Richey's timely arrival straightened out many problems and correspondence from the Landscape Division relieved me of several features of importance. Mr. Richey has always given us his utmost cooperation and we attribute much of our progress to this same cooperation from our colleagues in other points.

We were quite interested in the future museum plans for Bandelier and Earl is certainly to be congratulated for the time and attention that this outline proves he has given his subject. I am very much interested in the development of this feature and trust that it is more in accordance with the desires of our Headquarters than our Aztec plans for a museum. With a building of the type Earl recommends, I have no doubt but that his plan will provide the maximum information that he is hoping for. While I am still of the opinion that Aztec has the best situation for a museum in the Southwest in our Great Kiva, I am very much opposed to the development of a museum of the type which we are apparently going to get.

Mr. Vogt's record of the names taken from the El Morro rock and the fact that he has spent the last several weeks in Aztec in almost constant praise of El Morro makes one realize why we get so many good reports of the reception received at Inscription Rock. If all we Custodians had the enthusiasm and interest of our Monument at heart as does Mr. Vogt, I am sure any reports of mediocre enthusiasm on the part of the personnel would cease and that our efficiency would be much greater as a result. Anyway, our hats off to Mr. Vogt and his Monument.

We are apparently going into another open winter. The last few days have been rather chilly but no disagreeable weather has been encountered all Fall. With every good wish to your personnel and a hint to Hugh Miller that he can expect more errors from Aztec vouchers, etc., now that Mrs. Turner is not with us, I had better ring off for this particular report. By the way, speaking of Mrs. Turner, I can certainly recommend her most highly to anyone who might have any office work of any nature. She was with us on C.W.A., received an appointment under P.W.A. and her work has been consistently good.

* * *

NAVAJO NATIONAL MONUMENT By John Wetherill, Custodian

Typewriter busted so I'll be unable to get out a report this month. Milton has not sent out his report on the number of visitors. Hoping you can

get some action on our trail work. With best wishes to all, I am, Hosteen John.

* * *

MONTEZUMA CASTLE NATIONAL MONUMENT By Martin Jackson, Custodian

October, the first month of our new travel year, has come and gone. It has been a delightful month with us at this Monument. Our register book shows that we have had 1,080 visitors, which is 58 less than we had for October, 1933. Even so we had more actual visitors than last year as the Pioneers of the Verde Valley, who have been holding their annual picnic here for several years, picnicked at Montezuma Well this year instead of here. They had 317 in attendance last year. Taking 317 from the 1,138 that we had last year leaves only 821 for last year not counting the Pioneers.

Superintendent Tillotson of the Gran Canyon National Park and Mr. Gable from the Washington office of the National Park Service were with us for a couple of hours during the latter part of the month. Mr. Tillotson had been in before but this was Mr. Gable's first trip. We thoroughly enjoyed their short visit. Paul Wilkerson, Park Service photographer, made some movies of the Castle and grounds this month. We hope he got some good shots. Landscape Architect Harry Langley made his monthly inspection trip.

I still maintain that visitors at Montezuma Castle get super-service with a smile. I mentioned in last month's report about Ranger Fish being invited to call on a colored gentleman any time he might be in Los Angeles and that the gentleman usually hung out at the county jail. This month we have one that is even better. One Sunday during the month we had a very attractive young lady, who in company with relatives, went through the Castle and museum. While going through the museum she remarked that she was very curious to see a wild rattlesnake and that the only ones she had ever seen were in shows or in the zoo. I immediately assured her that she did not stand one chance in a thousand of seeing one near here and that while the Southwest was supposed to be the home of the rattlesnake, we seldom see more than three or four during the season; and we had already seen that number this year. Imagine my astonishment on looking out toward their car as they were preparing to leave and seeing Ranger Fish standing some ten feet away with a six-foot piece of iron pipe over his shoulder. On going out to see what it was all about, I found that Mr. Fish was herding a very fine specimen of a Mountain Rattlesnake with nine rattles. Needless to say that the snake being too close to paths traversed by visitors was killed and that the rattles were presented to the young lady as a souvenir of her trip and the service she received. Her name and address is available if their are any doubting readers.

We are having the usual fine weather that we have learned to expect here during the fall of they year; and it makes us wonder why everyone doesn't spend the Fall and winter in Arizona.

* * *

REPORTS FROM THE MEN IN THE FIELD

TUMACACORI NATIONAL MONUMENT — By George Boundey, Custodian

Our visitor list for October shows that 1,155 persons visited this Monument. Many local people have come this month to see our new gates. So many people have heretofore had the impression that they could see from the highway all there is to see at Tumacacori, but with the new walls these people are coming inside to look around.

Our FERA project will end this month due to lack of funds. The Nogales office is very anxious to have us go on with the work as they say this is the only project where there has never been a complaint from any worker in regard to time and money earned or quality of work furnished.

The crack which developed in the east pillar of the arch which supports the dome over the sanctuary, still continues to widen and a new crack has developed in the dome. The crack in the pillar has been reported previously.

By this time last year we had several killing frosts, but there has been no frost so far this year.

During my absence last Saturday, Mr. Langley of the Landscape Division visited Tumacacori. Major Kinney said he seemed quite pleased with the new gates and wall construction.

Owing to colder weather farther north, quite a few of the winter visitors are already using our southern route. The Monument has had a thorough Fall clean-up and we are ready for the busy season which usually starts about the first of November.

* * *

WALNUT CANYON NATIONAL MONUMENT — By Paul Beaubien, Ranger

I will be able to remember October as the Engineers' month. Mr. and Mrs. Gene Gordon, Mr. and Mrs. Robert Harris and Mr. Knox Bordon spent most of the month here. They had me eating real food without cost to myself, besides leaving a supply of wood that will cause them to be remembered for a long time. Mr. Bordon has been transferred to Death Valley National Monument but Mr. Howard Leslie arrived a few days ago to take his place.

While here, the engineers assembled data for approach roads, parking areas, trails, camp grounds, etc., for both Walnut Canyon and Sunset Crater National Monuments. But it all seems too good to be true. I will become excited when their plans are approved and the work started. They were mean enough to measure the depth of Walnut Canyon. They say it is 380 feet deep, while I would like to tell visitors that it is at least 400 feet.

The only excitement of the month occurred recently when a woman got lost about one mile southeast of the Monument. CCC boys and the native citizenry hunted for three days before she came home riding an old white horse. The ruins on both sides of the Canyon received many new initials during the search.

Registrations totaled 499 for October. This is a decrease of almost fifty per cent. from September.

* * *

CAPULIN MOUNTAIN NATIONAL MONUMENT — By Homer J. Farr, Custodian

I have the following report to make as to the activities at Capulin Mountain for the month of October:

Visitors: We have had approximately one thousand visitors this month, from about fifteen different states and some from Cuba.

Weather: The weather has been rather nice and warm during the day with very cool nights. Only about one-fourth inch of rain last week and no snow so far this season.

General: Cattle and sheep have been practically moved out of this community for the winter, most of them having been sold to the Government and some shipped or driven to grass a few hundred miles east into Oklahoma and Texas. Grass and feed crops failed to grow because of insufficient moisture, hence the moving of livestock. Very few cattle and sheep will be held over here this winter. Mr. Attwell was here about the middle of the month and made a pleasant but brief call.

Capulin Mountain is losing quite a number of its highly valued trees this Fall. There seems to be an attack of pine beetles or sap borers entering through the bark to the sap and then cutting a ring around the tree just under the bark. At first it was presumed that the dry weather was responsible for the trees dying, but the Custodian, upon a close examination, finds that the damage is being done by the beetle. A special report is being submitted to the Superintendent and he will see what can be done about it.

FERA Work: I have been very busy during the past week and this on our roads and trails. Our project was closed September 20th for the want of funds, but the Custodian was given an extension of two weeks beginning October 12th and ending October 25th. Much has been accomplished on the roads and trails and parking area.

* * *

REPORT OF DYING TREES ON CAPULIN MOUNTAIN — By Homer J. Farr, Custodian

For the past three months, I have noted trees dying on the Monument and presumed that the dry weather was the cause, feeling sure that nothing could be done about it. However, upon close inspection, I found evidence of a pine beetle, or sap borer, which in my opinion is the sole cause of the trees dying. I am much alarmed over the condition, as I find approximately 150 trees totally dead from what I believe to be this bug.

Something must be done if there is any way to prevent the spread of the pest. It bores a small hole through the bark about the size of the lead in

a pencil, then encompasses the trunk just under the bark, cuts off the sap flow, and the tree dies. We are not blessed with any too many trees on Capulin at the most and 'tis serious to lose very many.

I have a plan which I wish to submit herewith and while it will not completely control this pest, it will be the first step necessary to its eradication. While this step is being taken the proper solution possibly can be worked out. I suggest that all dead trees recently killed by the bug be removed from the Monument and given to the County Relief Administration to be divided among the poverty stricken for fuel together with what other dead wood appears to be necessary to be removed to prevent a fire hazard. The removal of course would be under the direct supervision of the Custodian that no vandalism might occur while removing the trees, and that the road might be fully protected from rock and gravel.

* * *

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

Visitors to this Monument for the month of October totaled 129. Of these, 78 drove to the rim, and 51 entered the canyons by car. Of the 78 who drove to the rim, 18 descended the trail to White House.

Work on the trail is progressing in a satisfactory manner, approximately 3,419 feet being completed, with 361 feet remaining to be finished up to the lower portal of the upper tunnel. Work on the upper tunnel was commenced Monday morning, September 24th, and the tunnel will probably break through the rim within the next two days.

Assistnat Engineer J. B. Hamilton and Mrs. Hamilton visited the Monument during the month, as did Mr. Charles A. Richey, Resident Landscape Architect.

Soil Erosion work near White House has progressed rapidly, and that particular section of the work should soon be finished. The Soil Erosion Service held a barbecue nearby on the 6th, with a good attendance. Quite a number of those participating in it paid the Monument a visit, fifty-seven people registering on the 6th and 7th.

Weather has been cool, the nights cold. On the afternoon of the 23rd we had a brief shower of rain, which turned to hail with a light flurry of snow on the canyon rims.

* * *

CHACO CANYON NATIONAL MONUMENT By Thomas C. Miller, Custodian

The activities in the Chaco Canyon National Monument for the month of October are:

General: The approach roads to the north have been getting some much needed maintenance since October 13. The State Highway Department has had a crew

of men with a heavy cat and grader working continually. They have been repairing the washouts, cutting better drainage ditches, grading, and in general the road to the north that connects with State road 55 is in much better shape than I have ever seen it. The approach road to the south is still very rough. It is hoped that in the near future the State will do some maintenance work on that road.

Weather: The weather has been ideal for visitors with clear warm days and cold nights. A tabulation of the weather follows: The maximum for the month was 78 on the first and the minimum was 24 on the 22nd with 24 clear days 4 partly cloudy days and two cloudy days.

Travel: The travel has shown a noticeable increase. I believe this is due to fine weather and better roads. Eight hundred and twenty-six persons entered the Monument in 244 cars coming from 15 states, the Disctrict of Columbia and one foreign country. France was represented by a party of four people on the 18th. Travel for the same period last year was 532 showing an increase of 294.

Excavations: All excavations ceased on the 7th. The School of American Research locked their buildings, took down their sign, and moved in to Santa Fe for the winter. A full report of their accomplishments for the year will be mailed to your office at an early date.

Special Visitors: Mr. Lewis T. McKinney of the Forest Service visited the Monument on September 28th. Mr. McKinney is formerly of the Park Service having worked at Carlsbad Cavern several years as Seasonal Ranger. Mr. and Mrs. C. A. Hall, Mesa Verde National Park, were also here on the 29th. Assistant Forester and Mrs. W. H. Wirt of the National Park Service at Berkeley were Monument visitors on October 2nd. Professor Stanley J. Milford of Santa Fe, visited the Monument on the 7th. Professor Milford's visit was much enjoyed by the Custodian and family as he was a summer Ranger at Carlsbad Caverns during my tenure in that Park several years ago. Mrs. Frank Fish of Montezuma Castle and party were here on the 19th. Mr. Chester R. Markley, Park Ranger and photographer at Mesa Verde, has been a visitor at this Monument several times during the month.

* * *

TONTO NATIONAL MONUMENT By Charlie Steen, Ranger

Except for two days of clouds and cool winds, the weather for the past month has been nearly perfect. Of 259 visitors during the month, 165 made the trip to the lower ruin and five to the upper.

The only Park Service visitor during the month was Paul Wilkerson, photographer, who with his wife and son, spent the morning of the eleventh taking "shots" of the Monument. I served as local color for the pictures but lacked the inspiration which would have improved the pictures. Last Sunday a party of four Sioux from South Dakota spent an hour and a half looking over

the ruins.

Allow me to correct an error in your article on "Contacts" in the last Report. So far, more than half my visitors have made the climb to the ruins and all have been in to see the small exhibit I have. I keep the registration book in the room with the exhibit case and while the party is signing up I get them looking at the exhibits. So far, I have estimated that a group which goes to the lower ruin spends from one to two hours on the Monument. Those who merely look at the exhibit spend on the average a half hour.

Of the seven wild honey combs on the cliff, one had a foul brood this summer; two more were abandoned, and the rest of the bees are about starved out. The poor devils have had a hard time this year. The few remaining cattle are also in very bad shape and have been eating cactus for some time and their mouths are as prickly as a porcupine.

* * *

BANDELIER NATIONAL MONUMENT By Earl Jackson, Custodian

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

VISITORS. The winter slump in travel has definitely begun. Travel for this month reached 605, as against 340 visitors for October of last year. Visitors came in 230 cars and two motorcycles, from 26 states, the District of Columbia, and four foreign countries (Austria, Sweden, China and British Columbia). The six highest states in order were: New Mexico, 132; Colorado, 17; Texas, 16; Kansas, 11; California, 10 and Oklahoma, 5.

WEATHER CONDITIONS AND ROADS. Rainfall has been negligible in this vicinity. Snow has capped the higher mountains on two occasions, but has remained only a day or two. Roads are exceedingly dusty, but in fair condition. Daytime weather has been fine, with clear, cold nights. The sun now sets in Frijoles Canyon at 2:30 in the afternoon.

SPECIAL VISITORS. On October 4, Mr. and Mrs. W. H. Wirt came in, in company with Walt Attwell. The Wirts left on October 7, after his inspection and valuable suggestions on continued forestry protection activities. Mr. Attwell left on October 11. Mr. Attwell was in again with the Mrs. on October 19, and on October 20 Mr. Burney and family came in, on an acquaintance reconnaissance. The Burneys left the next day and on the 22nd the Wattwells departed.

Chuck Richey arrived on October 13, departing on the 16th. I believe he was favorably impressed by landscape developments. September 30 Harry Strong and family, of Albuquerque, visited the Monument. The Strongs are one of the first families to play an important part in the development of New Mexico. On October 4 Kay Scott, Director of the Denver Art Museum, was an interested visitor. On October 7 Paul S. Fox, State Sanitary Engineer and John Bingham, State Bank Examiner, were visitors. On October 14 Mrs. A. N. Carter,

founder of the Hollywood Bowl, was very enthusiastic about Bandelier. Judge and Mrs. O'Toro, of Santa Fe, stayed a short while. Mr. and Mrs. B. C. Phillips of Thos spent a half-day. Mr. Phillips has a considerable reputation for his ability at portrayal of Indian life. On October 21, Governor A. W. Hockenhull and party were out from Santa Fe. He was enthusiastic about the possibility of a short-cut road from Santa Fe past this point.

IMPROVEMENTS. C.C.C. work is continuing nicely. Over a mile of flood control ditches were finished on the canyon rim to protect cliff ruins. Two foot bridges were started on the upper canyon trail. Construction on the vehicle bridge connecting the campground with the new administration area is 75% done. Grading of the new parking area is well started, and considerable curbin rock has been quarried. Trailside cleanup on canyon trails is finished. About 70 trees and shrubs have been planted. One cattle guard is under construction. The range fence around the detached section of the Monument is 95% complete.

FIRES. The fire season seems definitely over. One would think it peculiar that September, a rainy month, should have produced two fires, while the dry month of October should have had none. This is because most of the fires occuring in this district are lightning caused. With the ground dry as it is now, and covered with dead leaves and needles, it is a mighty comforting thought to know C.C.C. help is available in case of need.

NATURE NOTES. After a recent check-up made by Forestry Foreman James Fulton on types of plant growth occurring in Frijoles Canyon, I was able to identify some of the plants on the basis of their use by Indians. Following is a partial list:

White Fir (Abies concolor). The resin is frequently used in the treatment of cuts.
Box Elder (Acer negundo). Pipestems are made from the twigs of this tree.
Rocky Mountain Alder (Alnus tenuifolia). Indians make a red dye from the boiled bark.
Juniper-one seeded (Juniperus monosperma). The so-called cedar. Some tribes use the berries for medicine.
Pinon Pine (Pinus edulis). The nuts are valuable for food. The resin is used to seal baskets.
Quaking Aspen (populus tremuloides) Medicine is made by boiling the leaves.
Mountain Mahogany (Cercocarpus parvifolius). The leaves, pounded, salted, and moistened with water, make a laxative.
Apache Plume (Fallugia Paradoxa). The San Ildefonso women wash their hair in the residue from boiled leaves, to make it grow.
Choke Cherry (Padus melanocarpa). Bows are made from the limbs, while the cherries are used for food.
Sumac (Rhus Cismontana). Dried leaves are used in Indian cigarettes.
New Mexican Locust (Robinia Neo-mexicana). This tough hardwood is used for bows.

Rocky Mountain Bee Plant-Cunco (Peritoma Serrulatum). A black pottery paint is made from the boiled essence.
Four O'clock (Quamoclidion Multiflorum). A medicine for use in dropsical conditions is made from the ground roots.
Can Cactus (Opuntia Arborescens). This cactus, sometimes called Holy Cross, closely resembles the Cholla of Southern Arizona. The punctate stalks make ornamental canes.
Rabbit Brush (Chrysothamnus bigelovii). The flowers are used to make a yellow dye for woolen yarn.
Datura Lily (Datura meteloides). The West Coast Indians are known to use the powder from this dried plant for a narcotic.

GENERAL. Insofar as the Custodian can perceive, things are going very nicely here. Development work is going ahead, unhampered by weather. Visitor travel still holds up the high quality of interest which it did this summer. Bandelier's first formally open winter season looms encouragingly in prospect.

The prospect, mentioned in last month's report, for a relocation of State Road No. 4, so that it will run by a short-cut directly past Bandelier National Monument on its route to Colorado, appears bright in the attitudes expressed by State officials. Santa Fe cannot fail to realize what it will mean to have Bandelier only 32 miles away. It would be hard to conjecture the number of people who would lengthen their stay in this district if they were sure they could reach this point in a thirty minute drive from town.

This prospect of a short-cut road brings more emphatically to the front than ever before the necessity for considering development in the detached portion of this Monument. The ruins which occupy that portion are all worthy of protection; however, considering relative merits of other ruins areas and scenic points, I cannot help feeling that we should have more territory in the reserve. The great ruin of Tshirege, which lies less than two miles from the detached section, on the Ramon Vigil Grant, is undoubtedly one of the largest ruins in the country.

On a recent trip to Albuquerque with Mr. Attwell to see Mr. Frank Bond, one of the owners of the Ramon Vigil Grant, I learned that this property is undergoing negotiations which will result in it belonging to the Indian Service. From the Indian Service this 35,000 acre area will be sold to the San Ildefonso Indian Reservation. If this ruin of Tshirege, and sufficient land around it, could be obtained by the National Park Service from the Indian Service before the Grant land becomes a tribal property, Tshirege could become a part of the detached portion of Bandelier National Monument. What do you think of this idea?

Will close with a comforting remark made by a visitor recently. I took this gentleman and his wife through the ruins, and they seemed quite interested. After the trip was over, a C.C.C. boy thought he recognized this fellow, and asked him: "Didn't you used to be a Ranger over here

Amarillo?" The apparently innocent answer was: "No, I've never been a Ranger. I've always been a working man."

* * *

PIPE SPRING NATIONAL MONUMENT By Leonard Heaton, Acting Custodian

Our weather is slowly getting colder. Two or three times I thought we were in for a storm but it passed us by and the earth is still quite dry and getting dryer as the wind keeps blowing from the Southwest. The stockmen surely are going to feel the need of relief this winter if they save many of their animals. We have several men driving cattle to central Arizona for the winter and others selling or trying to sell most of theirs. I was down in the flats the other day and for the life of me I can't see what the cattle are eating to keep them alive. There is no grass at all and what little brouse there is has been eaten almost to the stocks. Well, it's death to a lot of cattle, sheep and horses this year if there is any snow at all.

Among the visitors this month we have had Mr. & Mrs. Miller Bradley, of Grand Canyon north rim; Mr. & Mrs. Harlan B. Stephenson of Zion; Messrs. Nichol, Harrison and Gumiss of Tucson, working under the University of Arizona in getting a map of the vegetation of the Strip; Mr. J. L. Branson (known as Shorty) who was the first man to drive a car over the road from Kanab, Utah to Hurricane, Utah by way of Pipe Spring. The car was a model T Ford of about 1912 or 1913 vintage. Mr. Bongardon of the Department of Justice was also a visitor.

Our travel for the month is as follows:

Visitors and Tourists	
California	12
Arizona	21
Utah	18
Illinois	2
Connecticut	1
Texas	1
U.S.N.P.S.	4
Total.....	59

Local Travel		
Cars, trucks, horsemen	361	
Visitors	59	
Total	420	
Last month	1,131	
Decrease	711	or 269.3%

In October, 1933, we had 578 visitors as compared with 420 this year or a decrease of 13.7%. This shows that our travel is about the same.

As soon as I can get the time, I am going to get some small cedar and pine trees which I intend to set up on the Monument to help take away the barrenness of the land that has been farmed on the east side. I also intend to gather some cacti and help nature to bring back the plant life on the Monument as there were very few plants that matured their seeds this year.

* * *

REPORTS FROM THE MEN IN THE FIELD

NATURAL BRIDGES NATIONAL MONUMENT — By Zeke Johnson, Custodian

Weather has been ideal and just cool enough to be comfortable. My son, Junior, and I started work making a new trail mostly down the hillside just north of Agusta. I had an excellent trail down there but about two-thirds of the way down there was a very fine view of the Bridge and I found that a lot of the visitors, when I was not with them, called that good enough and turned back, never realizing, of course, that they had not seen anything. The Bridge cannot be seen until one is directly under the arch. Therefore, I decided to make another trail down a steep ridge, directly south of the southern end of the Bridge. I made it zig-zag down so it would not be too steep and put a very good sign saying "Down". Now they cannot see the Bridge until they are under it. Then I put a sign saying "Up" to direct them back on the old trail. So now I don't believe I will ever have anyone coming back without seeing all there is to be seen. I made several bigger and better ladders and greatly reduced the grades in many places. There will be a larger number of visitors here this Fall than I estimated. There has hardly been a day since I reported last that some one has not been out.

There have been a large number of prominent visitors during the past month including William W. Wagner of Palo Alto, and the Department of Agriculture; Dr. and Mrs. K. D. Swan, U. S. National Forest Supervisor from Washington; Honorable Joseph R. Wolf, judge of the Supreme Court; and others.

On Sunday, the 14th, in the evening, I took a stroll due West of my camp about one mile and found a fine little cave with a lot of rooms. All had their roofs caved or fallen in, but the walls were just fine and some of the masonry was the best I have ever seen. The kids had decorated them by punching their little fingers in the fresh mud and then pinching in small white bits of sandstone in the fresh red mortar. Some of the walls are beautiful. I am quite thrilled over my find, because for many years I have thought of going over there but just never have before. By the amount of pottery chips all around, it looks as though they had lived there for many years. I find that somebody had been there before, nearly 20 years ago, as I found three almost decayed cans, a tobacco can and a small milk can and one other, but no digging had ever been done. Now next season I will cut or mark a trail over to it and it will be very interesting for a two hour evening walk and should prove attractive to visitors.

Another thing I wish to mention is that the hunting season is now on and I have discovered that there are large numbers of deer hiding on or near the Monument. I believe I am safe in saying that there are 150 and possibly 200 deer within two miles of the Edwin Bridge.

* * *

REPORTS FROM THE MEN IN THE FIELD

ASSOCIATE ENGINEER'S REPORT — By Walter G. Attwell, Assoc. Engineer

My engineering activities during the month of October have consisted of being engineer in charge of two C. C. C. camps and several small construction projects as well as making field surveys for future work.

Construction work in my territory shows several projects completed this month. At Montezuma Castle National Monument, we have completed six projects. All of the work at this Monument was directly under the supervision of foreman Harry Brown, who was transferred from the engineering crew some time ago. With the completion of this construction work I have transferred him back to the engineering crew. The Revetment along Beaver Creek is the largest and first of Montezuma's projects. The completion of this project affords protection to the Castle trail and road and prevents floods from eating into the prehistoric ruins under the castle. The garage and equipment shed, the second project, furnishes the much needed room for storage and shelter for several cars and a work shop. This building represents a good example of cobble-stone masonry. The sewer disposal system consisting of a septic tank and a vitrified tile line was the third project in this Monument to be completed. This sewage disposal plant has been so located and constructed that it will accommodate all future construction of buildings. The fourth project was the Ruins trail. This walk led through the various rooms opened up under the C. W. A. program. It blends so completely with the ruins and the face of the cliff that the walk is not distinguishable at a hundred feet distance. Project five consisted of several series of steps to the ruins under the cliff. These steps are a part of the ruins trail. Project six was the reconditioning of the entrance road. This last project is complete as far as the appropriation went, but is far from being a complete job. Many stations are yet to be relocated and graded. The entire road bed and parking area will need a surface. The completed project was on a small section only.

The completion of these six projects does not answer Montezuma's needs. They serve only enough to permit the Custodian to "carry-on" until allotments become available for such urgent needs as: Administration and museum building, educational projects, paving entrance road and parking area, stabilization of Castle, repair to ruins, irrigation and planting, water supply, employees residence, electric system, and fences.

At Gran Quivira National Monument the grading of the entrance road is also a completed project. This project was started under C. W. A. and completed by Mr. Leslie under the P. W. A. The project consisted of grading 5,800 feet of the entrance road and the parking area, plating each with caliche and surfacing with six inches of gravel. Drainage facilities and cattle guards were installed. This Monument, like Montezuma Castle, is in dire need of physical improvements. It is

embarrassing to have to continually apologize to the traveling public for the lack of any comfort station facilities. To date the Monument has been unable to secure funds to complete the water system which lacks but 150 feet of reaching water. No comfort stations have been constructed because there is no water. No sewer system has been installed for the same reason although the materials are on the site. The plumbing has been installed in the Custodian's residence but never connected for lack of water. The Monument has no drinking water nor funds to purchase such water as it is sold by the barrel at Gran Quivira; nor has it any car to haul it in if the funds were available for its purchase. This Monument, as many others, is just marking time until the public can be taken care of. It not only needs water, but sewers, comfort stations, administration and museum buildings, ranger's residence, garage and storage, repairs to ruins, walks, paving and fences.

During the month I made field trips to all of the monuments where work is being done. At some monuments I made two or three trips of inspection. On October 16 accompanied by Assistant Chief Engineer Burney, we inspected Casa Grande, Saguaro, San Xavier, Tumacacori, Chiricahua, White Sands, Gran Quivira and Bandelier. Mr. Burney visited Canyon de Chelly which I did not.

Assistant Engineer Gene Gordon spent the first part of the month at Walnut Canyon, where his crew made a detailed study of the ruins stabilization, the trails, entrance road, water, boundary survey and other future developments. Part of the month was spent at Sunset Crater where he made a preliminary location of the entrance road from Flagstaff, made two topographic maps of the proposed headquarters areas, located a trail to the summit of the Crater and other work. He is now at Tupatki making a reconnaissance of the entrance road, walks location, water development and ruins stabilization.

Mr. Knox Borden of Mr. Gordon's crew was transferred to Death Valley National Monument on October 12. We regretted to lose Mr. Borden, but our loss was Engineer Goodwin's gain.

Rodman Brown who was transferred from engineering to be in charge of construction work at Montezuma Castle has been transferred back to the engineering crew. His next assignment will be on the reconnaissance of the proposed cut-off road between Bandelier National Monument and Santa Fe, New Mexico, after which he will be with Mr. Gordon's crew.

Howard Leslie, who was transferred from engineering to construction to complete the Gran Quivira work, has been returned to the engineers after the completion of road work at that Monument

Topographer Andrew Clark reported for duty on October 22 at Chiricahua National Monument. He has been assigned to complete the topographic map of that Monument which he started several months ago.

REPORTS FROM THE MEN IN THE FIELD

CHIRICAHUA EOY PROGRESS REPORT — By Richard Sims, EOY L.S. Architect

TELEPHONE LINES. The telephone line to Massai Point via Rhyolite Canyon is 95% completed. Little more remains to be done than to establish the telephones at both ends of the line.

The telephone line to Sugar Loaf Mountain is about 20% completed, some of the line having been laid but not yet stretched. It has been found expedient to make a change in the running of this line. Exploration of the original route up through Echo Canyon revealed a route so rough and inaccessible that all the man hours allowed for all telephone work in the fourth period would have been consumed in the construction of this one line, not to mention the costly difficulty of subsequent maintenance. A line at once shorter and more practical has been decided upon from a point just below Massai Point.

Although possibly a little premature, this line is being run at this time inasmuch as the men and equipment for telephone line work were all available and other factors were especially propitious at this time. This line will no doubt be very useful during the construction of the Lookout House on this Mountain, which is one of the early and important projects on the present program. It has previously been approved as a project we have been advised.

HORSE TRAILS. Work continues on the Rhyolite Trail, which is now some 7,800 feet from the mouth of the canyon or rather the head of the trail is. We still feel that a second compressor is badly needed for trail work on the Monument. It has been suggested that we might ever have to resort to all hand work for the drilling. If such should ever prove to be the case, in view of the already small number of men available for the park projects on might about as well forget the trail work altogether!

TOPOGRAPHIC SURVEYS. The topographic map of parking area No. 3, requested by the Branch of Engineering, is about completed and is awaiting only certain elevation data from the Coolidge office. Mr. Clark has returned to complete the survey of the Monument and it is hoped that this project can be completed.

* * *

CLOSING NOTE BY SUPERINTENDENT:- WITHOUT EXCEPTION the monthly reports from the boys in the field came into the headquarters office prepared in accordance with the office order issued about the middle of the month asking that report material be doublespaced, margins allowed, etc. This hearty compliance certainly helped on our end of the line;-our appreciative thanks to all custodians and rangers who submitted reports in October. Please remember to follow the same practice in preparing future monthly reports; it is but little, if any, harder for you and certainly speeds up our handling of scores of pages of such material in our assembling.

(END OF REGULAR REPORT SECTION FOR OCTOBER)

REPORTS FROM THE MEN IN THE FIELD

CASA GRANDE NATIONAL MONUMENT — by Hilding F. Palmer, Custodian

Dear Mr. Pinkley: With the beginning of the winter season we have had this month 1825 visitors which is an increase of over 4% above that of the same month last year. These visitors came in cars from 40 states, England, Canada, Mexico, Denmark & Ireland. Arizona visitors numbered 973, California 349, Texas 92, Oklahoma 63 and Illinois 38. These 1825 visitors were personally contacted on 331 museum and ruins trips throughout the month. Besides this number there were 394 who used the picnic grounds or some of the other facilities of the monument, but who required no personal service. This made a total of 2219 visitors for the month. Other statistics compiled by the personnel regarding visitors, home of stay, number in party, etc., will be found in the supplement.

The weather for the month has been mild with a mean maximum of 81 degrees, a mean minimum of 50 degrees and a mean temperature of 70 degrees. The maximum for the month was 104 on the 1st and 2nd and the minimum 35 on the 27th and 28th. There were 29 clear days and 3 cloudy days during the month.

A. E. Burney, Assistant Chief Engineer from field headquarters at San Francisco spent a day and a night here on an inspection trip. He left in company with Mr. Attwell to visit other monuments in Arizona and New Mexico. Harry J. Kelley was also a visitor. Besides park Service visitors of importance there were a few tourist visitors of interest. Miss Kybi Lummis, cousin of the late Charles Lummis who traveled over most of the Southwest in the last part of the 19th century, spent an enjoyable morning with us. Don Fisher, formerly Junior Naturalist at the Petrified Forest National Monument, and Grand Canyon, arrived here with his wife to visit the ruins and museum. Mr. and Mrs. J. F. Hera of the Laboratory of Anthropology at Santa Fe visited here after being to see the diggings of the Gila Pueblo at Globe-town.

Ranger Caywood's appointment received presidential approval and was effective on October 1. He moves into his apartment in the old quarters on Compound A on October 16 after it has been remodeled into two apartments to accommodate Junior Naturalist Kelly and Ranger Caywood.

Work has been going forward on the cataloging of the artifacts in the museum, but very slowly because of the increased tourist traffic. A new clay figurine was found and donated to the museum by Leonard Spruell. It stands about four inches high, represents some female deity probably and is complete. It has applied incised eyebrows, prominent nose and was made without arms. No record of a similar find is known in this valley.

A large number of new bird visitors are noted. They are the usual winter visitors in this region at this time of the year. This probably makes the feeding problem of the native birds more difficult. New birds noted were the Western Lark Sparrow, the Say Phoebe, the Black Phoebe, the Ruddy-capped and a flock of nine Pelicans winging their way from one body of water to another.

AD LIB AND ET CETERA

Lest you note that the Report this month ends on page 177 and the Supplement opens on page 187 and write in to us complaining that you have been gyped out of ten pages of good paper, we had better explain that we have, for office reasons, changed the manner of paging this monthly Report. If the page numbers ran continuously from front to back, we could not start the monthly report until the field reports began to come in about the 27th of the month and with our small office crew, that means a jam of work over the end of the month, for it seems to us that everybody in the Government Service who wants a report from us picks on the first of the month as the one time when we will have nothing in the world to do. To take this report out of the monthly jam, we have decided to allot a certain number of pages to the report section and then begin the Supplement with an arbitrary number. This month we allotted up to page 186 to the report and began the Supplement with page 187. By this device we were able to work on the Supplement during the odd hours of the month and had it practically complete, printed and ready to bind by the time the field reports started to roll in.

The fly in this ointment, of course, is that we have no way of telling precisely how many pages of reports the field men are going to turn in and this month we over-estimated ten pages. These are the ten pages you don't get, between 177 and 187. So, such as it is, it is all here.

* * *

And now, just to ad. lib. to the bottom of this page so it won't look like we were in a hurry and purposely left a blank spot, I might repeat the best thing we picked up this Month:

Dale King, while showing a party through the museum, was explaining that wonderful set of turquoise mosaic work, the finest thing of its kind which has ever turned up in the United States, when one of the men said: "See, these people came from Egypt!" Dale naturally fumbled that one for a moment and the man produced his evidence: "Well, you said this was mosaic work, didn't you, and Moses was in Egypt!"

Will the Educational Division please tell us how they would handle that one?

* * *

THE SUPPLEMENT FOR THE OCTOBER REPORT

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

ANOTHER CHAPTER ON THE BANDELIER MUSEUM

At the risk of some repetition, and in order to get all the information into the record where we all can see it and draw our own conclusions, we put in at this point a letter which Bob Rose wrote this month to the Berkeley Office in which he gives a summary of the Bandelier museum ideas up to the present time.

We here at the Coolidge Office are thoroughly sold with the importance of a museum at Bandelier as soon as possible. This is the first of what we think of as the contact monuments which the eastern visitor sees as he comes into the Southwest and upon the greeting which he gets here will depend his visit to many of our other units. It behooves us, therefore, to greet him here with a story well worth his time and make his visit so interesting and instructive that he will feel that he cannot afford to miss any national monument to which we may direct him.

The letter follows:

Several letters exchanged between us recently have had to do with museum planning. General agreement seems to have been reached on the importance of preliminary planning even though it was recognized that many smaller details are very difficult to plan definitely in advance. However, it does appear that preliminary studies are much worthwhile if they yield good ideas on (1) the number of subjects to be covered; (2) approximately the extent to which each subject should be emphasized in any particular museum; and (3) the methods of visitor circulation desired.

Beginning on page 142 of the enclosed September Monthly Report you will find a detailed discussion of the museum problem at Bandelier National Monument. On the occasion of my field trip to Bandelier in the latter part of September, Custodian Jackson and I had a long discussion on the subject of the proposed museum. Upon my request Mr. Jackson enlarged on earlier discussion which he and Mr. Schellbach had and which was published in our August report so as to include additional ideas and conclusions resulting from our discussion. Additional points which we

seemed to reach a more or less definite understanding upon are:

1. The number of rooms the proposed structure should contain.

2. The approximate dimensions of these rooms.

3. The order in which the visitors should enter these rooms.

4. The subject matter of the installations in each room.

5. The relationship between the Lobby and the First Museum Room.

It might be well to set down some approximate dimensions for these rooms in order to get discussion started:

LOBBY

This is a place of visitor entrance, registration, general orientation and relaxment and comfort. This room should be large and spacious. A suggested minimum dimensions would be 25 by 35 feet.

FIRST MUSEUM ROOM

This room would contain charts and orientation material introducing people to the next room in the series, or to the general field of Archaeology. It would be highly desirable to have this room accessible readily from the Lobby so that visitors could be brought from the Lobby into this room and receive their introductory talk about Indians; their origin; routes of migration; sources of food plants; division of the Southwest into culture areas and what is meant by culture areas; and such other introductory material as would build up the visitors' background. This would lead to deeper interest and greater enjoyment of the visitor in his field trip. It should be here stated that in this room we would begin to get into the "meat" of Archaeology to a greater degree than would be advisible in the simple, attractive displays in the Lobby. Have this First Museum Room arranged so it is the first room visited after people are collected in the Lobby. People would be taken from the Lobby into the First Museum Room; on the Field Trip; back to either the First Museum Room or the Second Museum Room, depending on whether the ranger guide thought it necessary; thence on to the Third Museum Room; the Fourth Museum Room; and the Fifth Museum Room.

Dimensions of 15 by 25 feet suggested for First Museum Room.

SECOND MUSEUM ROOM

Here the actual exhibits of Bandelier artifacts start. This would be the most important room of the series. Artifacts, local maps, relief models, house types, etc., would form the subject matter to be taken up here.

Dimensions of 25 by 35 to 40 feet suggested for Second Museum Room.

THIRD MUSEUM ROOM

Deals chiefly with cultures of living Indians of the region. Possibilities are quite great along these lines. Bandelier would be the logical place to emphasize exhibits on the several important neighboring groups of Indians in that general region.

Dimensions of 20 by 30 feet, suggested minimum.

FOURTH MUSEUM ROOM

Geology Room. The spectacular geology of that region is too important and interesting to overlook. This room would take up climate, human geography, and other factors entering into the valley as a place of human habitation. Geological exhibits, etc., would be in this room.

Proposed minimum dimensions, 15 by 20-25 feet.

FIFTH MUSEUM ROOM

Flora and Fauna Room; on two rooms of about equal size and each half the area as a single undivided room for both flora and fauna would be.

Bandelier has an interesting and varied flora and fauna. People should be able to see habitat groups, dioramas, illustrations of the Life Zones, etc. This would be a most interesting and delightful room to visitors.

Suggested minimum dimensions:
One large room of 25 by 35 feet, or,
Preferably, two smaller rooms of equal size and about 13 by 18 feet each.

STORE ROOM

This room would house prepared exhibits, surplus artifacts, and other material, and would be very orderly and open frequently to people whose interest, background, and training merited it. It might contain exhibits along a little more technical line than the average visitor would be interested in.

Proposed dimensions, 15 by 25 feet.

LABORATORY

A fairly large room for paints, glues, clays, modeling materials of all kinds, tools, exhibits in stages of preparation, cleaning and repair, etc. Such room is indispensable.

Proposed dimensions, 15 by 18 feet.

LIBRARY

No library has been proposed in any of the plans and this is being added in the preparation of this letter. Of course, books and pamphlets for visitor use will be available in the Lobby but it is highly desirable to have a small room only for the Government books and personal books constantly used for reference, in a place not accessible to visitors. Rangers on days off and between parties might be allowed to come into this little room of quiet and read up on various subjects with which his work deals. This room ought to be furnished neatly with book cases, rugs on floor, table, etc. It might be the place for keeping the catalog cards of museum collections, etc.

Suggested dimensions, 14 by 14 feet.

CUSTODIAN'S OFFICE, FILES AND STORAGE, ETC.

Thus far the reports have dwelt only on the need for museum space. Of course this structure will likely house the administrative offices, ranger's room, files and storage and such clerk's rooms, etc., as might be necessary. In this discussion, however, I am not detailing the needs along these lines for we are confining these outlines only to museum phases of the structure. We are, however, going to have to take into account the Custodian's Office, files and storage, etc., in the final drawings and proportions of the building so to that extent we mustn't forget that these offices, etc., become a part of the final plan.

If we are all in anything like general agreement thus far, then it seems that the next step would be for the Branch of Plans and Designs with Mr. Miller's cooperation, to attempt to draw up some plans. That will tell us about where doors, windows, etc., would have to be; would tell us whether the approximate proportions suggested for various rooms will fit into a harmonious whole; and will give the basis upon which to begin the planning of the specific exhibits for the space available. I don't know but that it would be highly desirable to consider such preliminary drawing as very tentative until Mr. Schallbach and our Southwestern Educational Staff and Custodian Jackson make a final study to see how certain planned exhibits would fit into the type of building designed. A final checkup might reveal that it would be advantageous to make some room a little narrower, a little longer, or that a skylight would be desirable or that certain minor changes would make a recessed case possible somewhere where we would like to have one, and other important conclusions.

We could really begin now to see how planned exhibits would fit into rooms of the dimensions proposed, pending preparation of a preliminary sketch by the S.O.P.A.D.'s.

I am now working on a preliminary White Sands plan and revising an

earlier Montezuma one. I would be glad to have the comments of the museum experts of your staff on the plan outlines in the enclosed September Report, and on the points made in this letter.

Cordially,

Robert H. Rose
Acting Assistant Superintendent

DESERT ASSOCIATIONS * THE MESQUITE

By Ralph D. Cornell
Fellow American Society of Landscape Architects

*

Our nearby desert of the Colorado harbors a plant, the common mesquite, that is unique both in its economic values and in its wide geographic distribution throughout much of the warm Pacific areas. This tree is probably the best known and the most widely distributed of any of our desert plants, since it occurs from Utah southward nearly throughout Mexico, and from the Colorado Desert of California eastward into Texas. In addition to these habitats it is native to the West Indies, Central America, and South America, and has been introduced into the Philippines and the Hawaiian Islands, where it is more at home than some of the native flora. It might thus be looked upon as something of a cosmopolite and globe-trotter -- and wherever it travels it carries its beneficences with it.

The botanic name of this desert mesquite is Prosopis juliflora, although it has many different common names throughout Latin America and other countries, and is probably the best known plant in Mexico and arid America. Growing as it does under conditions varying from those of our arid desert wastes to those of the tropical warmth and moisture that are to be found in Hawaii and the Phipippines, it has a wide variety of forms that may be disconcerting to the unitiate but which give it added interest and wide economic value. For example, in Hawaii the tree grows to a height of sixty feet and is very shallow rooted as a result of abundent rainfall and volcanic conditions of soil; while, by contrast, the mesquite plants of our own desert rarely attain more than thirty or sometimes forty feet in height, although their roots may penetrate the soil to a depth of sixty feet. These facts illustrate well the adaptability of this plant and perhaps explain the reason why it occurs over so wide a range of territory and under such varying conditions.

The presence of mesquite in our own deserts is always an indication of good soil and of water within a reasonable distance of the surface, for its deeply tunneling roots must find moisture. It seems to thrive best in river valleys where there is a supply of underground water. The form in which it grows is largely determined by these conditions of soil, water, and climatic enviornment.

---

* The word mesquite comes from the Aztec word mesquitl, through the Spanish. Other common names colloquial to parts of Mexico are

I do not wish to make it seem that I am discussing a plant from foreign lands, and yet it is interesting to know the circumstances of the introduction of the mesquite into Hawaiian territory. There it goes by the name of kiawe, or algaroba, and, through naturalization and usefulness has become the commonest and most valuable of all trees ever introduced to the islands. The entire tribe of Hawaiian algarobas, now so widely scattered and so prolific, has descended from a single parent tree that was grown from a seed sent to Honolulu from the Royal Garden of Plants in Paris and planted, in 1828, by Father Bachelot at the Catholic Mission on Fort Street. Man's influence is important to the existence of plants, and thus may perpetuate them through care, just as it sometimes destroys them through carelessness.

To me our desert mesquite is a beautiful tree. It commonly occurs throughout the Coachella and Imperial valleys and eastward. Though deciduous in coldest sections, it holds its foliage over a long period of time and is practically evergreen in such sections as those of the Colorado Desert. Always it sends out an early spring herald of tender, green, fernlike leaves. These are followed shortly by long yellow catkins of heavy fragrance that develop into regular, golden bean pods by some time in July. And therein lies a tale, for the mesquite beans have played an important part in the food and economic needs of many races of men. The early California Indians ate, and the Mexican Indians still eat these beans in many different forms. The pods contain from twenty-five to thirty percent of grape sugar, are very sweet, and are pleasant to munch just as they come from the tree.

To some tribes of the American Indians they were the chief staple of food and still are much eaten. The seeds and coarser parts were generally removed before grinding. In Mexico the meal is then made into cakes known as "mesquitamales" which are then baked and eaten or mixed with water to form a beverage. The meal is also sometimes mixed with water and fermented to make a sort of beer, or may be made into a syrup. The beans or meal can be stored, either before or after baking, and thus made to supply food over a long period of time.

Live stock of all kinds is fond of the beans, and, where available, they form an important economic item as stock prov-

guisache, chucata, tsiritzeoua, algarroba, mesquite blanco, mesquite amarillo, mosquite colorado, and acacia de Caterina.

ender. In the Hawaiian Islands, alone, 500,000 bags of mesquite beans are gathered annually and ground into stock food. Throughout our own desert regions they contribute an appreciable item in the forage available to stock of various kinds.

While the beans are perhaps the most important item of value to be produced by this wonder tree, they are far from being the only item. The flowers themselves were eaten by the Pima Indians. They also yield an excellent grade of light-colored honey that is in demand on the market and can be produced freely in desert apiaries. Mesquite honey, produced in Hawaii, is shipped both to the United States and to Europe as an item of commercial export. There is also a gum that exudes from wounds in the growing stems of the mesquite, and closely resembles gum arabic, which makes an excellent glue and even a varnish when dissolved in water. An infusion of this solution is used for dysentery, as a gargle for treating throat affections, and for sore eyes or open wounds. The gum, in itself pleasant to eat, is also used in making candy. Besides these uses of the gum the sap of the mesquite may provide dye of permanent black: the inner bark is used by the Pima Indians as an emetic and cathartic; and the outer bark provides tannin. Thus our common mesquite may also be looked upon as the corner drugstore of more primitive peoples.

The wood of this marvel plant of our deserts also serves many purposes. In Mexico it is valued and used for railroad ties, cart building, fence posts, charcoal and fuel. In Texas it has been used for paving blocks. In Hawaii it is valued for underground and underwater piling, as it is not subject to the attack of certain devastating insects that ordinarily destroy such timber. The Indians of Tiburon Island, in the Gulf of California, make a cordage from its root fiber which they sometimes weave into coarse fabrics. In other times the Pima Indians used the wood for making clubs and plows, to serve both in war and in peace times. In our own Colorado Desert the wood of the mesquite has been used chiefly for fence posts, crude shelters, and fuel.

In the northern districts of its habitat the mesquite has developed a peculiar form of growth caused entirely by the conditions under which it must exist if it is to survive at all. In such regions as the Coachella Valley it is found growing in great clumps on sand mounds, sometimes a mile long, that form from the shifting, blowing sands as they find repose in the shelter of the mesquite thicket and there gradually build up

their own mass.* The mesquite, in its turn must grow fast enough to keep above the piling sands if it is to resist a living burial and maintain its place in the scheme of life. Thus evolves a relentless battle between the wind-blown desert sands and the tender tissues of growing plants, a race for life and against obliteration by the accumulating wastes of time. Fortunately for itself and for us the mesquite is well fitted to survive in this contest. But the result may be that, while only five or six feet of growing stems appear above the mound of sand, the roots and underground stems extend as much as ten times that depth into the soil. Due to this unusual habit of growth the seeming anomaly of mining for underground mesquite has been carried on in our deserts where the roots may be in demand for fuel. This is an expensive method of acquiring firewood but has been done frequently in regions where fuel is dear and where native vegetation must be cleared away before cultivated crops can go into the ground.

In a manner of speaking I dislike to tell you of so many ways in which the mesquite has been put to man's use and the service of his needs, for I would encourage the conservation of this plant rather than its destruction. And yet I think that it is only by knowing the values of anything that we can truly appreciate it and learn to conserve it for such values. An intimate understanding of things about us always adds appreciably to the joys of living and observing, and to the pleasures of a trip into the open spaces. And a simple desert plant may acquire living interest for him who has knowledge of its habits and different potentialities.

Not all mesquite clumps, however, are forced to struggle upward through an ever-thickening blanket of shifting sand. Many of them are living mounds of gnarled trunks, thorny branches and green foliage beneath which countless desert denizens take refuge. The shade of the mesquite tree is said to be the coolest shade of the desert because of the position in which the leaves turn toward the sun. And true it is that the protection to small animals, formed by a thicket of its branches, is beyond improvement. Desert birds are quick to accept the invitation of

* The same conditions prevail in the Moapa Valley, southeastern Nevada, where Mr. M. R. Harrington, Curator of Southwest Museum, is conducting excavations in Pueblo Grande de Nevada, the "Lost City." ED.

a mesquite tangle. The lovely crested quail scurry into the protection of its labyrinthian intricacies of shelter, while the cottony-tailed bush rabbits consider it to be their particular haven of refuge. Spiders, noisy cicadas and insects of all kinds think it was especially made for them until it becomes a living city of Babel in which can be heard the many tongues of the desert.

Not only has the small life of the animal world appropriated the mesquite clump as its home, but man has also frequently imitated these lesser folk in his search for shelter and protection from the elements. A tunnel cut through the outer perimeter of leafy twigage may lead one into vaulted chambers of gnarled branches, canopied by the lacy green of overhead foliage. Many a traveler, desert rat or prospector has thus established himself in a temporary home within the living walls of a mesquite tree. Itinerant workers and entire Mexican families have lived in such sheltered camps for weeks or months at times of seasonal employment in the desert.

Whether growing in these characteristic clumps so common to the Colorado Desert or whether seen as single trees, alone or in open forest, it is a lovely thing. Dark rich green against the tawny tones of desert, it stands out in sharp contrast to its surroundings, refreshing and inviting in a land tortured by heat. The freshness of its color, the delicacy of its foliage, the fragrance of the flowers, the gnarled ruggedness of its branching structure, all give it character that is outstanding and beautiful. Though it belongs to the desert in every sense, it gives relief from much that is harsh to the senses of man.

No other tree of our deserts has literally taken man into the protection of its sheltering arms, nurtured him with rich and palatable food, provided honey for his table, balm for his wounds and afflictions, fuel for his hearth fire, forage for his stock, cordage for his primitive uses, timber for his dwellings and plow shares for his land. Truly the mesquite is our friend and deserves the respect and considerations of friendship.

* * *

(Reprinted from "The Masterkey", Vol. VIII, No. 4, July, 1934.)

****

This is such a valuable article that we have reprinted it here for the benefit of all the Southwestern force in the hope that you will become thoroughly acquainted with it and pass the information on to your visitors.

SOMETHING ABOUT A THOUSAND PARTIES
at Casa Grande National Monument

We have long talked about making an intensive study of visitors at our southwestern monuments and the talk finally crystallized into action about the middle of June. The study was started at Casa Grande National Monument because that is the easiest one for the experimental work to be done. We are now ready to report on the first group of 1,014 parties comprising 4,446 visitors.

The figures given herein are all based on a party ticket which is made up and handled with a minimum of trouble, the visitor rarely paying attention to it or asking what it is about.

When the visitor gets out of his car and starts for the administration building, the ranger puts a plain piece of paper (3"x5") in a time clock and stamps the exact time on it. He meets the visitor on the porch of the administration building, where we have the registration desk, and asks him to sign the register for himself and party. While the visitor is doing this the ranger is writing the consecutive number of the party and the number of people comprising it on the party ticket. The consecutive number is obtained from the margin of the register sheet, where each party is bracketed and numbered separately. The ranger takes his party out to and through the ruins and as he returns and leads them into the museum he again stamps the time on the party ticket. When they leave the museum the time again is stamped and, if necessary, any notes concerning the trip are made on the back of the ticket; also the ranger's name, initials, or other designation is put on the ticket. These tickets are then filed consecutively by number, and at the time of the filing the elapsed time is figured on them showing the time the party remained in the ruins and the time spent in the museum.

The information the ticket is expected to yield, then, is: the consecutive number of the party; the number of people in the party; the day and time of day to the minute when the party started; the time it spent in the ruins; the time it spent in the museum; the ranger who handled the party; and any notes as to why it was a short or long trip and how the party reacted.

This all looks and sounds like a lot of bother but handling this part of the ticket takes something less than a minute of time.

By tabulating and cross-tabulating these tickets we are able to work out various charts and tables, this part of the work being done at odd hours during the month. The simplicity of this method appeals to us. It does not bother the visitor with a lot of questions nor does it take up a lot of his time. Visitors at our monuments are restive if they have to wait as much as five or ten minutes. We do not yet understand why this is but we all know it to be a fact. Just a few days ago I noted a party of four

who signed the book individually and as each person signed he gave the pencil to the next and started on the walk for the ruins! He could not wait for his own party to sign up!

That is why we must have a gate at the edge of the administration grounds on the path leading to the ruins, where we have a sign "No admittance without a ranger." Such a party is halted at the gate until the last member arrives and the ranger is ready to lead them.

TABLE 1

Giving various data concerning 1,013 parties handled at Casa Grande National Monument from July 1, 1934, to October 15, 1934.

1	2	3	4	5	6	7	8
No. in Party	Total No. of Parties	% of Total Parties	Total No. of People	% of Grand Total	Total Time Spent	% of Grand Total	Average No. of Minutes
1	50	4.93	50	1.13	2191	3.99	43.8
2	305	30.1	610	13.78	15635	28.51	51.2
3	168	16.58	504	11.39	9028	16.46	53.7
4	150	14.8	600	13.56	8362	15.24	55.7
5	109	10.76	545	12.31	5771	10.52	52.9
6	77	7.6	462	10.44	4500	8.20	58.4
7	38	3.75	266	6.01	1997	3.64	52.5
8	24	2.36	192	4.33	1387	2.53	57.7
9	20	1.97	180	4.06	1195	2.17	59.7
10	11	1.08	110	2.48	714	1.3	64.9
11	14	1.38	154	3.48	1042	1.9	74.4
12	9		108		561		62.3
13	8		104		589		73.6
14	3	All	42	All	174	All	58.0
15	4	others	60	others	222	others	55.4
16	7	(47)	112	(773)	428	5.52%	61.3
17	1	4.63%	17	17.58%	87		87.0
18	4		52		285		71.2
19	2		38		108		54.0
20	1		20		63		63.0
21							
22							
23	1		23		70		70.0
24	1		24		50		50.0
Misc.	6		173		391		65.1
	1013	99.94	4446	100.3	54850	99.98	54.1

You will see from this table that we show in Column 1 the division of the parties by the number in the party from 1 up to 24. On the 25th line we have grouped the 6 parties which had more than 24 in one group. Column 2 shows the total number of parties having one, two, three, etc., persons. Column 3 shows the percentage of total parties who came by threes, fours, etc. Thus, 30.1% of all our parties were two people to the party. Column 4 shows

shows the total number of people; thus, 610 came in parties of two, 504 people came in parties of three, etc. Column 5 shows the percent of the total time occupied; thus, on the second line, 13.78% of the visitors made up 30.1% of the parties. Column 6 shows the total time spent by the parties in that line; thus, two-person parties spent 15,635 minutes of our time whereas practically the same number of persons in four-person parties spent only 8,362 minutes.

When you put 600 one-person parties through the ruins and museum in 26,292 minutes, and then put 600 two-person parties through, the time used decreases to 15,635 minutes. Six hundred three-person parties would take 10,740 minutes, and 600 four-person parties would have used 6,573 minutes. Yet the average time of the party increases from 45.6 minutes for one person parties to 51.2 for parties of two persons, 53.7 for parties of three persons, and 55.7 for partoes of four persons.

Column 7 shows the % of total time we spent on various sized parties. Column 8 shows the average number of minutes it takes to handle various sized parties.

We spent 5.52% of our time on 773 visitors (or 17.38% of the total) who came in parties of from 12 upwards. That these people received full value for the visit is indicated by the fact that these 47 trips averaged 64.4 guide minutes each. The reason we could do this was that the parties averaged 16 persons each.

As against this you will note that we had to give 28.51% of our time to 610 persons (or 30.1% of the total number) who came in parties of two only. This does not mean that the people themselves had a better trip for these trips averaged only 51.2 minutes. They did not get more service so it was the promptness of the service which cost us the extra time; we could not wait for larger parties to form and were forced to deliver standard service to small parties.

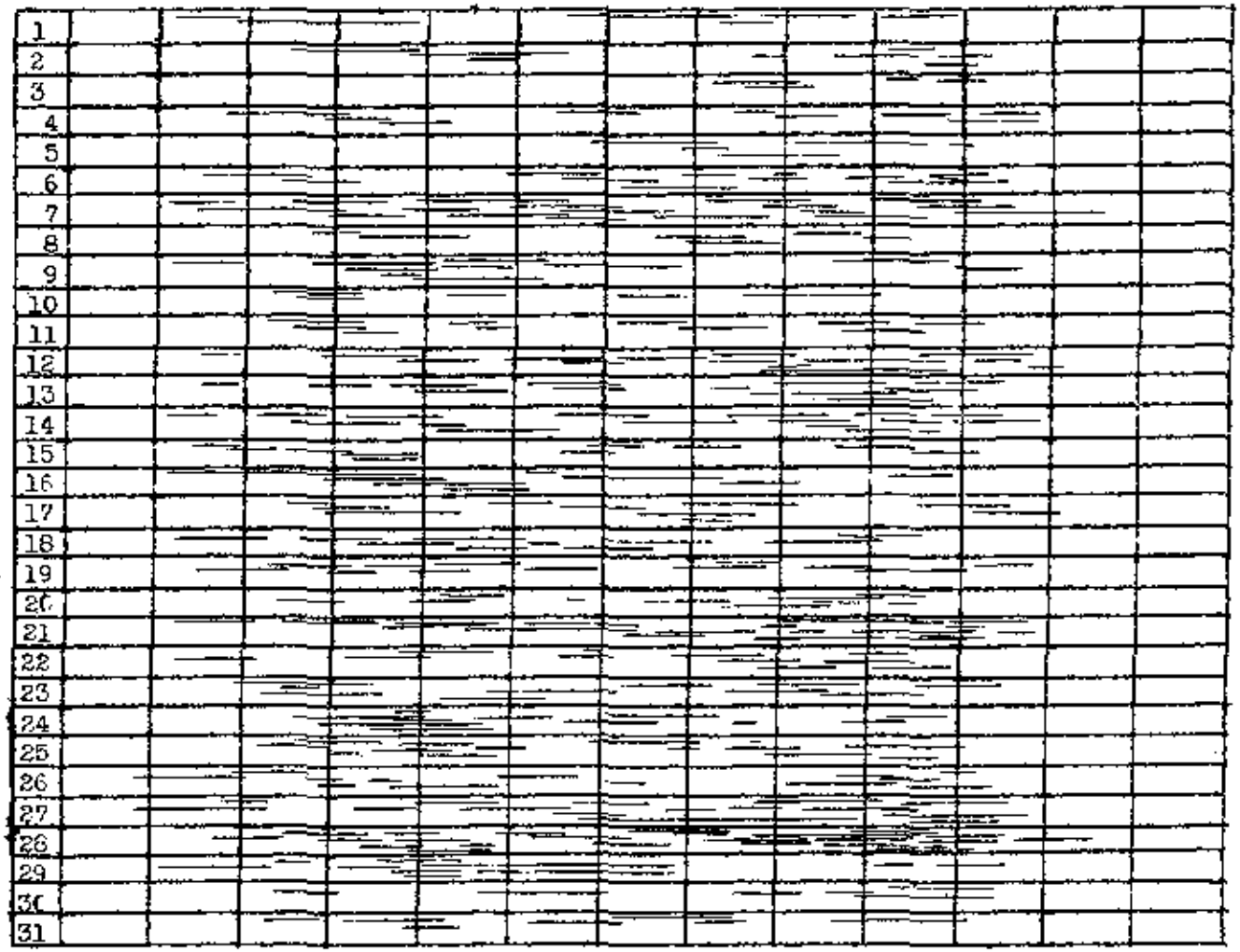
Fifty persons coming singly cost us 4% of our time and at this rate if all visitors came singly we could have handled only 1,250 visitors with the total time we expended. While it is expensive in guide time to handle parties of one and two, a study of the trip charts will convince one that we cannot wait for visitors to form larger parties as the wait would often be so long as to bring criticism on the service rendered.

If you wonder why we are so economical of ranger time, we might explain that a ranger at our one and two man monuments has a great many other things to do besides actually guide visitors and any method we could work out which would handle a larger number of visitors per guide hour or handle the same number of visitors in less guide hours without diminishing the trip minutes of each visitor would mean a very considerable saving to us in men and money

We feel that Table I will repay considerable careful study.

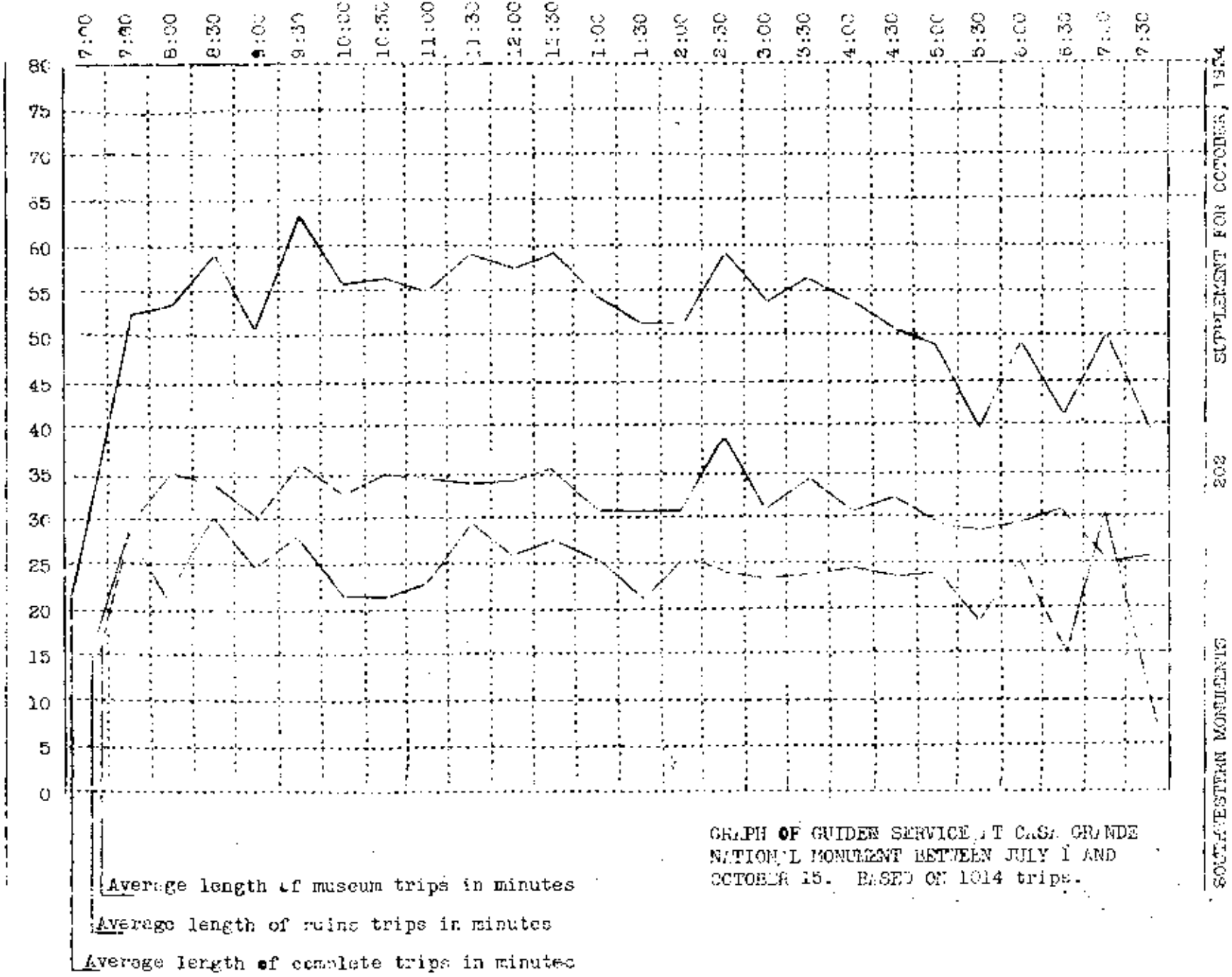
CASA GRANDE OCTOBER TRIP CHART

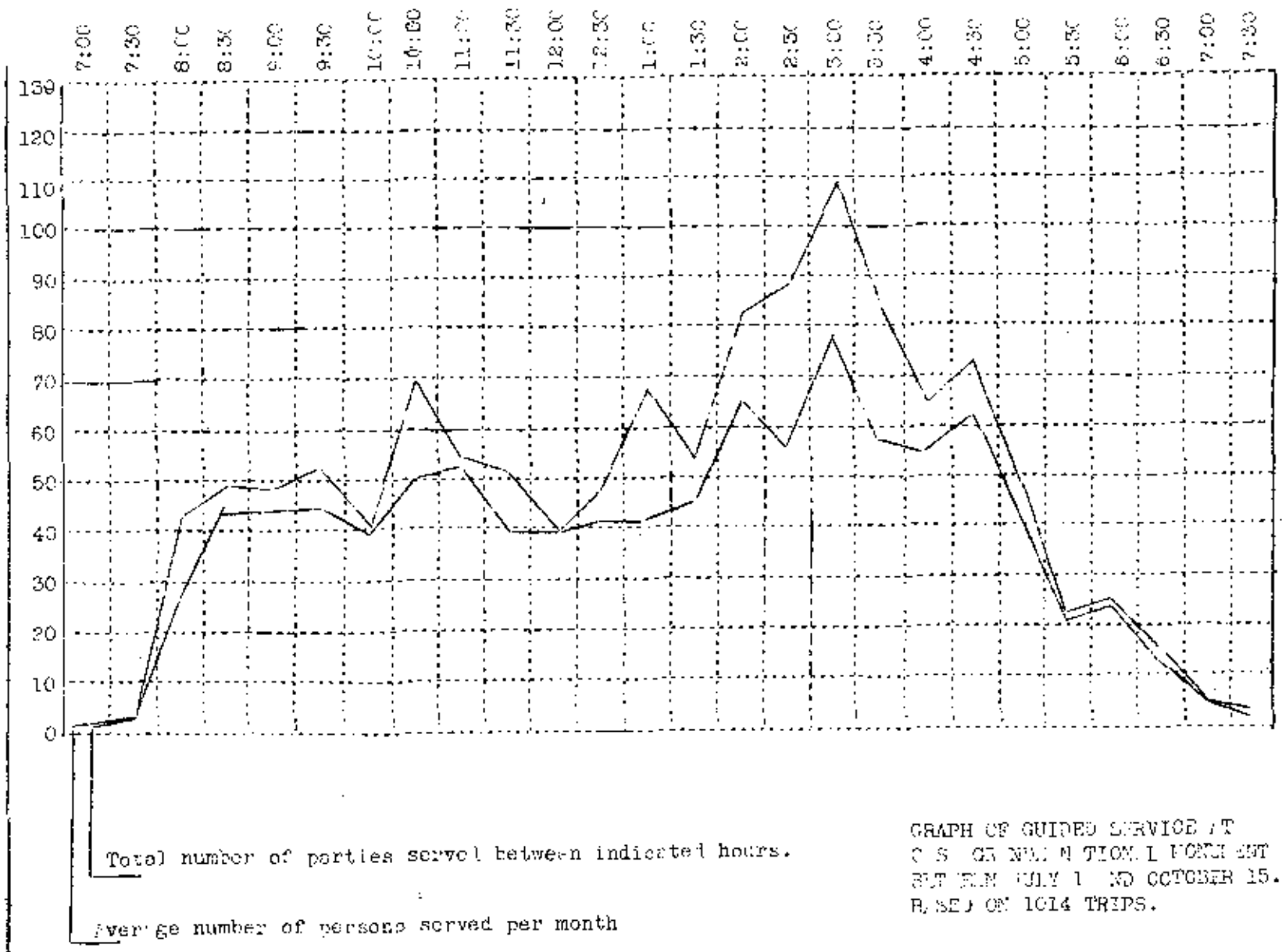
7 8 9 10 11 12 1 2 3 4 5 6 7 8



	7:00	7:30	8:00	8:30	9:00	9:30	10:00	10:30	11.00	11:30	12:00	12:30	1:00	1:30	
RUINS		69	145	437	229	382	351	269	341	397	369	381	383	402	Min. Jul.
		1	5	12	7	11	10	9	11	11	11	10	10	12	Parties
	15	121	718	527	496	705	337	515	549	460	420	421	438	463	Min. Aug.
	1	4	15	15	15	18	11	14	14	13	12	13	14	15	Parties
			269	215	444	259	445	572	648	350	348	369	316	333	Min. Sept.
			11	10	16	7	12	17	20	11	11	11	12	11	Parties
			100	897	188	324	135	419	210	135	147	311	194	219	Min. Oct.1-15
			4	7	6	10	5	11	6	5	4	8	6	7	Parties
	15	150	1232	1476	1357	1670	1268	1775	1748	1342	1284	1485	1310	1417	Min. TOTAL
	1	5	35	44	44	46	38	51	51	40	38	42	42	45	Parties
	15.00	30.00	35.20	33.54	30.8	36.3	33.36	34.80	34.27	33.55	33.79	35.24	31.19	31.48	Average
MUSEUM	5	29	100	290	110	313	320	139	351	276	358	199	254	291	Min. JUL.
	1	1	4	11	6	11	11	8	11	10	12	8	9	12	Parties
	25	84	381	463	392	515	209	350	243	325	305	299	330	289	Min. AUG.
	1	3	14	14	15	16	11	14	15	13	12	12	12	14	Parties
			147	176	318	170	328	378	413	347	249	292	293	279	Min.SEPT.
			9	7	12	7	13	17	17	9	10	10	11	11	Parties
			72	160	125	231	111	231	133	102	93	204	123	125	Min.Oct.1-15
			5	4	6	10	5	11	6	4	4	6	6	6	Parties
	30	113	700	1089	945	1229	968	1096	1140	1050	1005	994	980	984	Min.TOTAL
	2	4	32	36	39	44	40	50	49	36	38	36	38	43	Parties
	15.00	26.25	21.87	30.25	24.2	27.90	22.00	21.92	23.26	29.16	26.44	27.63	25.78	22.88	AVERAGE
TOTAL	5	58	245	727	339	695	671	408	692	673	727	580	597	693	Min.JUL.
	1	1	5	12	7	11	11	9	12	11	12	10	10	12	Parties
	40	205	1099	990	888	1220	546	865	792	785	725	720	768	752	Min. AUG.
	1	4	15	15	15	18	11	14	15	13	13	13	14	15	Parties
			416	391	762	429	773	948	1061	697	597	661	608	612	Min.SEPT.
			11	10	17	7	13	17	20	11	11	11	12	12	Parties
			172	457	313	555	246	650	343	287	240	515	317	344	Min.OCT.1-15
			5	7	6	10	5	11	6	5	4	8	6	7	Parties
	45	263	1932	2565	2302	2899	2236	2871	2888	2392	2289	2476	2290	2401	Min.TOTAL
	2	5	36	44	45	46	40	51	53	40	40	42	42	46	Parties
	22.5	52.6	53.66	56.29	51.2	63.02	55.90	56.29	54.49	59.80	57.22	58.95	54.52	52.19	AVERAGE
PERSONS	5	11	23	44	27	46	42	34	49	33	45	40	74	66	JULY
			45	40	61	33	56	85	80	46	46	46	49	80	SEPT.
			77	71	60	77	36	77	55	73	39	34	51	51	AUGUST
	5	3	18	21	24	33	19	53	27	34	13	45	63	37	OCT. 1-15
	10	14	163	176	172	189	153	249	207	186	143	165	237	194	TOTAL

	2:00	2:30	3:00	3:30	4:00	4:30	5:00	5:30	6:00	6:30	7:00	7:30	TOTAL	AVERAGE	MONTH
RUINS	479	360	738	557	431	522	286	162	358	112	119	55	8294	33.99	JULY Min.
	14	9	21	14	15	15	10	6	11	3	4	2	244		Parties
	681	661	622	641	494	484	424	159	250	189	6		10746	34.89	AUG. Min.
	17	18	20	18	13	15	13	5	8	6	1		308		Parties
	621	615	685	529	557	471	425	188	120	64			8842	29.87	SEPT. Min.
	24	17	25	17	19	14	16	7	5	3			296		Parties
	260	435	363	259	235	488	15	20					4754	33.24	OCT. Min.
	9	11	10	8	8	15	1	2					143		1-15 Parties
	1991	2091	2408	1986	1717	1965	1150	529	728	365	125	55	32636	32.9	TOTAL
	64	55	76	57	55	59	40	20	24	12	5	2	991		
	31.11	38.01	31.68	34.84	31.21	33.30	28.75	26.45	30.33	30.41	25.00	27.50		32.9	AVERAGE
MUSEUM	308	187	459	366	296	260	189	101	298	64	125	23	5691	25.3	JULY Min.
	11	8	20	13	13	13	9	5	10	2	4	2	225		Parties
	431	446	480	461	365	363	350	75	113	98			7392	25.40	AUG. Min.
	16	17	21	17	13	14	12	3	5	7			291		Parties
	568	465	585	319	478	316	285	104	42	17			6567	24.50	SEPT. Min.
	21	18	24	14	19	14	13	7	3	2			268		Parties
	144	175	244	154	94	252	8	19	—	—			2800	22.76	OCT. Min.
	7	8	9	7	5	12	1	1					123		1-15 Parties
	1451	1273	1768	1300	1233	1191	832	299	453	179	125	23	22450	24.75	Total Min.
	55	51	74	51	50	53	35	16	18	11	4	2	907		Parties
	26.38	24.96	23.89	24.07	24.66	22.47	23.77	18.68	25.16	16.27	31.25	11.50		24.75	AVERAGE
TOTAL TRIP	787	547	1197	923	727	782	475	263	656	176	244	78	13985	55.27	JULY Min.
	15	9	21	15	15	16	11	7	11	3	4	2	253		Parties
	1062	1107	1102	1102	859	847	774	234	363	287	6		18138	58.13	AUG. Min.
	17	18	21	18	13	15	13	5	8	7	1		312		Parties
	1189	1080	1270	848	1035	787	710	292	162	81			15409	50.68	SEPT. Min.
	25	18	26	17	19	16	16	7	5	3			304		Parties
	404	610	607	413	329	740	23	39					7554	52.09	OCT. Min.
	9	12	10	8	8	15	1	2					145		1-15 Parties
	3442	3364	4176	3286	2950	3156	1982	828	0081	544	250	78	55086	55.09	Total Min.
	66	57	78	58	55	62	41	21	24	13	5	2	1014		Parties
	52.15	59.01	53.53	56.65	53.63	50.90	48.34	39.42	49.20	41.84	50.00	39.00		55.09	AVERAGE
PERSONS	95	64	86	56	53	56	56	23	45	20	17	16	1128		JULY
	113	76	130	91	77	55	63	35	14	8			1289		SEPTEMBER
	55	84	103	105	74	62	51	19	30	34	4		1322		AUGUST
	28	88	65	42	25	83	2	4					732		OCT. 1-15
	291	312	384	294	229	256	172	81	89	62	21	16	4465		TOTAL


7:00
7:30
8:00
8:30
9:00
9:30
10:00
10:30
11:00
11:30
12:00
12:30
1:00
1:30
2:00
2:30
3:00
3:30
4:00
4:30
5:00
5:30
6:00
6:30
7:00
7:30
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
Average length of museum trips in minutes
Average length of ruins trips in minutes
Average length of complete trips in minutes
GRAPH OF GUIDED SERVICE AT CASA GRANDE NATIONAL MONUMENT BETWEEN JULY 1 AND OCTOBER 15. BASED ON 1014 trips.
SUPPLEMENT FOR OCTOBER, 1934
202
SOUTHWESTERN MONUMENTS



GRAPH OF GUIDED SERVICE AT
C S GE NAL M NUMENTIONAL MONUMENT
BUT FROM JULY 1 ND OCTOBER 15.
BASED ON 1014 TRIPS.

HOW A THOUSAND PARTIES COME AND GO

Pages 200 and 201 should not be mistaken for extracts from the latest murder novel. It is true we ourselves have found them almost as exciting as a best seller, and considerable time of several bull sessions has been devoted to trying to unravel their mysteries.

This tabular matter was all built up on the party ticket system explained on page 196. This system has the invaluable advantage of taking practically no time to record the original data, and odd hours can be used in making up the tabular matter. So we figure it costs us very little to make these studies, and bothers the visitors, who unknowingly furnish the raw material, not at all.

The two tables on pages 200 and 201 should be printed end to end with page 200 at the left, but the limitations of our publication prevented this. They should be studied from the left end of page 200 to the right end of page 201. In this order the columns, reading from left to right, will begin at 7:00 a.m. and run by half hours to 7:30 p.m.

It will be noticed in running the eye down the page that the facts are grouped under four headings: RUINS, which means the trips through the ruins; MUSEUM, meaning the trips through the museum; TOTAL, being the data on all trips; and PERSONS, being the data on the number of individuals served.

Examination under the sub-head RUINS will show at the right hand side of the page that the data is divided into three and a half months,---July, August, September, and the first half of October. These months should be representative of our summer travel.

Under July two facts are shown in the horizontal line through the tables: the upper figures under each half hour period being the total number of minutes of guide service delivered during that half hour period for the month, and the lower figure being the number of parties handled during that half hour period for the month. These figures are carried to the right side of the page 201 into a total column showing the number of guide minutes and number of parties served during that month and these figures in turn produce the average number of minutes per party in the next column to the right. It will be understood that the total time of the party, which might run into succeeding half hours, is indicated under the half hour in which the party was started.

The figures under the sub-heads MUSEUM and TOTAL TRIP are arranged in the same manner. It will be noticed that under each of the sub-heads just above the double ruled line the average trip time is given for each half hour period, and it is interesting to study the variation of the average

trip time during the different periods of the day.

The last sub-head, PERSONS, shows the number of persons served during each half hour period for each month and these figures are totalled downward showing the total number served for the whole period during each half hour of the day, and are totalled to the right showing the total number of persons covered by these tables during each month and a final total to the right and downward shows the grand total number of persons covered by these tabulations.

THE GRAPHS.

From the tabular matter explained above the two graphs on pages 202 and 203 have been drawn.

The graph on page 202 shows the average length in minutes of complete trips, ruins trips, and museum trips for each half hour period during the day, the scale of minutes being at the left side of the graph. We found the break-down into the ruins and museum trips to be of great interest as explaining certain peaks and valleys of the total trip line as will be mentioned later in our notes.

The graph on page 203 shows the average number of persons and the number of parties for each half hour period during the day. It will be noted that in general these lines peak and valley together but there are some interesting exceptions.

NOTES

The following notes are intended to call attention to some of the more interesting points of the tabular matter and graphs. They are not exhaustive nor were they intended to be. This whole body of data which we are accumulating on visitors is being filed here more for future reference and study than for the few conclusions we are drawing from it as we go along. We would be mighty happy to have others of you make suggestions and draw conclusions and ask questions.

Here are the notes:

7:00--Very few persons. Less time in ruins and longer in museum. Total time more than doubles. This probably means that 7:00 a.m. visitors are on their way to some other place and the visit here is entirely incidental. They rush through the ruins pretty fast, but take comparitively longer time in the museum.

7:30--Getting into our stride. Persons served are very few, real traffic not having started as yet. Ruins trips are below the average in length and museum trips considerably the averahe in lenghh; the total trip remaining below the average.

8:00--Sharp increase in number of visitors; fall in museum time to below average; rise in ruins trip to above average; netting a small rise in total trip leaving it a little below average..0365 of total visitors handled this period.

8:30--A sharp rise in total trip time which is the net result of a fall in ruins trops and a sharp rise in museum trips. 3.04% of visitors

handled this period. Don't know why the ruins trip falls and museum trip rises.

9:00--Total trip time falls nearly 10 minutes, caused by a fall in both ruins and museum trips. Visitors are holding even and we handled 3.86% of them during this period.

9:30 a.m.--Sharp rise in total trip time caused by rise in both ruins and museum time. Numbers of parties and number of visitors both increase. Handled 4.23% of visitors this period.

10:00 a.m.--Everything falls! Number of people, number of parties, time in museum and ruins, and total time, all fall. Handled 3.42% of the total number of visitors!

10:30 a.m.--Number of persons rises. Number of parties rises. Total trip time rises slightly due to rise in ruins trips. Persons handled go up to 5.57%.

11:00 a.m.--Number of parties increases slightly with a fall in number of persons to 4.83%. Total trip not much changed with slight decrease. Fall in ruins trips and rise in museum trip. The number of parties reach the morning peak.

11:30 a.m.--Sharp fall in number of parties as well as in number of persons. Percentage of persons handled, 4.16%. With a fall in parties and persons we get a rise in total trip time which is entirely caused by a sharp rise in museum time.

12:00 m.--Total trip time falls. Ruins trip gains a trifle but is more than offset by fall in museum time. Number of parties continues low and number of visitors falls to lowest point between 9:00 a.m. and 5:00 p.m. 3.20% of visitors handled this period.

12:30 p.m.--Number of visitors and number of parties both rise. 3.69% of visitors handled this period. Ruins and museum trips both increase, putting a peak in the total trip line.

1:00 p.m.--Total trip falls due to fall in both museum and ruins trip. Number of parties rises slightly and number of persons rises sharply. 5.30% of persons handled this period.

1:30 p.m.--Total trip time continues to fall caused by fall in museum time, while ruins trips remain the same. Number of persons falls but number of parties rises.

2:00 p.m.--Sharp rise in number of parties and number of persons to highest point reached thus far during the day. Ruins time remains at same level but museum time rises. Persons served, 6.83%.

2:30 p.m.--Fall in number of parties and rise in number of persons. A sharp peak in total trip time is caused by a rise in ruins trips,

the museum trip showing a slight decrease in time. Persons served, 6.98%.

3:00 p.m.--Number of parties reaches the peak of the day as do number of persons. Total trip time falls back, caused by a fall in ruins trip. Visitors handled, 8.80%.

3:30 p.m.--Sharp fall in number of parties and number of persons, attended by a rise in total trip time caused by a rise in ruin trip, the museum trip remaining practically even.

4:00 p.m.--Small further drop in number of parties and further sharp drop in number of persons. 5.12% of persons served. Ruins trip falls and museum trip rises.

4:30 p.m.--Rise in number of parties and number of persons. 6.73% of persons served. Ruins trips rises and museum trip falls, resulting in net fall in total trip.

5:00 p.m.--Both parties and people take sharp decline. 3.85% of persons served during this period. Total trip falls caused by fall in ruins trip.

5:30 p.m.--Everything falls as it did at 9:00 a.m. Number of persons and number of parties continue to fall at same rate as the preceding period. Sharp drop in museum trip causes a fall in total trip time. Percentage of visitors served gets down to 1.81.

6:00 p.m.--Everything rises as at 9:30 a.m. 2.0% visitors handled this period. Sharp rise in museum time causes a peak in total trip time.

6:30 p.m.--Sharp fall in museum time causes fall in total trip time, more than offsetting a small rise in ruins trips. 1.3% persons served.

7:00 p.m.--Fall in number of parties and number of persons. .47% persons served. The sharp rise in total time line is caused by a 15 minute per trip increase in the museum time which overcomes a 5 minute per trip drop in the ruins trips.

7:30 p.m.--There is a slight rise in ruins trips offset by a steep fall in museum trips. Everything falls----as would be natural. It is about time that the museum be locked up.

----------oOo----------

OCTOBER TRIP CHART

On page 199 is the October trip chart, supplementing those published in the September report. Its conclusions parallel former ones. Only one ranger was needed between 8 a.m. and 9 a.m. Lunch hours again were hard to arrange due to the need of more than one man between 11:30 and 12:30. Our quitting time was easily set at 6 p.m. in most cases, but if we had tried to stop at 5:00 p.m. we would have missed 7 parties and cut short 28 others. We would have had to work until 8:30 on 13 days to take care of parties within our gates. Three guides were on duty simultaneously 25 times, 4 guides 5 times, and on two occasions during the month, we needed 5 guides.

ALFRED PETERSON---RAMBLING IN THE SOUTHWEST

Some time ago we received a letter from Alfred Peterson, summer ranger at El Morro, telling of a trip he had taken this fall. Inasmuch as his itinerary included some of the monuments, which he tells about interestingly, we have decided to run the letter here in the Supplement.

September 9, 1934

Dear Boss:

Through the kind consideration of Custodian Vogt, I was allowed a week off in lieu of weekly days off. That is, instead of one day each week I was permitted to have them consecutively, thus allowing time for visiting some of the points of interest in the Southwest that have been calling me but which I had no hopes of seeing for years, due to the fact I was tied down summer and winter. My opportunity was greatly enhanced by the fact that my good friends, Dr. and Mrs. W.M. Winton, of T.C.U., Fort Worth, Texas, invited me to accompany them on a tour through northern Arizona.

I am still somewhat uncertain as to whether or not it appeared that I asked for the invitation, inasmuch as I had asked them if they had planned any local tours after they pitched camp at El Morro after a 7,000-mile tour of the Northwest and Coast parks, anticipating that I might drive the same road and make the same stops. Their invitation followed, and I had the pleasure of riding in their car, three in a seat; and this turned out to be one of the finest geology trips I ever had, since Dr. Winton was ready with explanations of geologic features.

We left El Morro on Tuesday, August 21, and camped on the rim of Canyon de Chelly that night. The next day the "Senor" Dr. Winton and I made the descent into the Canyon and across to White House Ruin, watched by the eagle eye of Mrs. Winton through the binoculars. I am glad that I had the opportunity of making this trip, at least in part, over the old hand and foot trail of prehistoric times before the modern trail was completed. The new trail is very fine, but I appreciate seeing and experiencing things as they were of old. On the way down and back Dr. Winton explained the formation of this red sandstone in permian times by wind blown sand dunes, the presence of gypsum in the sandstone and the consequent difficulty of obtaining pure water in this area. We took some pictures and enjoyed the trip, but regretted the fact that we could not get up into White House Cave.

I should mention that the evening before when we drove to the Canyon rim, we met the new Custodian, Mr. Budlong, and I don't ever expect to see a more surprised hombre than Bud when he saw me with the Wintons. His greeting was "What in the world are you doing here?" Bud had just finished a strenuous trip over old hand and foot trails in the wake of a native who was accustomed to the altitude and such strenuous climbing, and Bud, fresh from the lower altitudes of the Arizona deserts had evidently kept pace with him and was still gasping for breath. A little training and Bud will be equal to any of the native sons - Navajo Indians possibly excepted.

While exploring the rim Mrs. Winton found some petrified wood, and a

little exploring enabled Dr. Winton to point out one seam, or possibly two, where petrified wood occurred in the sandstone. Mrs. Winton, the botanist of the party, pointed out Mormon Tea, Oregon Grapes, and other interesting plants.

On our way out we stopped at the Thunderbird Ranch and inspected the collection of Navajo blankets, two of which were acquired by the Wintons during the process. We found 'Cozy' McSparron to be a very genial trader and host.

We left de Chelly in the morning of August 23. At noon, while lunching beside the road a Navajo came by on a spirited black pony. Despite the protests of the pony Mrs. Winton presented the Indian with some cookies for which he broadly grinned his thanks. We had supper at Williams and then drove to the Grand Canyon in time to hear the Camp Fire Lecture by the Ranger-Naturalist on "Prospecting in the Grand Canyon".

The next day, Friday, we went out with the Caravan and saw the views and listened to Naturalist McKee's explanation of the various chapters of earth history shown in the rocks of the Grand Canyon at the Yavapai Point Observation Station. At the Wayside Museum the ranger-naturalist lectured on the archaeological features of the Grand Canyon, and at various stopping places along the way the ranger-naturalist in charge of the Caravan gave interesting information about trees, flowers, birds, snakes, etc.

Saturday was a big day for me. On the advice of the Wintons, and following a desire that I've always had, I rode a mule down into the Canyon to the Colorado River, a round trip distance of nearly sixteen miles. There were ten in our party, and their homes were pretty well scattered from New York to California, and the guide was from Texas. My mule had the picturesque name of "Warbonnet." The mule just ahead was "Curly", and his rotund, jovial rider, a man from the east who had never ridden in his life, said that he was so named because he had never straightened out. Both Curly and Warbonnet had the habit of thrusting their heads well out over the precipice at every turn of the steep trail, and Curly's rider could be heard pleading with him to be reasonable. We reached the river at noon and found it as muddy as usual and lower than usual. It almost looked thick enough to walk on.

We sat on the sand in the shade of an Archeozoic cliff and ate lunch, after which the return journey back up the South Rim was begun. When Indian Gradens, the stopping place about half way on the journey, was reached, some of the riders were pretty tired and some were suffering. One girl (not too young) complained that her mule was too wide and really was suffering. The rotund rider of Curly had begun to ask the stout lad ahead of him "How's your knee-action?". His own knee-action was fast growing less, and when he finally dismounted at the rim, he hobbled like a man with two wooden legs. Within the last three miles we were caught in two or three little showers and all hands donned the slickers with which each saddle was provided. As Dr. Winton put it, the slickers were made to fit the largest rider they might have so they fitted some of us like circus tents. I found the sleeves of mine already rolled up to my size.

There were only two things wrong with the trip: (1) there were only three canteens in the party---all of them of the 1-quart size---one for the guide and the other two for the other ten of us; (2) There was no information given out by the guide unless specifically asked for, and the

only opportunity of asking, was at the noon stop at the river and the half-way stop at Indian Gradens. If it had notbeen for the information signs along the trail (some of which were hard to read without stopping and holding up the party) and more particularly for the information received from Dr. Winton both before and after I made the trip, I would have had little idea of interest connected with the limestone, sandstone, shale, schist, and other formations through which we passed on the trail down and up again. As it is I had a first hand view of some of the oldest rocks found on the earth---and I'd like to go again.

That night we listened to the campfire lecture on "Mexico to Canada in Grand Canyon Walls", which pointed out that the climatic zones from the Sonoran to the Canadian were indicated by the plant life in the different altitudes from the river to the rim of the Canyon.

The next day, Sunday, August 26th, we left the Canyon, going generally east along the Canyon on the road to Cameron. This gave us a fine view of the upper parts of the Grand Canyon, Shadow Mountain, the Canyon of the Little Colorado, and a distant view of Navajo Mountain. My attempt at a picture of the Little Colorado River Canyon did not turn out well. Perhaps the Señor's attempts were more successful than mine. Near Cameron we took the road which connects with "66" some distance east of Flagstaff. This took us through the scenic, volcanic country north of San Francisco Peaks, and through all this absorbing scenery Dr. Winton was ready with explanations of faults, folds, and formations. From "66" we went north through Leupp to Oraibi, and then on to Shongopovi, perched on the brink of a mesa, where we saw the famous Hopi Snake Dance. This particular dance was in supplication to their rain gods to bring much-needed rain to their white brothers. About five o'clock in the afternoon the dance started with the entrance into the plaza of the Antelope priests. They circled the plaza four times, and each time each dancer stamped on the "door" to the home of the gods within the earth just to let them know things were going to happen, chanting their prayers the while. Then came the Snake Clan priests who went through a similar ceremony. This was followed by an impressive chant which would die away to a murmur and then swell out into a loud chant, and one could almost feel himself thrust back into the dim past when this ceremony was performed by the ancestors of these Indians. The snakes were then taken, one by one, by the Snake Priests from a little enclosure in the plaza and carried around the plaza, first in the mouth of the dancer and then in the hands of the gatherer, the details of which you are familiar with. While this was taking place, the Antelope priests were lined up and chanting. Some of these priests were just little chaps. The older and larger men came first in line and then down to the smallest boy, and it was mighty interesting and gave one a crawly feeling to see one of the little fellows struggling to hold a large rattler. When all the snakes had been carried, they were put within a circle of sacred corn meal and then carried away to the four directions by the gatherers.

The dance was well policed by the Indian Service. Everybody had to register and was cautioned to remain quiet and in their place during the dance. All were requested not to leave before the dance was completed and especially not to follow the runners who carried the snakes away.

Despite this caution, a large, rotund man as soon as the runners had started and the Antelope priests had not yet finished their part, got into the plaza in front of us and announced to the world, "Well, we might as well get goin'," and a boy, evidently a chip off the old block, became animated and cried, "Yeh! Let's follow them guys!"

The dance was completed a little before six, and since there was still lots of daylight and Dr. Winton had an exceptionally strong yearning for a warm shower bath in Holbrook, we went on until that desire was appeased after a late supper. And what a lucky break that was! It rained that night and all the next day. We were due back at El Morro that night and we made it, but such roads! We arrived in Gallup just before noon and hurried out again towards El Morro on the most doubtful roads imaginable, but we reached the Rock, due to Dr. Winton's excellent driving and Mrs. Winton's equally good "gyroscoping" action to keep the car in the road, in time to find Custodian "E.Z." just about to start home for supper. When he heard that about 1 mile of the road we had just come over was covered by water, most of it running, he camped with me all night. Who says the Hopi Snake Dance isn't effective? Mrs. Winton vowed she had been converted and henceforth is a Hopi.

And thus ended about the most interesting and informing week in my young life, and I can only hope that there will be more such times in store for me,

Sincerely,

Alfred Peterson, Ranger

Pete follows this letter with one dated October 28, in which he tells of another trip:

Dear Boss:

....Many of my visitors at El Morro either come from the east and have been to Bandelier National Monument, Santa Fe, Acoma, etc., or they are going that way, and they always expect the ranger to give them first hand information about the points in question. My little journey helped qualify me for doing this very thing. I left the Rock (during the first week of September) on the road through the Zuni Mountains, past the Ice Caves, to Grants on Highway 66. About 15 miles east of Grants I left the highway at an Acoma village, McCartys by name, where they have the mission of Santa Maria, a replica of the old church at Acoma. This is a shortcut to Acoma from the west and a hell more picturesque than the direct road from "66" which I followed on my way out from Acoma.

Having recently finished Willa Cather's "Death Comes for the Archbishop" I was pretty well equipped to appreciate the scenic qualities of the mesa country in that particular vicinity, as well as some pertinent points about Acoma itself. The road is not one to follow in wet weather, but it shows a greater variety of geologic formations and more grades and breath-taking views than the direct road, and when one comes in sight of the group of mesas on one of which Acoma is situated, despite their size they appear to be small but very picturesquely situated in a great flat surrounded

by larger means. This is because of the road coming out on a very high point. (Wednesday). There were few Indians around, and after I had climbed the much worn rock steps and walked through somebody's back yard (if Indian pueblos have back yards) one old Indian looked at me startled and hurried away. Soon two women came and rounded me up, took a dollar away from me, pointed out "That's the Enchanted Mesa" and "That's the kivas", and started me toward the way down again. Being Scotch by nature I demanded more for my dollar, but had to ask about any and all things I wanted information about. Even then the usual answer was apt to be "I don't know" to anything else. I believe they "pumped" me a little at that, but there were rain clouds coming up,---and that means get to the main highway." (Thursday) Slept in Santa Fe that night, and the next day I saw the Museum, etc., and the Laboratory of Anthropology. Saw Mr. Nusbaum and Dr. Mera. The latter was very good about showing me through this most interesting place very thoroughly, including the sanctum sanctorum. We also had quite a long talk about the sherd collections which had been received from El Morro.

(Friday) Went to Bandelier National Monument that night and surprised Custodian Earl Jackson. I rolled my bed on the floor of Earl's room and we tried to complete some of the conversations we had started when rooming together at the University of Arizona. The next day Earl showed me, along with Burton Frasher and Burton, Junior, of Frasher's, Inc., Pomona, California, photographers, and others the mysteries of the Rito de los Frijoles ruins, Ceremonial Cave, etc. During this trip we were all movie actors for the Frashers.

There were other stops I made but these are the highlights. While going through the Palace of the Governors at Santa Fe I caught sight of the Park Service uniforms, and, on closer inspection, found Walt Attwell in one of them. He then introduced me to Engineer Kittredge. Later I met them at the Laboratory of Anthropology when Mr. Kittredge discussed El Morro problems---such as the location of buildings, etc.

I made a couple of trips to the State House for Custodian Vogt, and one thing after another happened until I was in a hurry to get back, reaching El Morro in a downpour of rain.

While the Wintons were camped at the Rock we all went to a Navajo sing. Custodian Vogt had rounded up a family from New York, Mr. Houser and family, four in all, and they too joined our cavalcade (of cars-not horses) to the sing. There was considerable evidence that our tenderfoot were really thrilled and may possibly have worried about their scalps. Dr. Winton helped matters mightily, when the singing started in the dark outside one of the hogans, by coming in whispering, "That means big medicine. That's the scalp song." And then when they got stuck in the sand on the way out, they seemed to have visions of sitting up all night fighting off Indians. But you would have laughed to have seen Custodian Vogt curl up on a blanket and use a saddle for a pillow. A Navajo had just left it, and when the poor Indian came back in a few minutes he had to wait until EV had his nap before he could use his own blanket and saddle.

Sincerely,

Alfred Peterson



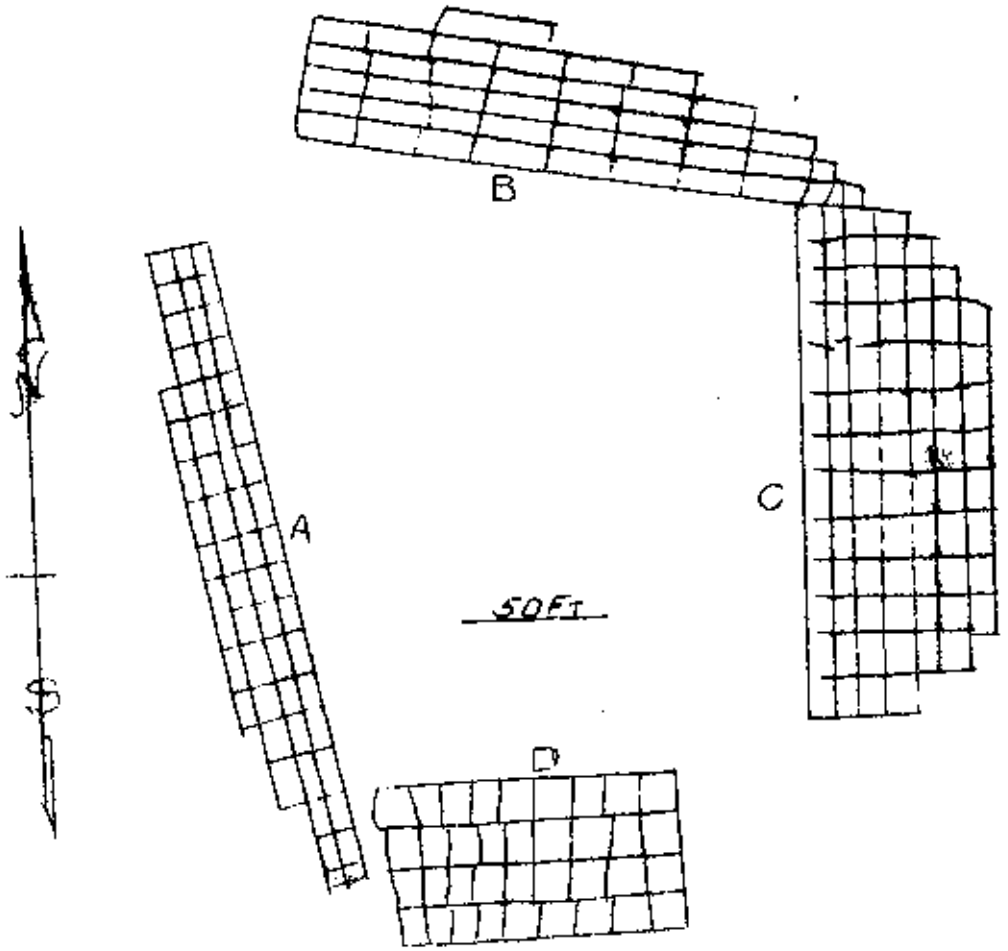
THE RUINS OF TSANKAWI

By Earl Jackson

Tsankawi is a large ruin on the detached portion of Bandelier National Monument, lying near the southeast corner. It is situated on a small, high mesa, nearly a mile in length, from which point is visible a vast expanse of country, from the Jemez Mountains on the west to the hilly Santa Fe Mountains on the east.

The name is Tewa, from Saekowikwaje onwikoji, meaning "Pueblo ruin above the gap of the sharp round cactus." Possibly the prickly pear or hedgehog cactus have something to do with this name. The designation does not suggest the purpose of the ruin, which was that of a fortress, and well nigh impregnable. The means of access to the top was a trail which winds up over the south end of the mesa, cutting from the valley land upward through two shelves of volcanic tuff. In places this trail is worn to a depth of fifteen inches, solely as the result of the action of thousands of bare and sandal-shod feet and the inter action of wind and rain. At one point this trail became so deep the cliff-dwellers were no longer able to use it, so they started a new one a few feet away, running parallel, and this section is worn to a depth of six inches. Think of the length of time it took to make such a trail!

Tsankawi ruin is really a composite, as the plan shows (see sketch), made of four independent building units, in the shape of a square which has gone awry. In and about the structures are ten kivas, a surprisingly large number for the estimated population of the place, which is presumed not to have comprised of over 300 or 400 souls. This population does not include that which must have occupied the very numerous artificial cave homes which were built on the east side of the mesa in two separate cliff elevations. The cave population was at least 200, if all were occupied at one time.



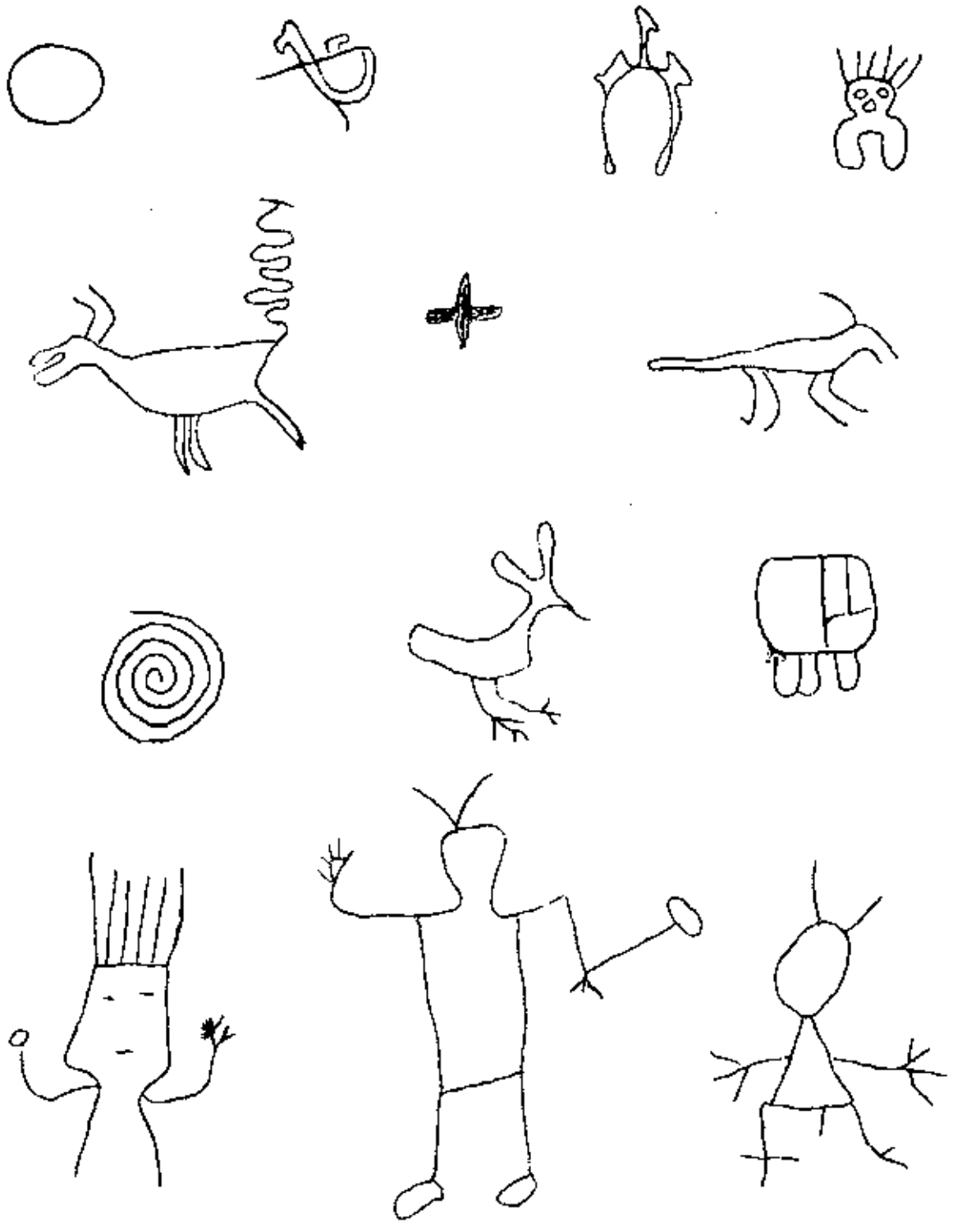
Ground Plan of Tsankawi. (After Hewett)

There is some doubt of this, as some of the caves have all the ear marks of considerable antiquity, while others could have been constructed, as far as weathering indicates, at a much later time.

The San Ildefonso Indians, who live only eight miles to the northeast, claim Tshnkawi as one of their ancestral homes, and they go so far as to indicate other smaller ruins which would represent a continuous link of migration from that point to their present village. Whether or not this claim to kinship is true remains yet to be learned, but it is very likely that at least one clan group of the San Ildefonsos had some connection with Tsankawi.

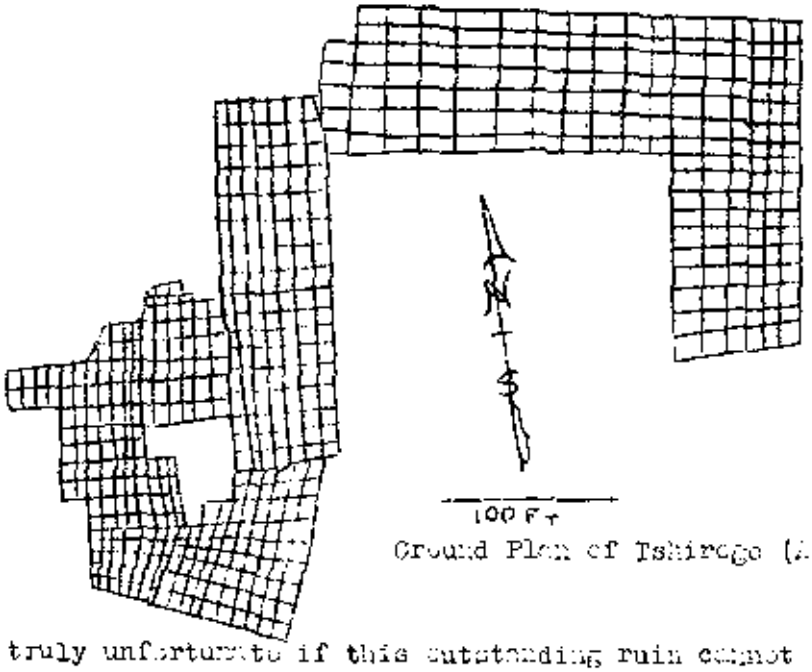
On another page are some of the most interesting petroglyphs seen on a brief prowl through some of the caves under the edge of Tsankawi Mesa. To some of these crude carvings it would be hard to ascribe a meaning. The presence of the cross as often seen in this section, is not always significant. We find many indications of sheep camps which were made against the protecting cliffs near ruins, and see where the early Mexican sheepherders used rocks from the ruins to make temporary corrals. I am told the Mexicans will still carve a cross wherever they happen to camp, believing this holy symbol will ward off lighting.

Petroglyphs From Tsankawi Ruins



THE RUINS OF TSHIREGE

By Earl Jackson



Ground Plan of Tshirege (After Hewett)

It will be truly unfortunate if this outstanding ruin cannot some day be made a portion of Bandelier National Monument. It is undoubtedly one of the largest groups of prehistoric house ruins on the North American continent, but lies a mile and a half southwest of the southwest corner of the detached portion of Bandelier National Monument, one half mile off the main road.

Originally this structure, containing upward of 600 rooms on the ground floor (see sketch) reached a height of three to four stories in places, but all upper story construction has now fallen, and only ground floor walls yet stand, in some spots to a height of six to ten feet. The same style of building was employed here as at Frijoles Canyon. Tshirege was occupied, according to tree-ring information, until 1600 or later, but not into time of historic contanct. Below the rim of the mesa, on the south and east sides, extending for three quarters of a mile, are the ruins of the cavate ledges and talus houses which make up a very considerable chain of cliff-dwellings. These cliff houses were occupied at the same time as the mesa structure. Petroglyphs, through and near these ruins, occur in great numbers on smooth cliff faces. (See page of Petroglyphs from Tshirege.)

Some pot-hunting has been done at Tshirege, but not enough to plumb the possibilities. Dr. Hewett reports that one graveyard has been located in the southwest corner of the large open court. A number of burials have been found in the cave rooms which had evidently been abandoned at the time of occupation for service as burial rooms. There are ten kivas in and near Tshirege. All are of the sunken, circular type, several having been hollowed out in solid tufa rock on the mesa top.

MUSEUM OF
NORTHERN ARIZONA
FLAGSTAFF, ARIZONA

SOUTHWESTERN MONUMENTS

MONTHLY REPORT

NOVEMBER, 1934

LAST YEAR we had 195,392 visitors of whom we reached 109,091 with our educational and information service. This left 86,301 to whom we could not give service and from whom we could not protect certain monuments because of LACK OF PERSONNEL.

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

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

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

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

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

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

R E P O R T F O R N O V E M B E R

I N D E X

SOUTHWESTERN MONUMENTS GENERAL

Travel and Weather----------219
Construction----------220
ECW Activities
  Chiricahua----------220
  Bandelier----------220
General Equipment----------221
Personnel----------221
Headquarters Personnel Field Trips---222
Museums and Education----------222

REPORTS FROM THOSE NOT IN THE FIELD

Gran Quivira----------223
Pipe Spring----------223
Gupatki Ruins----------224
White Sands----------226
Chaco Canyon----------227
Walnut Canyon----------228
Tumacacori Mission----------228
Tonto Cliff Dwellings----------228
Aztec Ruins----------229
Canyon de Chelly----------230
Montezuma Castle----------231
Capulin Mountain----------232
El Morro----------232
Bandelier----------234
Casa Grande Ruins----------238
Reports of the Engineers
  Attwell----------239
  Gordon----------239
  Hamilton----------240
FERA Work at El Morro----------241

T H E S U P P L E M E N T

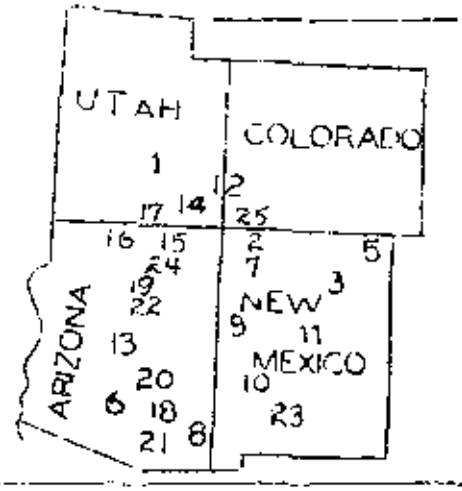
A Southwestern Marriage, by the Boss----------246
Conference Notes, by the Boss----------247
Proposed Museum at White Sands National Monument, by Acting Assistant Superintendent Robert Rose----------248
Reprint of Preliminary Paleontological Report on Petrified Forest, by Junior Naturalist M.V. Walker----------256
Suggested Plan to Use Aztec Great Kiva as Museum, By Custodian Johnwill Faris----------261
Preliminary Architect's Drawings and Further Discussion of Proposed Museum at Bandelier National Monument----------263
November Trip Chart for Casa Grande Ruins----------269

Closing----------270

LOCATION AND PERSONNEL OF SOUTHWESTERN MONUMENTS

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

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



UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
SOUTHWESTERN MONUMENTS

Coolidge Arizona, December 1, 1934

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

Dear Mr. Director:

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

SOUTHWESTERN MONUMENTS GENERAL

TRAVEL AND WEATHER

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

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

S'WESTERN GENL. CONTD:

CONSTRUCTION

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

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

ECW ACTIVITIES

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

Chiricahua

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

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

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

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

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

SOUTHWESTERN GENERAL CONTD:

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

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

Chief Clerk Hugh Miller who is Procurment Officer for the NM-8A Camp, and EC7 Clerk Bob Cole, were at Chiricahua on the 21st and 22nd going over equipment matters and other details connected with the administration of the camp.

Bandelier:

Bandelier EC7 work has continued through the month with practically no loss of time because of bad weather. Work completed or in progress there during the month consisted of the following:

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

GENERAL EQUIPMENT

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

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

Bandelier
1-one man power grader
1-convertible dump truck
1-standard pickup car
1-"35" Caterpillar tractor
1-rotary fresno
1-scarifier

S'WSTRN GENL CONTD:

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

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

PERSONNEL

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

HEADQUARTERS PERSONNEL FIELD TRIPS

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

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

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

MUSEUM AND EDUCATION

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

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

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

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

Cordially,

WHR/. 12/1/34. 222 FRANK PINKLEY, Sup't.

NOTES FROM THE FIELD

CHASM QUIVER NATIONAL MONUMENT — By J.R. Smith, Custodian.

Report time approaches again and I will try to record some of the happenings of the monument for the last month. I have registered 209 visitors entering the monument in 78 vehicles. These visitors came from seven states, namely, South Dakota, California, Colorado, Texas, Arizona, Oregon and Washington. This shows a increase in travel by this monument for the same month of last year, but a slight increase over the previous month.

I have been given two articles for the museum collection this month. They are a bottle and, found about three miles north out of the monument, and an ancient arrow, found fourteen miles north of the monument.

There has been some talk of a road to be built just here which will connect Carlsbad Caverns and the Grand Canyon of Arizona. Should this be built I believe that it will increase the number of tourists by at least 50%. The poor location of our post office has been the principal cause of our not getting more tourists. A road on a direct course from the Caverns by the monument will pick up the larger part of those tourists that now go by El Paso and over the Rio Grande route. There is far more travel on the southern route than there is on the high way north of here.

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

The weather conditions for the last month, namely September, have been fine. There was a rain the night of November 12th, and another the 17th. The road at present looks as if there will be one before long. It has been about half of today, but the ground is wet, and the rain failed to fall.

*****

MY TRIP FROM LOVELOCK — By Lorraine Walker, Acting Custodian

Now time has flown by, so it is time to record something before winter sets in! I have been getting the place cleaned up and in good order for the winter; a lot is yet to be done before the rain flys and covers up the roads. Our travel this month is still on the decline, as it was last month, as this count shows but still isn't

NEWS FROM THE MEN IN THE FIELD
SIPE SPRINGS NATIONAL MONUMENT (CCCT)

Visitors, other than local		Local travel only	
Arizona	11	Car, truck and horseback	389
Utah	5	Visitors, others than local	32
Illinois	1	Total for November	341
California	8	Total for last month	400
Texas	2	Decrease	59
Minnesota	2	Of this total there were	
Nevada	2	6 carriers.	
Total	33		

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

Weather Report:

Up until the 15th we had very nice fall weather with plants still growing as if it were Spring. Many weeds and flowers were coming up. On the 16th a north wind and a few clouds came up, in the morning of the 17th it began to rain a little, until 9:00 A.M. another rain started about 1:00 in the morning of the 18th and kept it up until 11:00. Then we had another rain starting at 9:30 A.M. and lasting until sunrise of the 19th; a very good storm which will help the live stock out a great deal, putting up the dry grass and weeds so that stock can get more strength and good from what they eat.

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

Mr. A. T. Cordell will be out next week to do the surveying and staking out of the roads in marking the grade on the road in Walnut Canyon.

Wupatki National Monument

Jesse L. Nusbaum, Jr., Ranger.

Well, like our first one, the engineers have come and gone. They have staked out enough trails to keep us in fire wood all winter, I trust, and I can get the trails built and no longer need the stakes. The harder I work on the trails the less I need to do on the wood-pile -- so by, then is due yours, and everybody is happy.

From the 26th of October until the 13th of this month I trailed along with the engineering crew shooting the proposed new road from Highway 89 to Wupatki Pueblo. It looks like a good straight shot from 89 to the Citadel, and then another right over the saddle between Mr. Doney's critters. At this point one gets a grand view of the Painted Desert and Little Colorado valley, and a close scrutiny Wupatki Pueblo discernable.

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

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

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

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

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

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

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

On the evening of November 11th we heard a car pass down below and thought it was some of the Engineering Crew. This, however, proved untrue because about an hour later Gordon came up and said some guests (unintentional) were parking below. Captain and Mrs. Hudgins had been motoring home from the Grand Canyon when the altitude affected the Captain's heart. In an effort to reduce the altitude and rectify the ailment they turned into our road off 89. Fourteen miles later they found themselves at Upatki -- too dark to see the pueblo and any signs of life--out of gas and with no food or bedding. At this point (God bless him) Gene came along -- coffee and were in order at the Brewer home; then the Hudgins were put up for the night by the Gordons.

I guess that covers most everything except the dozen Navajos who have been dropping in to hoop us out up our $5.00 per salary -- and I'm afraid I'll have to admit our travel figures for the month - 79. It has been pleasant at Upatki, but the snow on 89 evidently scared people away.

REPORTS FROM THE MEN IN THE FIELD

WHITE SANDS NATIONAL MONUMENT — By Tom Charles, Custodian

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

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

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

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

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

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

We have had some unusual requests for White Sands in the past month. Maude Allen Lynch, Lady about Town for KSCJ Radio Station, Sioux City, writes that she wants a letter and White Sand for her fishin, tell it the studio. She reaches half a million listeners in providing a favorable broadcast. She still has a little bottle of the red water from the Caves, so we sent it to her with samples of the Sands. We hope that she will not uncork that bottle and release the Hydrogen Sulphide which seems to be a necessary adjunct.

The Mission Village in Los Angeles writes for 100 lbs of White Sand to use in their "Silver" Ceremonials of their annual pilgrimages. At the urge of the City Park Commission in Chicago, Senator Carl Hatch, Manager of the New Mexico exhibit at the Century of Progress, gave his surplus White Sand to the Children's sand boxes in the city parks. The District Manager of the Ford Agency in Denver has written their local agent at Alamogordo to bring a load of White Sand to Denver on his next trip. They want it for exhibition purposes.

There is still no shortage of sand, however. The geologists report that there is a billion pounds of sand on every section and there are 175,000 acres. One third of the acreage is in the National Monument. The Alamogordo Chamber of Commerce sent 60,000 lbs of Sand to Chicago and 2 days later it was impossible to detect the place where it was taken out.

---**--

CHACO CANYON NATIONAL MONUMENT J. C. HILLER, CUSTODIAN

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

The approach roads have been extremely bad this month for brief periods. We have had enough precipitation to make the muddy [illegible] road to the north, but not enough to make the road impassable.

The weather has been unusually fine, with warm days and cold nights. Temperatures have been recorded since November 15th. A tabulation of the weather follows: The highest for the month was 65 on the 1st and the minimum was 10 above on the 30th. Precipitation was .67 inch, with 16 clear days, 9 cloudy days and 6 partly cloudy days.

Travel for the month included a total of 183 visitors who came in 172 cars from 10 states and Washington, D. C. Special visitors included Mr. and Mrs. Jack Dick, Honolulu, T.H., who has been employed as Ranger at the Petrified Forest for the past two years. Mr. and Mrs. Chuck Richey and Mr. A. G. Carnes of the Santa Fe Railway and Designs were here on official business Nov. 2. Mr. Paul Vikoren of motion picture photographer for the Interior office arrived on the 3rd, shot 40 scenes of the ruins in the Canyon. Departed for Canyon de Chelly on the evening of the 4th. Ranger Richey of Lassen Volcanic National Park arrived on the 3rd and departed on the 4th. Mrs. Caroline S. Stanley and party from the Coast Ranch at Abiquiu, N.M. arrived on the 9th and departed on the 8th. Mrs. White Mountain Smith and assistant Mr. Hoover Mrs. C. H. Bull all of the Petrified Forest arrived on the 10th and departed on twelfth. Mr. and Mrs. [illegible] Berull, Grand Canyon National Park were here on the 26th. Mr. Berull is on a detail to C.C.C. administrative work.

During the month the Indians were given 10 head of cattle and as many sheep by the Navajo Relief Herd. The cattle and mutton were butchered

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

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

WALNUT CANYON NATIONAL MONUMENT Paul Beaubien, Ranger-in-charge

Some winter has arrived. A few snow flurries and cold weather all but put a stop to sightseeing here for awhile. The last few days have been bright and warm with a corresponding increase of visitors. That is, if one can speak of increases with only 273 registrations in a month.

WITH FEWER VISITORS, I SUPPOSE THAT THE HARVEST TIME FOR DOE-HUNTERS WILL SOON BE HERE. SEVERAL OF THE FINEST DWELLINGS WERE VANDALIZED IN DECEMBER OF LAST YEAR WHEN THE MONUMENT WAS UNPROTECTED.

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

TUMACACORI NATIONAL MONUMENT George L. Boundey, Custodian

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

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

The Wife canned 50 quarts of the peaches Father Kino introduced into this country and the pomegranates were unusually large and luxurious this fall.

TONTO NATIONAL MONUMENT Charlie R. Steen, Ranger in Charge.

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

No doubt every report letter you will receive this month will have a paragraph elevated to "raise" of the rain last week. Just to be different I am going to cry the blues. The water used by Bill to wash his truck and in one

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

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

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

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

AZTEC RUINS NATIONAL MONUMENT — John Hill Paris, Custodian.

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

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

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

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

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

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

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

Every good wish to your entire force and a hearty, merry Christmas and a sincere wish that 1935 shall serve as a season wherein we can enlarge on our efforts toward a grander service than ever we now have.

CANYON DE CHELLY NATIONAL MONUMENT — Robert R. Rudlong, Custodian.

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

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

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

and equipment were removed from the job and sent to Fort Defiance. The trail is 4,085 feet in length, the descent being approximately 540 feet.

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

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

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

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

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

MONTEZUMA CASTLE NATIONAL MONUMENT — Martin L. Jackson, Custodian.

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

Visitors numbered 1,299, which is quite a substantial increase over the same month last year when we had 896. Even so, I feel that we are not getting as many out-of-state visitors as we should, which no doubt is due in part at least to the fact that there is a very bad stretch of highway between Gallup and Albuquerque and for that reason visitors are being routed the southern route. Several people along Highway 66 have told me of this condition.

There are four C.C.C. camps within a radius of 18 miles of the Castle, which no doubt has played quite a part in the number of visitors holding up as well as it has. Speaking of the C.C.C. boys, I want to take this opportunity to say that they, as well as the personnel, have co-operated with us one hundred percent while on the grounds, and while being shown through the Castle and Museum. Those boys usually visit the Monument on Sundays and come in parties of 50 to 75. As you know, we do not consider it safe to take parties of more than 15 through the building at one time and as it takes 25 to 30 minutes to show a party through, it simply means that some are required to wait their turn. On one or two occasions people have had to wait for an hour or so, which was done very cheerfully. There must be something to this C.C.C. business.

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

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

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

CAPULIN MOUNTAIN NATIONAL MONUMENT — Homer J Farr, Custodian.

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

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

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

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

EL MORRO NATIONAL MONUMENT — E. Z. Vogt, Custodian.

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

Weather and Travel Conditions:

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

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

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

Visitors:

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

Among the most interesting visitors was the group of descendants of Isaac T. Holland, who camped at El Morro July 8, 1858, with the first emigrant train over the Beale Route. In the party which visited us on ONovember 1st there were Laura Belle Bentz, daughter of "Isaac Holland, from Missouri, 1858," J. L. Buckman of Bardanelle, California, who said he was the son of the E. T. Buckman, first Indian Agent at Zuni (though I thought T. D. Graham was the first agent at Zuni). E. T. Buckman married Adeline Daly at Zuni. Nancy Daly, Mrs. Bentz's aunt, married Lieutenant Simpson in Albuquerque, New Mexico, January 1, 1850. Lieutenant Simpson is the author of course of the War Department Report which covered the discovery of the old Spanish inscriptions on September 17 and 18, 1849. We got a thrill out of the visit of these people who journey back to camp where their ancestors camped and carved some 75 years ago. I intend to follow up this contact in search of more interesting history.

New El Morro Folder:

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

Indian Dances:

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

the fire ceremony but it was entirely worth while and I wouldn't have missed it for anything in the world. The Shalako Dance of the Zuni Indians will take place on December 1f and promises to be a largely attended affair and one of the most gorgeous owing to the prosperity of the Zunis.

Nature Notes:

Coyotes are singing their winter snow songs, but trappers are after them. I saw a native trapper with 9 coyote skins on a burro going to a trading store to sell hides. One night I almost run over two jack rabbits kissing in the road. If they were not kissing, they were at least rubbing noses. Deer hunters have not done so well as usual.

BANDELIER NATIONAL MONUMENT — Earl Jackson, Custodian.

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

Visitors:

Travel is gradually but surely going into its winter decline, but compared with previous years is still very encouraging; visitors numbered 632, as compared with 155 for November of 1933, being slightly better than quadrupled. Thirty-six states, Washington, D. C., and three foreign countries - England, Sweden, and British Guiana - were represented. This high winter-time number of states was due partly to the fact that a National Highway Engineers' convention was held in Santa Fe this month. These 632 people came in 178 cars. The six highest states, in order, were: New Mexico, 420; Colorado, 37; Kansas, 25; California, 25; Illinois, 16; Missouri, 15.

Weather Conditions and Roads:

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

Special Visitors:

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

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

Improvements:

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

Fires:

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

Nature Notes:

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

1. Kingfisher, one, Frijoles Canyon, Nov. 7, 9, 12.

2. Goshawk, one, Frijoles, Nov. 6; one, north rim of Frijoles, Nov. 13.

3. Blue Heron, tracks at mouth of Frijoles, Nov. 7.

4. Sharp-shinned hawk, one, Frijoles Canyon, Nov. 6

5. Red-tailed Hawk, one, South Mesa, Nov. 8.

6. Merriam Turkey, tracks at various places on South Mesa, and along Frijoles Creek, Nov. 6-13. Between 15-25 were seen by Custodian Earl Jackson on Frijoles Creek, one-half mile below the upper boundary, Nov. 11.

7. Red-shafted Flicker, one, mouth of Frijoles, Nov. 7; one, South Mesa, Nov. 8.

8. Rocky Mountain Sapsucker, one, Alamo Canyon, Nov. 8.

9. Rocky Mountain Hairy Woodpecker, one, South Mesa, Nov. 8; one Frijoles Canyon, Nov. 13.

10. Long-crested Jay, several, various places on Monument, Nov. 6-14.

11. Woodhouse Jay, several, lower portion on Monument, Nov. 6-14.

12. Raven, one, Frijoles Canyon, Nov. 8, 10, 13.

13. Clark Nutcracker, one, South Mesa, Nov. 8.

14. Chickadee, common in canyons, Nov. 6-14.

15. Bushtit, flock of 20, mouth of Frijoles, Nov. 7.

16. Nuthatch, Rocky Mountain, one, South Mesa, Nov. 8.

17. Nuthatch, Redbreasted, one, Frijoles Canyon, Nov. 13.

18. Nuthatch, Pigmy, common over Monument, Nov. 6-14.

19. Rocky Mountain Creeper, several, Nov. 6-13.

20. Dipper, several, Frijoles Creek, Nov. 6-14.

21. Canyon Wren, several, various canyons, Nov. 6-13.

22. Western Robin, several, Frijoles Canyon, Nov. 7; South Mesa, Nov. 8.

23. Townsend Solitaire, several, Nov. 6-14.

24. Ruby-crowned Kinglet, several, Nov. 6-14.

25. Grace Warbler, one, mouth of Frijoles, Nov. 7.

26. Brewer Blackbird, one, mouth of Frijoles, Nov. 8.

27. English Sparrow, several, Lodge, Nov. 7-13.

28. Pine Siskin, several, Nov. 8, 9.

29. Crossbill, few, south Mesa, Nov. 9.

30. Canyon Towhee, few, lower portion of Frijoles Canyon, Nov. 7, 9, 13.

31. Shufelt Junco, common, Lodge, Nov. 6-14.

32. Red-backed Junco, common, Lodge, Nov. 6-14.

33. Gambel Sparrow, one, South Mesa, Nov. 8.

34. Song Sparrow, one, Lodge, Nov. 7.

General:

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

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

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

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

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

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

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

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

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

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

--0--

CASA GRANDE NATIONAL MONUMENT — Hilding F. Palmer, Custodian

The month of November brought a slight increase of visitors over the same month last year. The registration this month was 2389 compared to 2085 for the same period last year. These visitors came in 717 cars from 43 states and the District of Columbia, Mexico, Canada, Germany and England were also represented. These visitors were contacted by 303 personally conductied ruins trips and 277 museum trips. Besides the visitors who were personally contacted and given educational service there were 301 visitors who used the facilities offered at this monument.

The weather during November took a decided turn toward winter. The morning of the 16th was cloudy and cold and at 12:15 P.M. it began to rain and hail. It settled to a fine rain which lasted until 8:00 P.M. The total fall amounted to .78 of an inch for that day. Again on the 17th it rained intermittently giving a fall of .06 of an inch for that day. The 18th was cloudy with no rain, but on the 19th there was a fall of .17 of an inch making 1.01 inches for the month. The first killing frost came on the 20th which was the beginning of a decided cold spell. The mercury dropped from 41° on the night of the 19th to 30° on the night of the 20th. The mean maximum for the month was 73.3 and the mean minimum 37.8. The maximum temperature for the month was 92° on the 12th and the minimum was 22° on the night of the 27th. There were 16 clear days, 2 partly cloudy and 12 cloudy days.

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

and midst all kinds of cacti--staghorn, cholla, bisnaga and prickly pear.

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

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

REPORTS OF THE ENGINEERS

WALTER ATTWELL

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

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

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

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

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

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

*** ********

C.H.Gordon

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

2 I left Coolidge at 4:00 PM and arrived at Phoenix at 5:30, where I stayed overnight, it being necessary for me to contact the State Highway Department there regarding their new location of Highway 89.

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

n on ruin stabilization.

12 Left Wupatki National Monument at 9:45 AM and traveled to Walnut Canyon, arriving there at 1:30 PM, when I took a group of pictures of the present trail around the Island.

13 Left Flagstaff at 9:30 AM and arrived in Coolidge at 5:30 PM.

19 I left Coolidge at 11:30 AM and traveled to Chiricahua National Monument via Douglas, Arizona. Arrived at Chiricahua at 9:30 PM.

20 Entire crew was on location of proposed trail to summit of
21 Sugar Loaf Mountain and on other location at proposed site
22 of public camp ground.

24 Finished at Chiricahua National Monument and left for Coolidge at 4:00 PM.

25 Arrived at Coolidge from Chiricahua at 12:45 AM. Until the end of the month, the time was spent in the office of the Southwestern National Monuments.

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

*****

J. P. HAMILTON

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

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

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

CANYON DE CHELLY NATIONAL MONUMENT---The White House trail was completed November 29 except for a little work hauling away tools and excess materials.

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

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

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

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

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

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

EL MORRO NATIONAL MONUMENT.

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

TRAIL BUILDING AND GRAVEL COATING.

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

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

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

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

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

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

CROUP AREAS UNDER THE INSCRIPTIONS.

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

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

PRESERVATION OF THE INSCRIPTIONS.

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

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

RESTORATION OF VEGETATION IN FILLED AREAS.

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

CLEANING OF RESERVOIR.

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

ROCK WATER CONDUIT.

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

ROAD WORK.

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

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

ROAD SIGNS.

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

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

Superintendent.

SOUTHWESTERN MONUMENTS.

SUPPLEMENT TO THE MONTHLY REPORT

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

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

A SOUTHWESTERN MARRIAGE.

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

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

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

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

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

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

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

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

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

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

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

Conference Notes.

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

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

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

And one of the comforting things of the Conference was to find that Connie Wirth was not a portly middle aged man with a Van Dyke beard!

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

PROPOSED MUSEUM AT WHITE SANDS NATIONAL MONUMENT

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

1. Location of the museum in reference to the educational features exhibited in the monument.

2. The nature of the visitor traffic the museum must accommodate.
   a. Whether as a general thing the museum will serve small groups of 2 or 3 up to 15 people at any one time, or larger ones of 40 to 60 or more.

   b. Whether the museum will serve as a place of visitor concentration preparatory to conducted field trips and automobile caravans, or will serve merely as a place of orientation and information where visitors will generally come and go at their own pleasure.

3. The fields of science, history, and nature which will be covered in the subject matter of the exhibits.

4. The approximate extent of floor and wall space which will be required for displays in each major subject.

5. The flexibility of the structure, or the extent to which it must allow of being enlarged through construction of new wings, rooms, etc. The answer to this question must be sought through determining the extent to which a mass of new exhibit materials are likely to be discovered or collected.

6. The extent to which it is desirable that the proposed museum unit function as a self-guiding arrangement.

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

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

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

LOCATION OF THE PROPOSED MUSEUM:

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

1. At the entrance to the monument just off the main traveled Alamogordo-Las Cruces-El Paso Highway.

2. At the end of the Entrance Road, about eight miles into the area of the Sands where the finest of the sands are found.

3. At an intermediate location about half way between the highway entrance and the end of the eight-mile spur road into the Sands.

Location (3), for reasons too long to present fully here, seems to be the least satisfactory and logical proposal of all. Analyzing this proposal, we become aware of the following objections: (a) This location is by no means in the most beautiful part of the White Sands; (b) A stop here would have to be'inflicted' upon people by the construction of artificial facilities which would either invite visitors to stop or require them to do so; certainly there is notsuperior scenic or scientific quality about this particular location in the Sands that attracts people to stop voluntarily at this intermediate location; and (3) the thought that the proposed museum should be at this intermediate location because of convenient Comfort Stations,---or even the idea that the needs of the public require stopping at this special place---is relatively unimportant when one considers that the driving time required to traverse this entire 8-mile entrance road is between 10 and 15 minutes. And, surely, in no instance does it seem that convenient Comfort Station location should determine the location of the center of administration and public contacts for the thousands of visitors for years to come!

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

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

at White Sands. The following advantages present themselves:

1. Finding the museum and administration building very close to the highway would impress tourists from the very beginning with the feeling that surely what is beyond is the 'heart o' the Sands' is most worthwhile.

2. The monument would better impress tourists with the feeling that the area is sufficiently administered and controlled.

3. The museum would serve as a collecting place for people preparatory to starting out for the Heart of the Sands on scheduled caravan parties. The museum would afford an interesting place for people to spend a good half hour to hour waiting for caravan groups to collect whereas if these people were asked to wait beside a "Greeting Station" in a parking area, the delay would be tiresome, lack interest, and they would become restless.

4. Visitors for miles before actually reaching the entrance to White Sands see the glistening white dunes which billow off into the distance. These vast sands, together with the rugged mountains to the west, lend a feeling of mystery and arouse curiousity in the minds of visitors before they reach the real objective of their business. I BELIEVE THIS IS JUST WHAT WE WANT TO HAPPEN WHEREVER POSSIBLE for in these National Park Service units, we want to satisfy that intellectual curiosity by bring people in contact with the real natural wonder or scientific feature itself. Having the museum at the highway entrance will serve to help answer questions already aroused in visitors' minds as they approach from north and south. Seeing the museum here at the entrance should merely help explain part of the mystery to the visitor making him more anxious than ever to proceed to the heart of the area.

   a. An arrangement whereby in approaching a monument, visitors see just enough of the strangeness and mystery of the scenery or scientific features to stimulate their curiosity to the point of making them eager and anxious to see an explanation such as a museum would afford, seems most logical from the educational standpoint. After getting some of the explanations and interpretations in the museum unlocking part of the mysteries, then people would leave the museum for the finest views and features coming in first hand contact with the scientific and natural phenomena.

   b. Location (1) would be similar in arrangement with respect to interesting scenery and scientific features to what we now have at Petrified Forest National Monument. At that monument people see first just enough of the scenery and petrified wood to arouse their curiosity almost to the "breaking point"; they then visit the museum; and, finally, they have access to the finest the area has in order to search out some of the facts and principles for themselves, or with the assistance of a

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

c. Also, unless people are definitely contacted at the entrance to the Sands and made feel the worthwhileness of a trip within the area, they are likely to drive on down the highway and away feeling that they have seen all there is to see.

d. All in all, at White Sands we want the museum to be situated such that it is an introduction---a very necessary adjunct---to the real objective, the Sands IN THEIR NATURAL SETTING.

NATURE OF WHITE SANDS VISITOR TRAFFIC:

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

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

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

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

FIELDS OF SCIENCE, HISTORY, NATURE, ETC.:

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

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

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

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

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

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

FLOOR SPACE AND ROOM SIZES:

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

FLEXIBILITY OF THE STRUCTURE:

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

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

FUNCTIONING OF THE MUSEUM:

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

TENTATIVE CONCLUSIONS ON ROOMS AND DIMENSIONS:

The proposed White Sands National Monument Museum should contain the

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

1. Lobby:

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

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

Suggested dimensions:----30 by 40 feet.

2. Geology Room:

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

PROPOSED DIMENSIONS----20 by 30 feet.

3. Flora and Fauna Room:

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

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

4. History, Archeology, Modern Indians:

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

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

5. Storage and Preparation Room:

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

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

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

MISCELLANEOUS COMMENTS:

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

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

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

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

CLOSING:

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

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

Respectfully submitted,

Robert H. Rose
Acting Assistant Superintendent

----------oOo----------

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

$$$----------

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

INTRODUCTION: WHAT IS A FOSSIL?

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

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

petrified flesh.

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

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

ACTUAL FOSSIL REMAINS-----FROZEN MAMMOTH IN ICE--NO REPLACEMENT
BONES, TEETH, SHELLS--REPLACED BY MINERALS
MOLDS OR CASTS----------SHELL, BONE AND BRAIN CASTS--NO REPLACEMENT

IMPRESSIONS--------------LEAVES AND TRACKS--NO REPLACEMENT

EXCRETA-(COPROLITES)-----MOLDS AND CASTS--A FORM OF REPLACEMENT

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

THE GEOLOGY OF THE PETRIFIED FOREST NATIONAL MONUMENT

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

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

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

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

PALEOZOOLOGY--FOSSIL ANIMALS

INVERTEBRATE PALEOZOOLOGY

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

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

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

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

VERTEBRATE PALEOZOOLOGY

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

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

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

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

AMPHIBIANS (STEGOCEPHALIANS) [1]

Family---Metoposauridae

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

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

Gen. and Sp.---Koskinonodon gilmorei Branson and Mehl

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

Gen. and sp.---Koskinonodon (?) frassi (Lucas) Branson and Mehl 1934. Metoposaurus frassi Lucas, Proc. U.S. Nat. Mus., V.27, p.194, pl.3.

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

REPTILES (PHYTOSAURS) [2]

Family---Phytosauridae

Gen. and Sp.---Machaeroprosopus blumensis Camp

A skull with lower jaws, axial skeleton, girdles and dermal scutes. U. of C. Mus. Pal., No. 30699; found by Miss Louise Kellogg.
Type Locality---Blue Forest, six miles SE of Adamana, in Apache County, Arizona. Lower Blue Forest fossil horizon 809 feet above the base of the Chinle and Shinarump formations of the Triassic.

Gen. and Sp.---Machaeroprosopus lithodendrorum Camp

Type---A skull with lower jaws, cervical vertebrae, ribs, limb bones and dermal scutes; U.C. Mus. Pal., No. 30688; found by Miss Annie M. Alexander. Type locality---Lithodendron (Carrizo) creek, six miles NW of Adamana, in Navajo county, Arizona; lower Carrizo fossil horizon, 548 feet above the base of the Chinle and Shinarump formations of the Triassic.

Gen. and Sp.---Mechoreprosopus tenuis Camp
Type---Skull and lower jaw nearly complete, with fragments of left scapulo-coracoid and two dorsal scutes; No. 27018, U. C. Mus. Pal., loc. 7043, found by E. L. Furlong.
Type locality--Six and three fourths miles due S of Winslow, in Apache County, Arizona, and about one and one half miles east of the NE corner of the Petrified Forest National Monument; lower Billings Gap fossil horizon, 375 feet above the Chinle-Shinarump contact, and 168 feet above the lower Blue Forest horizon, (type locality of M. wheatensis).

PALEOBOTANY--FOSSIL PLANTS

When the people of the territory of Arizona, about 1860, began a movement for the setting aside of certain lands on which there were beautiful petrified logs, little did they realize there was such a variety of fossil plant life as has since been discovered. They were of course primarily interested in the great number of beautiful petrified logs, and when the area was established as a National Monument in 1906 it was named appropriately as the Petrified Forest National Monument. Numerous studies since the establishment of the monument have made possible the identification of several different types of trees, and only recently there has been found a large number of very remarkable fossil leaf impressions.

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

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

FAMILY:-- ARAUCARIOXYLACEAE[3]

Araucarioxylon arizonicum Knowlton, U.S.Nat.Mus., Proc., vol.11,1888, p.1,pl.i,f.1-5; ibid, vol. 13, 1890, p. 283.--Penhallow, Mem. N. Y. Bot. Gard, 1907, p. 107. --Knowlton, Am. Forestry, vol. 19, 1913, p. 210. Locality--Triassic, Chalcedony Park, Arizona.
Araucarioxylon sp. Platen, Sitzungsb. Naturf. Ges., Leipzig, vol. 34, 1907, (1908) p. 108.
Locality--Chalcedony Park, Arizona.
Araucarites chiquitensis Frič, K.B.G.S., 20th Ann. Rept; pt.2, 1900, p.382.
Locality--Triassic; Little Colorado River, Arizona.
Araucarorthia arizonica Jeffrey, Boston Soc. Nat. Hist., Proc., vol. 34, 1909, p. 387, pl. xxxi;.--Knowlton, Am. Forestry, vol. 19, 1913, p. 214.
Locality--Triassic; Fossil Forest near Adamana, Arizona.

References as listed in report.

1. Triassic Amphibians From The Rocky Mountain Region, by Branson and Mehl. U. University of Missouri Studies, Vol. IV, No. 2, April, 1929.

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

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

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

---oOo---

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

"In answering your letter of November 6th in which you ask for my comments on the Great Kiva as a museum, I would like to submit the following.

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

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

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

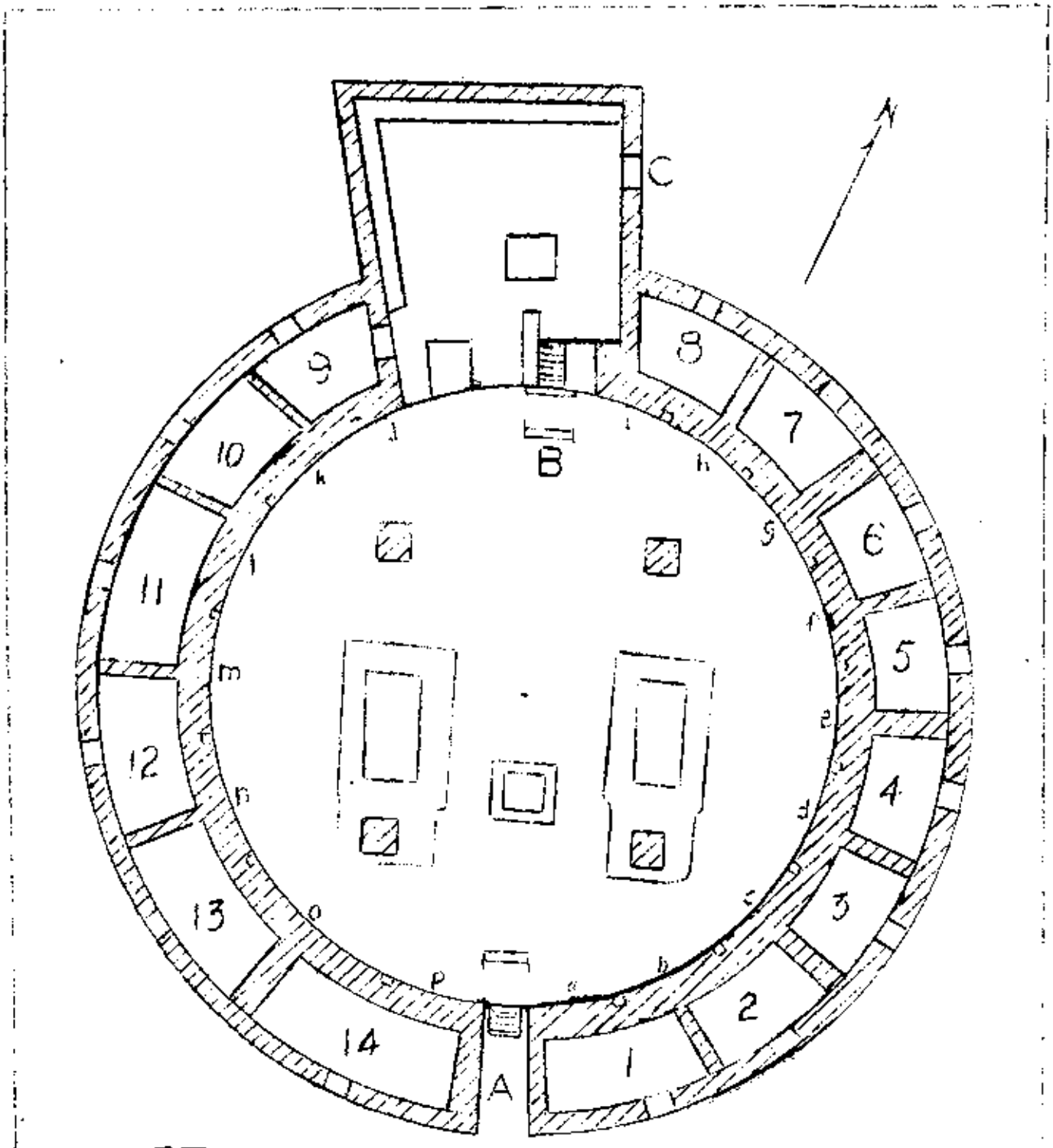
so firmly impresses it upon the individual that most any use would not detract from the first explanation of its being a religious or ceremonial chamber and fully 90% of our visitors have been very puzzled in the expressed opinion that they prefer our artifacts in a more natural setting than that of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

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

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

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

"I might add in the tour as I propose it, that cases "a," "b," "c," "d," etc., would not be lighted until such time as attention is directed to that particular display. I can see in this arrangement the possibility of one guid handling very effectively a group of as many as perhaps thirty people and each getting a very clear view of the articles being described. This feature alone seems of paramount importance with the inevitable problem of vast numbers to be handled with minimum personnel. We could also, if worst comes to worst, light up our entire display and allow individuals, by the proper labeling (no easy or two labels) to get a complete story of all cultures and at the same time be forcefully impressed with the realization that we have two separate groups of people and that a very definite break occurs between these two periods.



AZTEC GREAT KIVA MUSEUM PLAN

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

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

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

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

difficulty.

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

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

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

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

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

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

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

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

Yours very truly,
JOHN WILL FARIS, Custodian.

---oOo---

BANDELIER MUSEUM PLAN

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

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

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

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

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

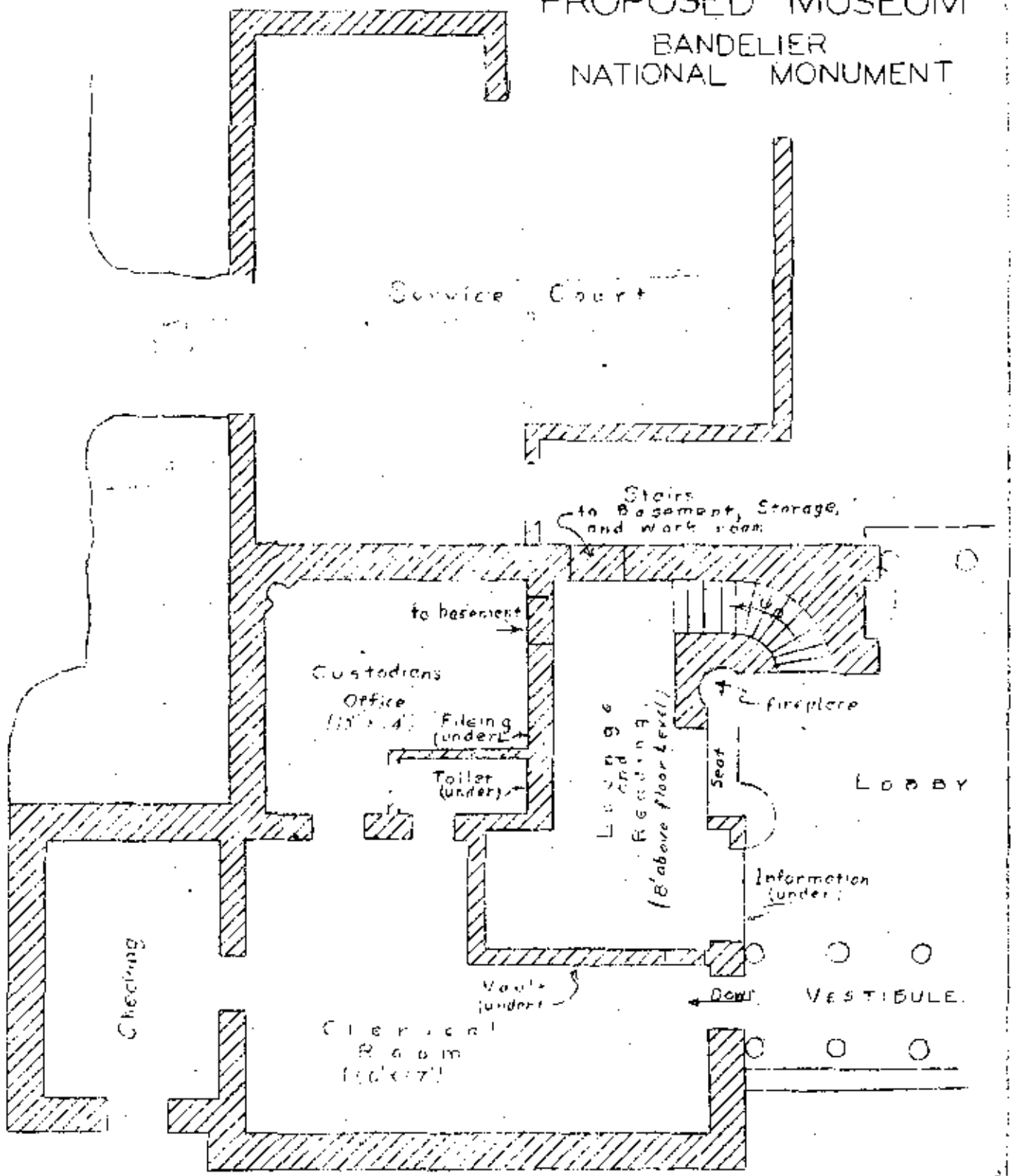
No work room, storage nor basement plan have been drawn but this will follow with the preliminary plan. The floor levels vary to fit the natural slope and these little variations, which add greatly to the plan value, always complete an exhibit unit.

Custodian Jackson, who admits he was not altogether idle when this plan was on the pan, has this to say in it's favor:

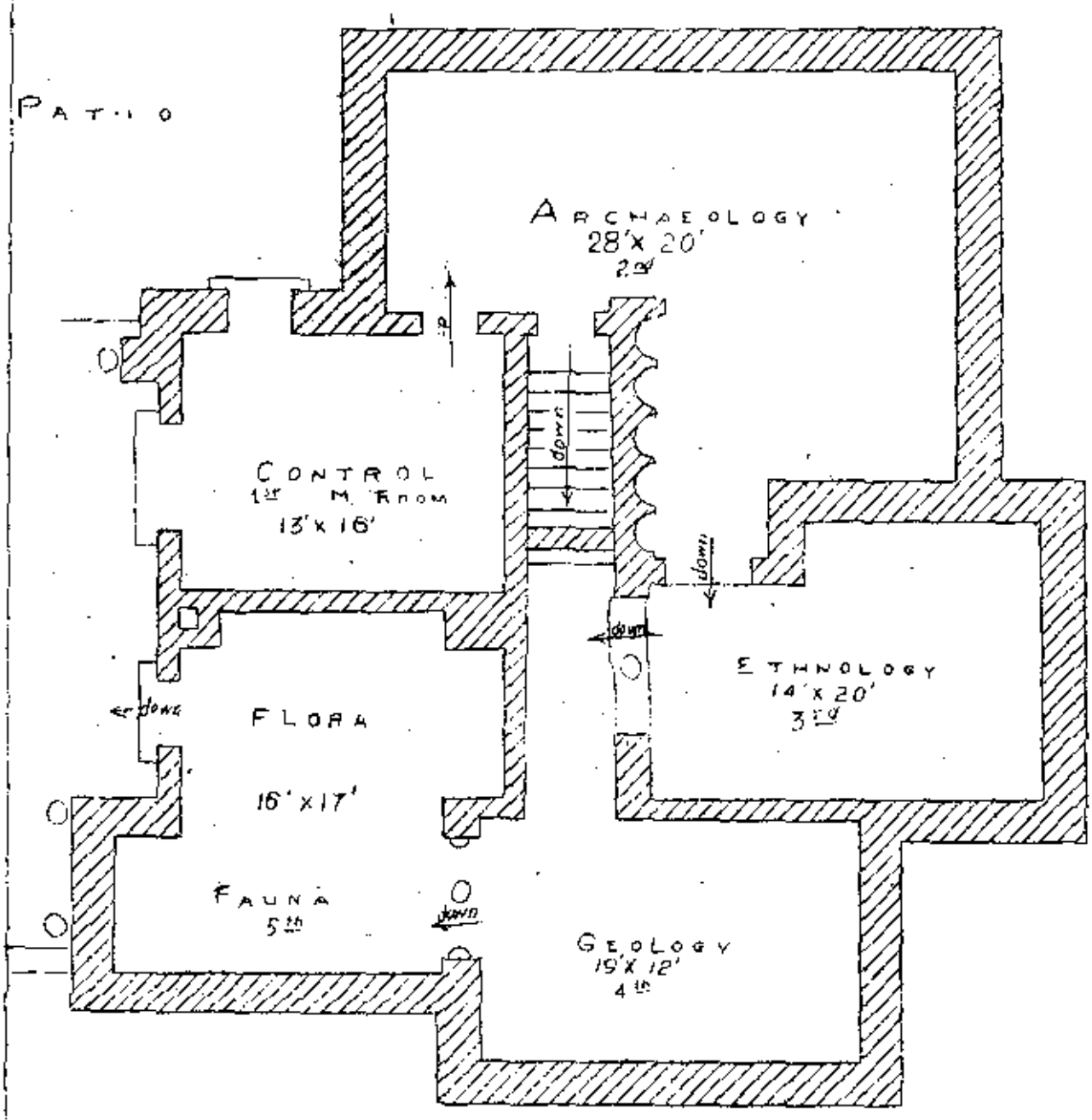
"By this same mail should arrive a museum study for Bandelier National Monument, prepared by Jerry Morse. This letter is to affirm that the plan coincides thoroughly with my museum ideas as set forth in the September issue of the Southwestern Monuments Monthly Report. Since those ideas to date appear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

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

PROPOSED MUSEUM
BANDELIER NATIONAL MONUMENT



PROPOSED MUSEUM
BANDELIER
NATIONAL MONUMENT



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

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

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

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

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

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

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

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

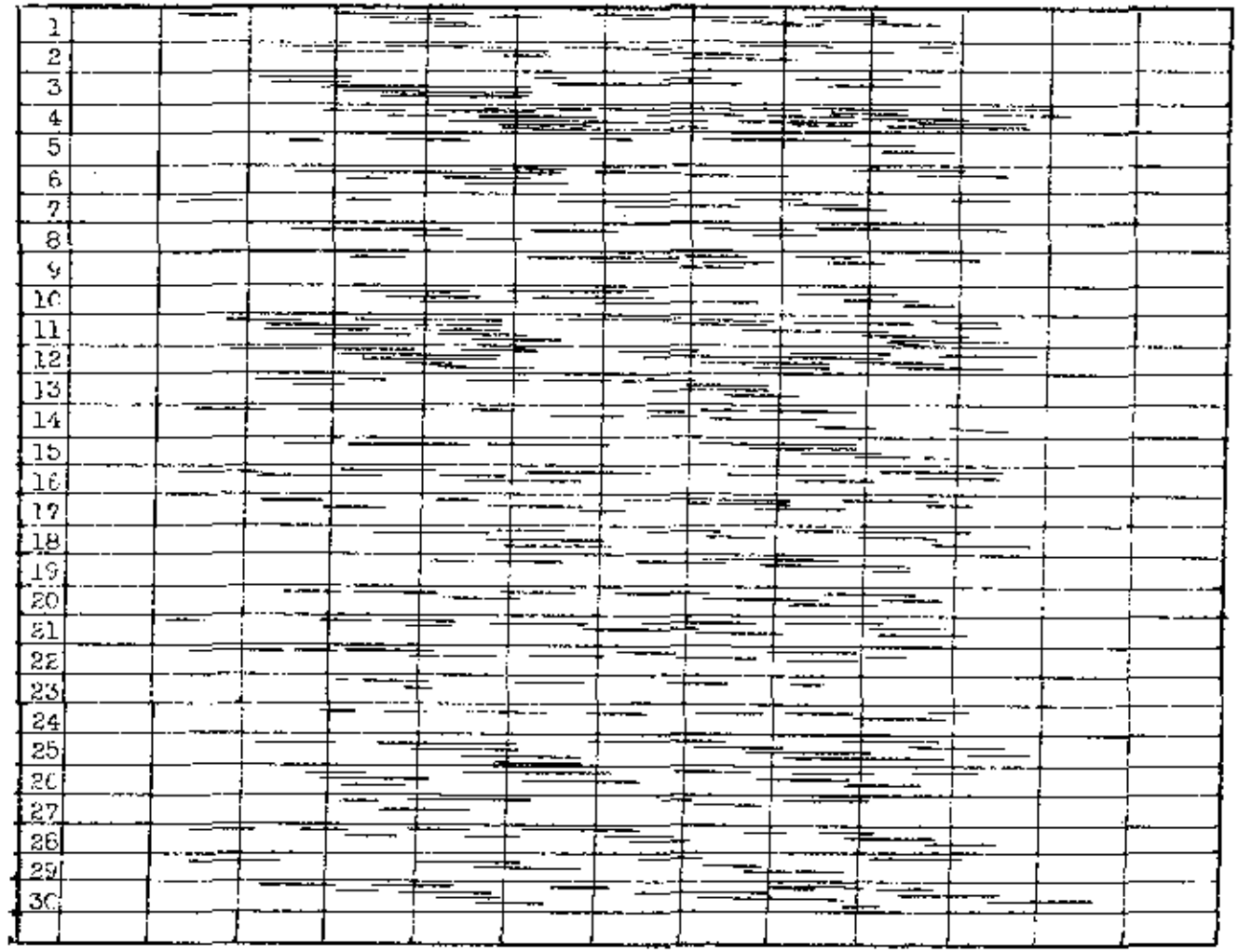
All in all, we are naturally sold on this museum plan. Hoping you feel somewhat the same way, will close.

Earl Jackson, Custodian

Bandelier National Monument

CASA GRANDE NOVEMBER TRIP CHART

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



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

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

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

- - - - - - - - - - -

THE SNAKETOWN DIG

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

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

- - - - - - - - - - -

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

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

DECEMBER 1, 1934.

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

Dear Mr. Director:

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

GENERAL:

Travel figures for the month show that 985 automobiles brought 2854 people through the Monument during the month.

WEATHER:

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

Maximum 78 on the 6th. Minimum 11 on the 28th.
Mean Maximum 59.7. Mean Minimum 29.9.
Precip. .44 inches. Clear days 18. Cloudy 7. Partly cloudy 5.

ADMINISTRATIVE:

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

PUBLIC WORKS:

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

This is the only active project under Public Works.

LABOR SITUATION:

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

POST CONSTRUCTION:

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

EMERGENCY CONSERVATION WORK:

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

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

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

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

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

RANGER AND MUSEUM SERVICE:

The Park Naturalist is on duty every day in the Museum at Headquarters and 1786 people were given personal service there during the month. One ranger is on duty at the Rio Puerco Prehistoric Indian Ruins and one is on duty at U. S. 260 Checking Station. Park Ranger Frank J. Winess went on regular annual leave of absence November 29.

TRAVEL:

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

TRAVEL STATISTICS:

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

OFFICIAL TRIPS:

None to report.

VISITORS:

Among the visitors to the Monument we find the following:

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

INSPECTIONS:

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

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

MISCELLANEOUS:

A very fine article on the ARAUCARIA PINES appeared in Nature Magazine for November. Comments and quotations from this article follow as a Supplement prepared by Park Naturalist M. V. Walker.

Very truly yours,

Chas. J. Smith,
Superintendent.

ARAUCARIA PINE

Araucarioxylon arizonicum was the name given to the trees found in the Petrified Forest of Arizona, by Dr. Knowlton about 1896. This description was published in the U. S. Nat. Mus., Proc, vol. 11, 1888. The studies brought out the relationship of these old Triassic trees, with the modern Araucaria, sometimes known as the "Monkey Puzzle".

A most interesting and instructive article recently appeared in the November number of the Nature magazine. The story was written by Alma Chesnut, and was given the title "Grandfather Of The Pines". The article is recommended to all who would inform themselves of the true nature of our Araucaria trees. Perhaps the fossil trees of the Petrified Forest differed very little in form from the modern Araucaria, although the restoration drawings which we have been using in our wall charts infer quite a differently shaped tree. With the feeling that many may be interested in this information, we quote a few paragraphs from the article and give some comments such as apply to the conditions found in the Petrified Forest National Monument.

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

In the petrified forest of Arizona these trees occur in the Triassic formation and in the same deposits are found the fossil bones of great reptiles and amphibians, Phytosaurs, Anomodonts and Stegocephalians. These same beds have also produced during the last few seasons prospecting, some beautiful ferns and cycads.

> "An immigrant from south Chile, Araucaria imbricata is widely grown in the British Isles and is known also on the Continent. I found it in the formal gardens of France, in England, Scotland, Wales and Ireland. The British call it 'Monkey Puzzle', a name conferred upon it by a man in Cornwall years ago."

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

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

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

"To England in 1796 came six pioneer seedlings aboard a ship piloted by Captain Vancouver. Archibald Menzies had procured some Araucaria cones in Chile, sown seeds en route to England and arrived with baby trees. These were planted on a private estate and in Kew Gardens. Other seeds were brought to the country in 1844 by a collector for a nursery firm, and the climate being favorable, the 'Monkey Puzzle' soon became well known."

*(To be continued in the next report)

H. V. Walker

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

DECEMBER 1, 1934.

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

Dear Mr. Director:

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

GENERAL:

Travel figures for the month show that 985 automobiles brought 2854 people through the Monument during the month.

WEATHER:

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

Maximum 78 on the 6th. Minimum 11 on the 28th.
Mean Maximum 59.7. Mean Minimum 29.9.
Precip. .44 inches. Clear days 18. Cloudy 7. Partly cloudy 5.

ADMINISTRATIVE:

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

PUBLIC WORKS:

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

This is the only active project under Public Works.

LABOR SITUATION:

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

POST CONSTRUCTION:

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

EMERGENCY CONSERVATION WORK:

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

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

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

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

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

RANGER AND MUSEUM SERVICE:

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

TRAVEL:

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

TRAVEL STATISTICS:

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

OFFICIAL TRIPS:

None to report.

VISITORS:

Among the visitors to the Monument we find the following:

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

INSPECTIONS:

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

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

MISCELLANEOUS:

A very fine article on the ARAUCARIA PINES appeared in Nature Magazine for November. Comments and quotations from this article follow as a Supplement prepared by Park Naturalist M. V. Walker.

Very truly yours,

Chas. J. Smith,
Superintendent.

ARAUCARIA PINE

Araucarioxylon arizonicum was the name given to the trees found in the Petrified Forest of Arizona, by Dr. Knowlton about 1888. This description was published in the U. S. Nat. Mus., Proc, vol. 11, 1888. The studies brought out the relationship of these old Triassic trees, with the modern Araucaria, sometimes known as the "Monkey Puzzle".

A most interesting and instructive article recently appeared in the November number of the Nature magazine. The story was written by Alma Chesnut, and was given the title "Grandfather Of The Pines". The article is recommended to all who would inform themselves of the true nature of our Araucaria trees. Perhaps the fossil trees of the Petrified Forest differed very little in form from the modern Araucaria, although the restoration drawings which we have been using in our wall charts infer quite a differently shaped tree. With the feeling that many may be interested in this information, we quote a few paragraphs from the article and give some comments such as apply to the conditions found in the Petrified Forest National Monument.

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

In the petrified forest of Arizona these trees occur in the Triassic formation, and in the same deposits are found the fossil bones of great reptiles and amphibians, Phytosaurs, Anomodonts and Stegocephalians. These same beds have also produced during the last few seasons prospecting, some beautiful ferns and cycads.

"An immigrant from south Chile, Araucaria imbricata is widely grown in the British Isles and is known also on the Continent. I found it in the formal gardens of France, in England, Scotland, Wales and Ireland. The British call it 'Monkey Puzzle', a name conferred upon it by a man in Cornwall years ago."

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

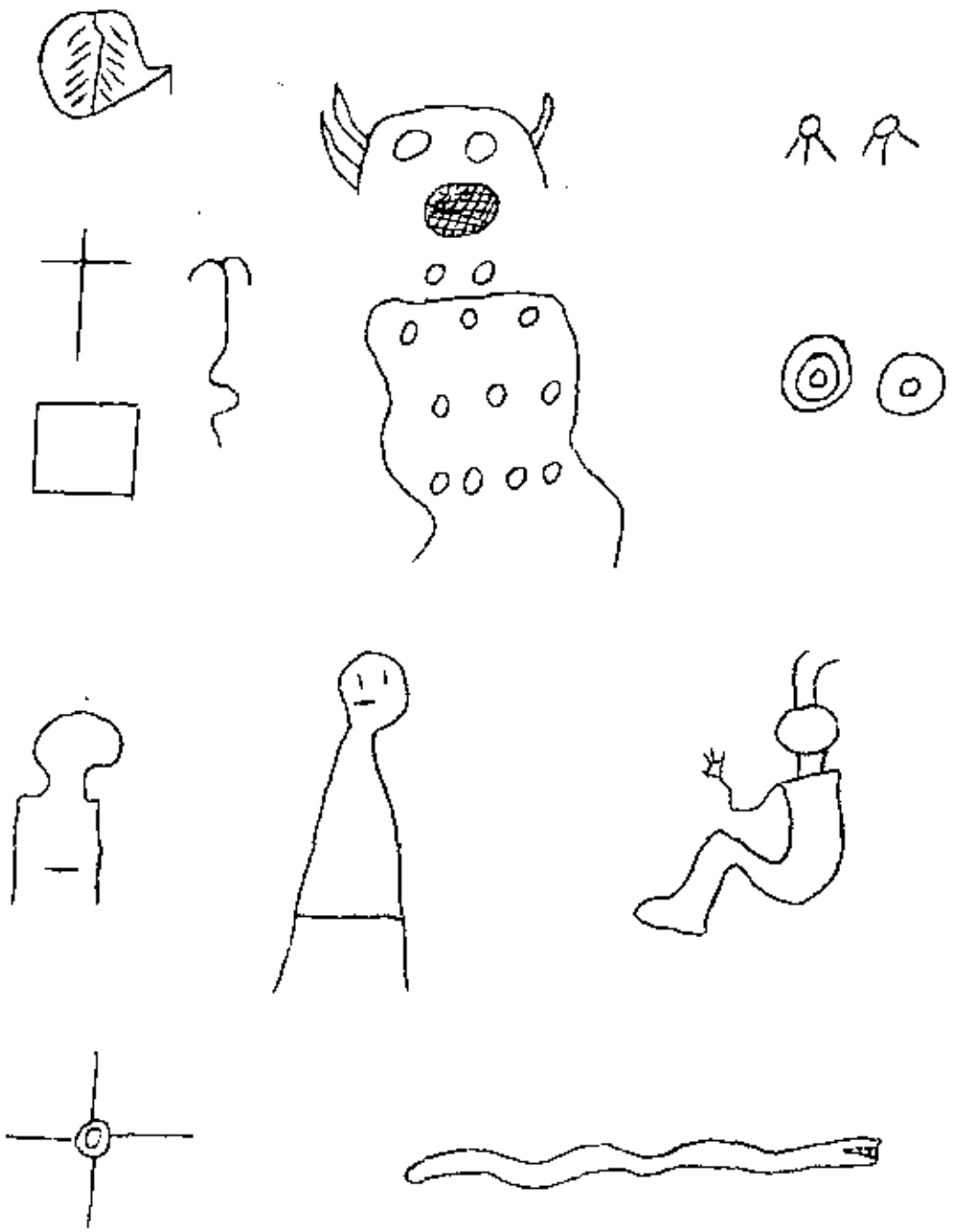
"The followers of Valdivia, famous conqueror of Chile, probably were the first white men to look upon this strange tree in all its majesty of lofty grandeur and age. -----Through sinuous mountain defiles, round the sides of dizzy ravines, past rivers that flung their waters furiously down the mountain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

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

"To England in 1796 came six pioneer seedlings aboard a ship piloted by Captain Vancouver. Archibald Menzies had procured some Araucaria cones in Chile, sown seeds en route to England and arrived with baby trees. These were planted on a private estate and in Kew Gardens. Other seeds were brought to the country in 1844 by a collector for a nursery firm, and the climate being favorable, the 'Monkey Puzzle' soon became well known."

*(To be continued in the next report)

H. V. Walker



Petroglyphs From Tshirege Ruins

THE SOUTHWESTERN MONUMENTS MONTHLY REPORT

DECEMBER, 1934.

A NATIONAL MONUMENT is a reservation made by Presidential proclamation for its historic, prehistoric or scientific value. Its primary use should be educational, but it has secondary uses, both recreational and inspirational.

MONUMENT VISITORS act differently from park visitors by demanding explanations as soon as they arrive at your monument. Answering the questions of a visitor who is <u>begging</u> for information gets you at once into the educational field whether you call it that or not, and educational work takes more personnel per hundred thousand visitors than does simple protection.

WE LACK TRAINED PERSONNEL to give simple protection to our 25 Southwestern Monuments, to say nothing of handling the educational problems which 195,000 visitors bring to our door.

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

LIBRARY
NATIONAL PARK

SOUTHWESTERN MONUMENTS

REPORT FOR OCTOBER

INDEX

SOUTHWESTERN MONUMENTS GENERAL

Weather and Travel----------271
Construction----------271
ECW Activities----------272
Chiricahua----------272
Bandelier----------273
Personnel----------274
Headquarters Field Trips----------274
Museum and Education----------274

REPORTS FROM THE MEN IN THE FIELD

Gran Quivira----------275
Canyon de Chelly----------275
Bandelier----------276
Bandelier E.C.W.----------279
Tonto Cliff Dwellings----------279
Chiricahua E.C.W.----------279
Natural Bridges----------280
Bandelier Forestry Report---282
Pipe Spring----------282
White Sands----------283
Tumacacori Mission----------285
El Morro----------285
Aztec Ruins----------287
Capulin Mountain----------288
Wupatki Ruins----------288
Sunset Crater----------288
Walnut Canyon----------289
Montezuma Castle----------290
Casa Grande Ruins----------290
Assistant Engineer Gordon-----291

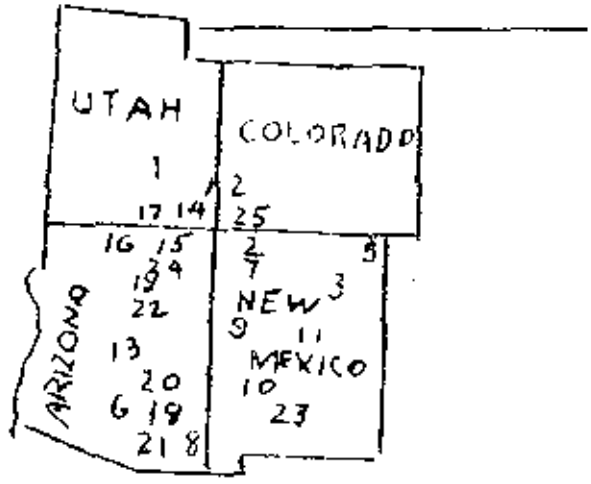
THE SUPPLEMENT

The New Deal in 1936 (Reprint from New Mexico Relief Bulletin)-----296
Scientists Discover Preservative Fluid----------297
A Positive Negative----------299
Master Museums----------299
Why They Want It----------303
Following Spanish Trails----------303
Wild Life Report on Bandelier by Adrey Borell----------304
A Dark Episode----------305
Peculiar Behavior of Custodian Earl Jackson----------305
Casa Grande Trip Chart Discussion----------306
Casa Grande Trip Chart for December----------307
October, November, December Time Clock Records---------- 309,310311
Total Figures for Six Months----------312
Some Facts about Ten Thousand Visitors----------313
Discussion of Figures on Ten Thousand Visitors----------313

LOCATION AND PERSONNEL OF SOUTHWESTERN MONUMENTS.

HEADQUARTERS*** Southwestern National Monuments, Office at Coolidge, Ariz. Frank Pinkley, Superintendent. Robert H. Rose, Acting Assistant Superintendent. Dale King, Junior Park Naturalist. Hugh M. Miller, Chief Clerk. Robert Cole, C.C.C. Clerk.

1. Arches ----Moab, Utah. J. J. Turnbow, Custodian.
2. Aztec Ruins ---Aztec, New Mexico. Johnwill Faris, Custodian.
3. Bandelier -----Box 669, Santa Fe, New Mex. Earl Jackson, Custodian.
4. Canyon de Chelly ---Chin Lee, Ariz. Robert R. Sudlong, Custodian.
5. Capulin Mountain ---Capulin, New Mex. Homer J. Farr, Custodian.
6. Casa Grande ----Coolidge, Arizona. Hilding F. Palmer, Custodian, Louis R. Caywood, Park Ranger.
7. Chaco Canyon ---Crownpoint, New Mex. Thomas C. Miller, Custodian.
8. Chiricahua ----No Custodian.
9. El Morro ----Ramah, New Mex. E. Z. Vogt, Custodian.
10. Gila Cliff Dwellings ---Cliff, New Mex. No Custodian.
11. Gran Quivira,---Gran Quivira, New Mexico. W.E. Smith, Custodian.
12. Hovenweep---Cortez, Colorado. No Custodian.
13. Montezuma Castle ---Camp Verde, Ariz. Martin L. Jackson, Custodian. Frank Fish, Park Ranger.
14. Natural Bridges ---Blanding, Utah. Zeke Johnson, Custodian.
15. Navajo---Keyenta, Arizona. John Wetherill, Custodian.
16. Pipe Spring---Moccasin, Ariz. Leonard Heaton, Acting Custodian.
17. Rainbow Bridge ---Keyenta, Ariz. No Custodian.
18. Saguaro---Tucson, Arizona. No Custodian.
19. Sunset Crater---Flagstaff, Ariz. J.T.Brewer in charge.
20. Tonto Cliff Dwellings---Roosevelt, Ariz. Charlie Steen in charge.
21. Tumacacori---Box 8825, Tucson, Ariz. George L. Boundey, Custodian. Martin C. Evenstad, Park Ranger.
22. Walnut Canyon.---Flagstaff Ariz. J.T.Brewer in charge.
23. White Sands----Alamogordo, New Mex. Tom Charles, Custodian.
24. Wupatki----Flagstaff, Ariz. J.T.Brewer in charge.
25. Yucca House---Cortez, Colorado. No Custodian.



UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
SOUTHWESTERN MONUMENTS

Coolidge Arizona, January 1, 1935

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

Dear Mr. Director:

We begin with a four page consolidated report for December 1934 covering activities for the month over the Southwestern Monuments district as a whole. The resume has been organized chiefly from the individual reports which will be found following this summary.

SOUTHWESTERN MONUMENTS GENERAL

WEATHER AND TRAVEL

Last month we reported the first real cold wave of the winter which brought with it some rain and considerable snow throughout the district. For December snow flurries with some snow and considerable rain together with intervals of clear, cold weather have been the rule in Arizona and New Mexico. While December's weather has taken on a decided wintery aspect to a much greater degree than did December of last year, the weather for the month as a whole has been generally milder than Decembers usually are taken over a period of years. Very little hindrance in the progress of ECW projects and other work has resulted from inclement weather.

The usual decline in travel for monuments in the northern part of our district has been noted. With approaching winter this is to be expected. However, in comparing December 1934 travel with that for the same period of the previous year and we find that the monuments as a whole are drawing more travel this winter than last..This is true despite reports that travel on Highway No. 66 and other main routes of travel is unusually light. We would therefore attribute some of this increased winter travel to the greater local and national interest that is being taken in the monuments.

Of course at the same time the travel curve begins to drop downward for monuments in the mountain and plateau regions of our district, travel figures for monuments located in the desert valleys to the south start to rise because of the influx of winter visitors into southern Arizona. This rise begins to be noticeable toward the latter part of November, gets into full swing in December and January and maintains a pretty even level until the latter part of April.

CONSTRUCTION

The Aztec Ruins Administration and Exhibits Building is the only

unfinished Public Works project in Southwestern Monuments. Last month we reported this project as about 50% complete. It is now reaching 75% of complete. Custodian Faris indicates that he will be able to report a practically finished job by the end of January.

Funds for some trails work at Wupatki were made available and this project was getting under way at the start of the holiday season.

ECW ACTIVITIES

Excellent reports on ECW activities in the district have been received from project superintendents Chase of Bandelier and Hammond of Chiricahua. These reports may be found by consulting the index. The field reports of Custodian Earl Jackson and of Associate Forester Cook, found in later pages, will also be of interest in this connection. Since the reports mentioned cover all important details on ECW activities in these two camps, we will here confine ourselves to a mere listing of the status of projects as reported in order to present a clear picture of ECW operations as a whole.

Chiricahua

Project Superintendent Hammond reports the following progress made by the CCC Camp located in Bonita Canyon:

1. The horse trail being constructed up Sugar Loaf Mountain has progressed 1,200 feet, much of which has involved working in solid rock.
2. Cleanup work on the Rhyolite Canyon Trail has been completed for a distance of 9,800 feet and considerable landscaping done.
3. Highway maintenance on the Bonita Canyon Road to Massai Point has continued throughout the month. This work consisted of operations with jack hammers and compressor, cleaning out drainage ditches and culvert head-basins, and grading with motor grader.
4. Roadside cleanup for a distance of 5 miles along Bonita Canyon and considerable burning of brush have been done.
5. A temporary comfort station has been built and installed at Massai Point.
6. The telephone line along Bonita Canyon has progressed 2 miles during the month and a temporary phone station has been set up on the Sugar Loaf Trail.
7. Landscaping, including completion of foot trails at Massai Point together with dressing of embankment on north side of Massai Point, have been performed.

The topographic survey at Chiricahua which was started by the U.S. Forest Service under Mr. Clark and which was resumed during November under National Park Service direction with the same Mr. Clark in immediate charge, has been in progress during December. Recent work has centered about the Massai Point locality. A topographic map at Chiricahua is a fundamental need and upon it depends much of detailed planning for the future.

Page 280, last paragraph, carries an account of the visits and inspections made in Chiricahua by field officers of the Forest Service and the National Park Service. These items will not be repeated here.

Bandelier

The following items taken principally from the report of Project Superintendent Chase's outlines the progress of work at Bandelier:

1. Burning of cleanup material on Canyon floor completed. This project required several days.
2. Three horse bridges across Frijoles Creek were completed and work was started on another. With one previously reported complete, this makes four of these bridges finished. Abutment excavations for a fifth are completed and the construction materials are on hand.
3. A vehicle bridge which will carry all campground and hotel traffic has been completed.
4. A carload of sewer tile was unloaded and delivered; the entire system included in the campground sewer system project, was laid and completed on the 18th; and excavations were finished for the placing of two septic tanks on which construction will begin next month.
5. Campground comfort station walls are approximately 50% complete. Progress was handicapped by freezing weather.
6. The Parking Area which is a part of the entrance road project, was started after some 60 days were spent quarrying rock for the curb. About 875 feet of curb are in place at this writing; the inside island has been filled, graded, and the whole is practically ready for grading and landscaping.
7. Planting has progressed steadily during the month with some 140 small trees already planted chiefly in the campground area. Also considerable transplanting of shrubs has been done on canyon floor following landscape recommendations.
8. Clearing and excavations were started on concessionaire's utility area together with removal of his old barns, chicken pens, etc. This is of course entailing cleanup work.
9. Two cattle guards on the detached portion of Bandelier and one in the main area, in the process of construction for the last six weeks, were completed during the month. Crates and forms are on the ground for another guard on the detached area.
10. Drift fences from cattle guards on detached area of Monument to the rim of the canyon have been constructed.

A type mapping project for Bandelier was completed by the Division of Forestry with the assistance of ECW Forestry Foreman James Fulton. See the report of L. F. Cook, Associate Forester, of the Berkeley Office, starting page 281, for a resume of activities related to progress and recommendations on erosion control, telephone lines, camp protection and other forestery matters.

PERSONNEL

Personnel status in permanent and temporary regular positions remained unchenged during the month.

HEADQUARTERS PERSONNEL FIELD TRIPS

Dr. C. P. Russell, Field Naturalist, was with us most of the month making special studies on the Kino Chain of Missions for the purpose of collecting necessary data for a Tumacacori Museum scheme. Between the dates of December 15th and 21st, inclusive, Bob Rose of our office worked with Dr. Russell on this project.

A research project being carried on at Tumacacori has progressed nicely during the month. A great deal of interesting data as to location of walls, foundations and other features adjacent to the Mission itself, is turning up. Engineer Attwell and his crew have made several field trips to Tumacacori and locality during the past month and have been keeping maps and plans on walls and other features being discovered there, up to the minute.

An engineering survey party completed surveys on the White Sands entrance road during the month preparatory to the initiation of grading and general maintenance. Assistant Engineer Gordon and others of the Engineering Crew have worked at Headquarters on maps and plans for pending projects under ECW, Emergency Roads and Trails, and other programs in progress and contemplated for the future.

MUSEUM AND EDUCATION

Museum and Field Trip guided services have been maintained as usual during the month. Casa Grande, particularly, experiences heaviest winter travel with Tumacacori showing some increase. Tonto, Montezuma Castle and White Sands also maintain good steady winter runs.

Architectural miniatures and a trash mound section exhibit prepared in Berkeley, were delivered to the Casa Grande Museum by Carl Russell. Later, when the new Aztec Museum is finished, these exhibits will be transferred to that Monument where they will comprise a part of the installations.

ECW Cameraman Paul Wilkerson reported to the office during the month. Chiricahua, Casa Grande and nearby places of interest were included in work he had not previously covered.

The most important item left to include in this report is our good wishes that all Park Service folk may have a happy and prosperous New Year. Tall buildings shook and Chandeliers swung to and fro in Phoenix, Tucson and localities on December 31. Arizonans, however, won't admit it was an earthquake but insist that it was just the slipping of an old "die hard" 1934 hating to give up his place forever to 1935.

Cordially,

/R.H.R./

FRANK PINKLEY, Superintendent.

REPORTS FROM THE MEN IN THE FIELD

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

Report time again is approaching. I will try to report some of the happenings of our Monument for the past month.

I find my register to be somewhat short this month compared to the same month last year. I have registered 188 visitors entering the Monument in 44 vehicles. These visitors hail from seven states namely Arkansas, Illinois, Texas, Oklahoma, Colorado, Missouri, and New Mexico.

The future outlook for the Monument is some better at present as FERA projects in this locality are doing some work on the road between the Monument and Mountainair in Torrance County and there is also a project across the County line in Socorro County which will work from the County line south about 12 miles, then west toward Socorro. This will link us up with the main stems from two directions. This should increase travel by the Monument considerably over what it is at the present.

The past month generally speaking has been fair and cold although it has not been as bad as the average December here. It has been considerably worse than the same month last year. Due to some snow the latter part of last month and some local rains the last few days, the travel has been staying on the main highways the past month.

******

CANYON DE CHELLY NATIONAL MONUMENT — By Robert H. Sudlong, Custodian

This has been a most uneventful month. Visitors for the month numbered but three, and one of these was a resident of Chin Lee. All three visitors merely drove to the rims of the canyon, and did not descend the trail.

Travel in the canyons has been practically impossible, due to water from rains and melting snow. A few trips were made into the canyons in the government truck, but water came over the running boards, and on several occasions the truck became badly bogged-down for several hours at a time.

Weather has been cold, with a few snow flurries and some rain. Roads have been, for the most part, fair worse than before, due to rain and snow, and for days at a time were scarcely passible. This would account for our lack of visitors. We have had much cloudy weather, and it has seriously interfered with my photographing of the completed trail, the ruins, etc. However, I have had fair success, in spite of the weather.

Mr. Robert E. Murphy, Instrumentman, under whose direction the last of the trail was completed, terminated his services with us the close of business, December 17th, his transfer to the Soil Erosion Service becoming effective the following day.

Betty joins me in wishing you and the entire personnel of the South-

Western Monuments a most happy Christmas and a successful New Year.

BANDELIER NATIONAL MONUMENT By Earl Jackson, Custodian

Visitors: The winter decline in travel is no longer a probability, it is an overwhelming fact. Visitors numbered 214, as against 110 for December of last year, coming from 15 states, and no foreign countries. The six highest states in order were: New Mexico--108; Ohio--17; Arizona--6; Wyoming --5; Massachusetts--5; California--5. Ohio was high because of a single family from there having 13 members. An USIS truck brought 21 Indian boys on a picnic from Santa Fe. The only Harvey Car party this month had 15 people.

Weather Conditions and Roads: The weather has been frisking around that old zero mark like a co-ed before her first date with the captain of the football team. E.C.W. work has lost no time, but the sky has been overcast half the time. Three or four snows have occurred, but the total was not over an inch. Roads are all passable, but still quite rough between the Detached Portion of the Monument and the Rio Grande. It never snows in this country in the winter, but we had a nice two-day drizzle recently.

Special Visitors: Theodore B. Blair, Forestry Technician, and wife arrived on the 4th for a two week's stay. On December 16, Mr. Fred C. Boger, Acting State Director of N.R.A., was in with his family for a very interested visit. On December 21, Mr. L.F. Cook, Associate Forester, and Mrs. Cook, in company with Mr. Donald De Lorn, Entomological Technician, were in for a day's visit.

Improvements: Four foot bridges were completed, and one old vehicle bridge is being torn down for replacement by a foot bridge. Walls of the comfort station are 35% done. One new vehicle bridge is complete, and open for traffic; this connects the camp ground with the new administration area. Sixty five percent of the parking area cutting is finished. About 130 trees were planted. Two short drift fences on the main portion of the Monument were completed; these contact the cattle guard on top of the hill. The sewer line is completly installed and excavation completed for the septic tank. For the Frijoles Utility Area all footing excavating is done, forms in place, grading, and approach road for the area completed. In clean-up, the Frijoles chicken yard was dismantled, also the barn, and rubbish cleaned up. At the end of the last month shortly after the biggest snow of the winter, fire prevention clean-up was accomplished in the canyon by burning brush.

Fires: No fires this month, and none likely this winter.

Nature Notes: On December 11, I sat in on a meeting of the Espanola Valley Game Protective Association. Mr. Baker, Secretary of the New Mexico Fish and Game Commission, presided at this meeting. Here was discussed the said condition of turkeys this winter in the event of approach of a heavy snow storm. They examined the crops of some turkeys to learn what they were eating, and then decided to buy a good quantity of corn for winter feeding. They were

sending me some corn, gratis, for our turkeys, but I will sound out the Wild Life Division before using it.

In the higher lands of northern New Mexico, mainly above 7,000 feet, there were enough acorns and pinyon nuts to keep turkeys in fair condition; where there is a scarcity of the nuts, spruce buds seem to be popular, and I am told they make a fair feed. But thruout Bandelier National Monument, practically all of which is below 7,000 feet elevation, there is mighty little of these feed items. I see turkey tracks all over South Mesa, and Frijoles Canyon has countless tracks. This indicates the birds are covering a lot of territory to keep fed.

Before the snow, deer were rather scarce on the mesas of the reserve, but now their tracks are everywhere, and several have been seen. Mr. Plair and I saw three does the other day, and they almost stared us out of countenance before moving.

Between the roving coyotes and the inquisitive ~~xxxxxx~~ ravens one is seldom led to think of daffodils and robins.

General: I greatly enjoyed the visit of the Plairs; learned a great deal, and walked a million miles by actual count. His function here was to make a type map of Bandelier National Monument, and he finished his work in good shape. While he did type mapping I served as flunky and took sample plots, and saw practically all the monument area. The map he had to use was a poor one; ~~xxx~~ on the detached portion of the reserve we found two mesas which had never been shown at all.

Mr. Cook inspected E.C.W. work the day he was here, accompanied by Mr. Chase and myself. Mr. De Leon, with Mr. Fulton, the forestry foreman, sized up the insect pest control problem and decided the forest is not in ~~xxx~~ bad condition at all; it is agreed, of course, that we shall have to get a power sprayer to handle tent caterpillars next summer. Pine borers, Dendroctnus by name, are after some of our Ponderosa Pine, but will require only normal control expedients.

Mr. Cook made some very good suggestions while here, and I believe was impressed with the functioning of N.M. 1 N., C.C.C. Company 815. Will look forward to the next visit of both these gentlemen.

Will sign off for this month, with the wish that all of the bunch may have a very Merry Christmas and a Happy New Year.

******

BANDELIER E.C.W. ACTIVITIES FOR DECEMBER — H.B. Chase, Project Sup't

During the last few days of November this job was visited by a wet, heavy snowstorm which enabled us to burn numerous piles of cleanup material left during the summer while cleaning the canyon floor. The entire personnel of the camp was used in this operation under the direction and supervision of Forestry Foreman Fulton. Assisting him were the various foremen attached

to this supervisory personnel. The entire collection of debris was burned and disposed of in three days.

During this month we have completed three more of the horse bridges spanning the Rito de Los Frijoles. This makes a total of four of such bridges completed. The material for a fifth bridge is at site of location and excavation for abutments have been started.

The vehicle bridge across the Frijoles River was completed on the 19th. This is a portion of the main entrance road project and will carry all traffic going into the campground area and to the hotel.

A carload of sewer tile was unloaded and delivered to the job the first of the month and the entire sewer system included in the camp ground sewer system project was laid and completed the 18th. Still remaining in conjunction with this project is the construction of two septic tanks. Excavation for these septic tanks has been completed and construction will proceed this coming month.

A crew of 18 men have been working on the campground comfort station and to date all walls are approximately 80% completed. Progress on this building was somewhat handicapped this month by cold weather as it was necessary to utilize a portion of our time in firing heating equipment and covering the work for protection against freezing. However, our weather conditions during daytime have been very favorable, but rather low temperatures are reached almost every night.

The parking area which is a portion of the entrance road project was started after spending some 60 days previous quarrying rock for the curb. At this writing approximately 876 lineal feet of curb is in place; the inside island has been filled, graded, and is practically ready for planting and landscape features.

Planting has proceeded uninterruptedly this month. Some 140 trees, ranging in size from three to six inches, have been planted principally in the campground area. The number of trees and large shrubs was increased during the month by additional carrying equipment. In addition to this class of planting, the landscape crew has been increased at times when additional truck ~~equipm~~ equipment was available and a large number of smaller species of plants and shrubs were transplanted to the different areas in the canyon floor requiring same.

Clearing and excavation was started about the 6th of this month for the concessionaire's utility area. We have just completed setting forms for the footings and same will be constructed immediately after arrival of a concrete mixer which is due here any day. In conjunction with this project which included dismantling of the concessionaire's barns, chicken pens, etc., we are carrying on a clean-up project.

The three cattle guards, two on the Petroglyph Portion and one on the Principal Section of the Monument which have been in the progress of construction for the past six weeks were completed this month. There is yet

remaining one to be constructed on the Detached Section in accordance with our approved project. The grates for this cattle guard are on the ground and our original forms are still intact so this project should be completed item at the time of the next report. Drift fences connecting the cattle guard on the Principal Section of the Monument running to the rims of the canyon have also been completed with the cattle guard.

The type mapping project for this Monument was completed by the Forestry Department represented by Inspector Pliar and assisted by Forestry Foreman Fulton on December 18.

At this writing this closed the work of enrollees for this camp on the eve of Christmas vacation after which they return to work December 27.

******

TONTO NATIONAL MONUMENT By Charlie Steen, Ranger

I am writing this a few days ahead of time as I wish to take Christmas Day off and celebrate the occasion with friends in the good old-fashioned way----turkey with all the trimmings----

December has been a very quiet month on the Apache Trail. Only 266 visitors have stopped to ask"How far do we have to walk?". Of these, 169 decided that perhaps the walk would be worthwhile and 26 felt strong enough to continue on to the upper ruin.

A greatly appreciated rain fell on the thirteenth and fourteenth. The ground is now covered with new green growth and for a week the Resurrection Plant formed a brilliant green carpet on the hills. Aside from these two days we have had clear warm days and very sharp nights, several with freezing temperatures.

Let me wish you all the gang at Coolidge a very Merry Christmas, and for my friends who may read this after publication "I hope you have had a fine Christmas." .

** ***

CHIRICAHUA NATIONAL MONUMENT C.C.C. ACTIVITIES By H.O. Hammond, Project Supt.

During the month of December considerable progress has been made on the Chiricahua Monument work projects by the Conservation Camp located in Bonita Canyon.

The horse trail being constructed up Sugar Loaf Mountain has progressed 1,200 feet, much of which has been cut through solid rock formation with the aid of the trail compressor and the jackhammer crews working two shifts per work day. The trail has an unique feature in the form of a short tunnel cutting through a steep projecting point of rock. An unsurpassed view of the rock formations comprising the Monument, Cochise Head, and the surrounding country for many miles will be had upon the completion of this trail.

Clean-up work on the Rhyolite Canyon Trail for 9,800 feet has been completed and a considerable amount of landscaping done. Pack mules have been employed for transporting the wood secured from the clean-up to the bottom of the trail where it has been placed in piles for distribution to the welfare agencies.

Highway maintenance on the Bonita Canyon Road to Massai Point has continued throughout the month with the large compressor and jackhammers; cleaning out culvert headbasins and drain ditches, and blading the lower section of the road with the motor grader. This latter was aided by some rainfall which gave the desired moisture.

Roadside clean-up along Bonita Canyon has progressed a distance of five miles and much brush and dead material has been burned. About 100 truck loads of wood suitable for fuel has been cut into cordwood lengths and made available for distribution to local welfare organizations; Douglas and Willcox having already hauled out many loads.

A temporary comfort station has been built and installed at Massai Point. The telephone line has progressed two miles during the month, along Bonita Canyon, and a temporary telephone station set up at the Sugar Loaf Trail. Landscaping work has ~~xxxxxxxxxx~~ included the completion of foot trails on the north and west of the Amphitheater Area and the dressing of the embankment on the north side of the Massai Point turn-around.

Engineer Clark has continued his Topographic Survey of the general Monument with the most recent field work centering around the Rhyolite Canyon-Massai Point area.

A dance was held at the camp on December 7 and the orchestra of the 25th Infantry of Fort Huachuca furnished such excellent music that everyone had a most enjoyable time.

An additional recreational feature was provided through the courtesy of the Forest Service by sending Mr. McDowell to give a moving pictures show on December 9. Six reels of comic and educational features were shown.

With the advent of rally cold weather the number of visitors to Chiricahua has gradually been increased but an occasional party arrives from time to time. Among our guests during the month have been: Dec. 6, Mr. Fred Winn, Forest Supervisor, and Mrs. Winn; Mr. Morris and Mr. Curtis, also Forest officials. Dec. 7-8: Gene Gordon, Ass't. NPS Engineer on engineering matters connected with the present work projects, and Robert S. Harris arrived from the Coolidge Office to take over the duties of Engineer Foreman from J.H. Tovrea, who has been transferred to Coolidge with the engineering staff. Dec. 13-15: Paul Wilkerson from the Washington Office of the National Park Service, arrived for the purpose of taking a series of moving pictures as studies of the Wonderland of Rocks. He was assisted in this work by Ed Riggs and a party of local residents on horseback. The weather conditions were such as to indicate some very beautiful cloud effects. Dec. 14: Mr. Pooler, Regional Forester from Albuquerque, accompanied by L.A. Brisbin from the Tucson Forest Office. Dec. 15: Louis S. Gates, President of Phelps Dodge

Corporation, accompanied by Harry Clark and Rex Rice, of Douglas, made a tour of the Monument.

******

NATURAL BRIDGES NATIONAL MONUMENT By Zeke Johnson, Custodian

This is the time when we think of our friends and I am getting hungry to get a letter with your name written at the bottom. So I thought I would tell you that we are all OK and that I am still talking and working for the betterment of conditions at the Monument I represent.

I have been showing all of my best photos of the San Juan country with a very fine lantern furnished me by the President of the State Museum Committee. I have told the story to some very fine and interested groups of people.

I am also working hard with all the Powers that Be for the road west of Blanding to be made a State Road proposition----I feel sure that we will get some funds to improve and continue the road on west of the Natural Bridges. This proposed hookup seems to be in the air in this country now and is being talked of in every lobby. Hardly a day passes but someone calls me up or talks to me on the street about it. Looks like something will be doing some day.

Shall I make any plans for a little Custodian's quarters on the Monument this next season? I am hoping and praying for one. I have never had so many inquiries about the Bridges as I am getting now, and it looks to me that I will have all I can do and more next summer to try and take care of visitors.

I will be more than glad to hear from you, and Mrs. Johnson joins me in wishing you and yours all the joys of the season.

******

FORESTRY E.C.W. REPORT of BANDELIER By L.F. Cook, Associate Forester

I inspected the work being done under ECW at Camp NM-1-N at Bandelier National Monument on December 21. Very goodwork is being done and the whole area presents a fine appearance. Excellent cooperation is evidenced between Army and Park Service....(resume of results published elsewhere in Report)

No work has yet been done on repairs to ruins in the Canyon.

Some very fine work is being done on landscaping (tree planting) in the public campgrounds and elsewhere in the canyon. Some large trees, up to 15 feet high, have been moved with apparently a very high percentage of survival, and an immediately improved appearance has resulted.

Under insect pest control all infected conifers near the road and canyon have been cut and cleaned up. The infestation has not been serious, but the few yellow pines dying have been removedto prevent an increase in the infestation.

RECOMMENDATIONS

Erosion Control work near the upper end of the truck trail into the canyon has been submitted as a supplemental project. This is needed for stabilizing a steep bank and the method was outlined by Forestry Inspector Plair while in the Monument, as done by the Kraebel method. I suggest that wheat be planted as well as the mechanical control by contour wattles. As this establishes a precedent of introducing exotics, a decision by Washington is advisable. The wheat will not spread and will undoubtedly die out in two years.

Camp Protection I went over the work that has been done in the public campgrounds along the line suggested by Dr. Heinecke with Mr. Chase and Landscape Technician Marsh, and suggested that the rock barriers around the parking spurs be revised. More barriers in key positions are needed to better define and protect the existing and planted trees and to prevent cars from being driven where not wanted. I also went over the proposed extension of the campgrounds and approve the location and plans.

Tree Planting Some very excellent results have been obtained in the planting of large trees, but I recommend that less water be used during the severe freezing weather due to the danger of frost heaving and cracking.

Guest Cabin Fireplace. During the third enrollment period, a fireplace was reconstructed in the government guest cabin near the ranger station. This fireplace has not been satisfactorily done and smokes. The bricks used are cracked and there is some fire hazard. It is recommended that a project be set up for reconstruction of this fireplace. It is also recommended that a kitchenette be added to this cabin since it is frequently needed for use by anyone living there.

Telephone Line from Monument to Santa Fe (10 mi.) has been proposed for the Fifth Period. I suggested to Custodian Jackson that a very careful study be given to all possible means of communication including possible improvements of the existing Forest Service line which is very unsatisfactory at present, service extension to the Monument by the Mountain States Telephone Co., and any other means. Undoubtedly improvement in existing communication is much needed.

All other proposed Fifth Period projects were reviewed and I believe they are needed and will provide adequate work for the camp. I hope that the much needed trail development into the back country may receive priority since they are very essential for proper fire protection of the Monument.

Dr. De Leon, who accompanied me on this inspection, went over the insect situation with Forestry Technician Fulton and will make recommendations regarding control of the tent caterpillar situation, which is rather serious.

*****

PIPE SPRING NATIONAL MONUMENT By Leonard Watson, Acting Cust.

My report will not be very long this month as there has been very little

doing here either in work or travel. Our travel is as follows:

VISITORS	LOCAL TRAVEL
Utah.....5	Cars, trucks, horsemen.....264
Arizona....3	Plus visitors.....10
Calif.....2	Total for month..... 274
10	Last month..... 361
	Decrease of..... 87

I do not know why travel has kept falling off as it has, for we have not had bad weather to stop it. I believe our winter is better than last year so far, as there have been two good rains this month wetting the ground down about 15 inches, and the warm winds from the southwest have kept the ground from freezing.

In fact, since the rains there are some grasses and weeds starting to grow on the south sides of the hills and it will be a good thing for the livestock if such a winter continues until April. Report has come in that cattle are now dying, and on the 24th of this month there were about 500 head of poor stock sold to the government.

I have reported my trip to Jack Lake on November 26 to get a truck that the B.P.R. turned over to the Monument. I am having the Fredonia Garage do the repair work necessary to put it in running order.

I have most of the material here on the grounds to install the cattle guards----only material lacking is the "I" beams, etc., from the Ogden Iron Co. These are in Zion and I will have them out this week.

I am asking that an engineer be sent out from Zion this week to stake out the guards. Will start work as soon as this is done.

In closing I wish to extend the Season's Greetings to all the Southwestern Monuments Family and to those in the Park Service or out who might read our December report.

I have enjoyed my work the past year very much and hope that I will be with you next year as a member of the Southwestern Monuments Family.

******

WHITE SANDS NATIONAL MONUMENT — By Tom Charles, Custodian

Your "Custodian of Sands" hasn't had much time to count cars this month. It strikes me that it is an unfortunate thing, too, for I have a recollection that High Miller told me, early in my Park Service experience, that "the count" is closely associated with the available funds, and it is nearly time for Santa Claus. (Editor's Note: Technically, it would seem that this xxxkd should be the case; loyally, there seem to be discrepancies in the system).

So this afternoon I rushed down to the White Sands road and counted the cars for 75 minutes. There were 84 cars that went through the monument. Sixteen of these had out-of-state licenses. This is quite and increase over the average for the 30 hours which I have counted at odd times in the last three

months. The hourly average shows over a 60% increase.

Mrs. L.T. Graham of Pittsfield, Ill., walked into the office of the local White Sands artist this week and said, "I have driven all the way from Illinois to see the Great White Sands. I stood in the White Sand on the floor of the New Mexico Building at Chicago last fall and wondered if it could be true. I am here now to see for myself."

Mr. Alex J. Carson of Riverside, California, is a confirmed Globe Trotter. He has been around the world a half dozen times on trips of year's duration. He drove up to the office of the Custodian one day last week and said, "I come in to tell you that the White Sands is a world's wonder----nothing like them anywhere. The Park Service made a mistake when they did not see that the whole area was put in the Monument."

On Dec. 9 Gene Gordon, assistant to Walt Attwell, and Mrs. Gordon visited the Sands for the first time. They brought an engineering crew consisting of Howard Leslie, Addison Pinkley, Harry Brown, and Ray Mitson, and began next morning setting garde stakes for completion of the eight miles of CWA road into the heart of the Sands.

Charlie Sutton, world war veteran with more than two years overseas, started working full time at the Sands on Dec. 5, with classification of Foreman-Truckdriver. His first official act was to launch that new Wehr one-man tractor grader. It is a beautiful piece of machinery with closed-in cab and sausage tires.

We are very proud of the Sands right now. You would be proud of them yourself, Boss, if you could see them. Charlie has the broken-down tables, which the crowds wrecked by sitting on them at the big picnic last April, all made over into three fine new ones. He gathered up over three truck loads of picnic trash, hauled it off, and buried it. He has hauled off tons of the blackened sand where campfires have been built on the top of the snow-white mounds. He has raked down the black oily clods which were lying alongside the road, and covered them over with White Sand. The whole picture out there at the turn-around is as clean and pretty as a spring flower.

Mr. Sutton made a small registration booth of scrap lumber this week. It has a door which swings down and makes a table. The registration slips are fastened on the inside of this table, and above it will be a sheet of printed information and one or two "Don'ts." The outstanding "Don't" will be to refrain from building fires on top of the snow white hills. Another is regarding the destruction of Monument plants. There will be a few cellophane sacks of White Sand furnished by the local Chamber of Commerce for free distribution to the Monument visitors.

Wishing our fellow Custodians and the entire Southwestern Monuments' personnel a happy New Year, I am-----Tom Charles.

******

We wouldn't like to place any flies in Tom's ointment, but from the reports of the engineers, he is missing a bet by not mentioning temperature. They say the Sands at present are snow white and snow cold.

TUMACACORI NATIONAL MONUMENT By George Boundey, Custodian

Visitors for December, 738.

Have never had more interested visitors ~~xxxx~~ than during the past month, but they do not come in as large numbers as usual this time of year.

Everyone is much interested in the excavation that is being done here under the supervision of Paul Beaubien.

Dr. Russel of the Field Division of Education of the Park Service made Tumacacori his headquarters while making a study of the Kino missions in Mexico. Robert Rose of the Casa Grande staff accompanied Dr. Russel part of the time on his trips into Mexico. Engineer Attwell and Paul Beaubien also accompanied Dr. Russel on one trip.

Mr. Pinkley and Hugh Miller also visited Tumacacori during the month.

In driving to Nogales one evening we saw a mountain sheep grazing with a bunch of cattle. He was very frightened when he saw the car, jumped the fence, and made off up the mountain side.

One of our neighbors saw an antelope near the old Calabasis Mission a short time ago. A Forest Ranger says he sees quite a few antelope and sheep on the mountains between here and Sasabe. Deer are quite plentiful and there are lots of Javelina in the Tumacacori Range to the west.

******

EL MORRO NATIONAL MONUMENT By E. Z. Vogt, Custodian

Weather and Roads During the past month we had a period of three days rain---a thing which has not occurred at this altitude within the memory of men who have lived here for at least 60 years. At 7,000 feet above the sea moisture comes in the form of snow.

This most unusual occurrence of steady rain had everyone baffled and most of all the medicine men of the Navajos. Old Garrizozo, who wields most power among the Navajos living near here, camped one night in the timber back of our house and I visited his warm camp and numerous family one night when a drizzle was falling. He said that he did not know why the rain was falling in place of snow, but that we undoubtedly needed it. He said that he hoped that it was not indicative of any bad luck or change of policy at Washington. At least he hoped that there was nothing untoward in the winds like stopping the pension he gets for his services as a guide during the Apache wars.

The roads were very bad for a few days but warm sunny weather followed, to our surprise, drying them out so they did not freeze hard and rutty. Travel was stopped almost completely for a day or two.

The benefits of the rain in soaking up the parched ground can hardly

be estimated. In digging some postholes on fence repair I found that the moisture had penetrated a good six inches, and that provides a "comax", or bed, for desired snow, a thing so often spoken of by sheep herders who are fortunate to be able to live entirely under the stars where their observations of weather are very careful.

Grass is green at the roots, weeds are starting, buds on trees are trying to make a mistake in coming out----due to the lovely weather. But we are not fooling ourselves about what is coming, for we know that winter has got hit us yet, and that we are due for plenty of blizzard and snow before the real awakening of spring.

CHRISTMAS VISITING AND SKATING----Owing to the mild weather there has been an unusual amount of travel and visiting. This added to our normal number of visitors at El Morro so that we had well over 150 people at our Monument in comparison with none at all some years at a comparable time.

Despite mildness, the nights have been cold so that the ice on the shady side of the Ramah Reservoir has frozen to a depth of about five inches. This has provided skating for the younger set. During the month I decided that since my wife is the leading woman skater in the region I had better step out. So I have gotten into a sport which I find uses muscles that have been unused for some 30 years.

INDIAN DANCES----The Shalako Ceremony of the Zuni Indians occurred on the afternoon and night of December 10 and until afternoon of the eleventh.

The ceremony, which I have attended with but one exception for 18 years, was as colorful, as fervent, and as hard to understand as ever. Through study of Mrs. Stevenson's Bureau of Ethnology report on the Zunis, and Ruth Bunzel's work on Zuni ceremonialism, my son and I went somewhat prepared to interpret some of the prayers, dances, acts, and costumes of the very varied and involved ceremony which continues throughout the night and goes on simultaneously in six different new houses, thus blessed by the dance.

I was delighted to find among the ~~xxxx~~ white spectators Mr. and Mrs. Smith and party from Petrified Forest National Monument.

During the night in each crowded house I found Park Naturalist Paul Franke, Ranger-Historian Don Watson, Ruth Lacy, and Leona McGregor of the office force, Paul Duvic, Bob Brugh of the Emergency Force, and Mrs. Saunders, wife of Architect Saunders----all from Mesa Verde National Park.

The Park Service folks were real students of the ceremony, and when the first sharp rays of the sun slanted ~~the~~ past the red stone minarets of the south end of the Sacred Mountain of Te-ho-ya-lone-ne shone on the shouting figures of the dancers, the only American party which beheld the grand finale was the Mesa Verde party and myself. Everyone else had left for Gallup, or gone to bed, or curled up exhausted in the warm, friendly corner of one of those immense Zuni fireplaces.

Almost 1,000 Navajos attended the ceremony, which is usual, and of

course the entire Zuni tribe of some 2,300 Indians. What I had never seen before was the great number of Rio Grande Indians from the pueblos of Taos, San Domingo, San Felipe, Isleta----not to mention those from the far off Hopi towns and Jemez.

The amount of trading among the Indians was greater than I had ever seen it. I never have learned where the Santo Domingos get their turquoise, but it was certainly true that they brought great treasures of it in their bags and went home heavily loaded with Navajo rugs. Their trading inroads on the Navajos were most successful though they were willing to barter with all comers and took back much polished stone, silver rings, bracelets, etc.

Wild Life----The rabbits and birds are spending a happy winter at El Morro and larger wild animals show their tracks and work. During the month a rough and ready archaeologist in the form of a badger has been excavating our larger ruin. Right in the southwest corner of the ruin walls he has dug a hole as large as my hat clear down under the walls and out the other side. Burned corn cobs, broken pottery, bones, and even prehistoric beads are brought out in his efforts to fashion himself a good winter hogan with prehistoric trimmings.

Mountain lion again have crossed through the country from range to range. One large male gave away his presence while killing a two year old steer. The bawling of the attacked animal was so loud that a Zuno sheep herder grazing his bucks in a nearby canyon was attracted. The lion showed no fear and stayed with his kill long enough for the Indian to go to his camp and bring back a .22 rifle which placed a bullet between the eyes of the lion and killed him. He measured well over 10 feet long.

With best wishes to all in the Service----

******

AZTEC RUINS NATIONAL MONUMENT — By Johnwill Faris, Custodian

Visitors for the month total 336, which is the largest December since 1929 for this Monument. This might be accounted for by all passes being open as yet and by the large number of people coming to see the Great Kiva. These numbers have been reasonably constant so that no trouble was encountered in the handling of the entire group.

Other than the regular routine of the Monument nothing of any interest has occurred other than our building program of the Lobby and Museum. This work has progressed very effectively under the supervision of Inspector Gebhardt of the San Francisco Office. He is very much interested in the work and takes every opportunity to see that it is being done with credit to the contractor and benefit to the Service. I am pleased to report that with the work as it is being carried on at the present time this project should be finished or nearly so by the time another report reaches your office.

It is with pleasure that I report the final touches given the Great Kiva and the effect is much finer than any of us expected. The colors fit in very nicely and it lends itself to the entire unit in a manner that is most pleasing.

As this is the last report that will be made during one of the most successful years of our existence, I want to thank you again for the aid and assistance you have given and without which all our work would have been impossible. The support that we receive from our colleagues and personnel of the various departments is certainly appreciated and we assure each of you our desire to cooperate in return.

That the year 1935 will be one of the most successful of all years for the entire Service and each of our Monuments especially is the earnest desire of the Aztec Ruins National Monument.

******

CAPULIN MOUNTAIN NATIONAL MONUMENT By Homer Farr, Custodian

Less has happened at this Monument to report than for many months.

Weather---About three two-inch snows this month gave us some much needed moisture. In general, weather has been slightly colder than common for December. One below for the last day of November is a record for this community as far as I can ascertain.

Travel---Only about 400 visitors this month, although the roads in all directions from the Monument have been kept open. However, this Monument being more than 8,000 feet above sea level (even after Howard M. Stewart whittled 1,000 feet from the top) leaves a very cool atmosphere in December for most visitors.

General---Just received the best and most interesting Park Service Bulletin ever published. I'm telling you thise boys and girls (editors and staff) know exactly what We custodians in the Far Southwest want to read. It's a shame that Amos and Andy can not be found to advertise Good Old Tom Charles' newly discovered tooth paste for sheepmen.

I see a wonderfully good picture of our likeable Director on the first page of the December Park Bulletin. Here is wishing him great pleasure throughout the coming year in his much appreciated work. Together with a lovely Christmas and a pleasant New Year for our much cherished and good old solid Superintendent Pinkley, Atwell, Rose, Miller, and all of my fellow custodians. Capulin Mountain National Monument extends to you all a standing invitation to visit the most perfect extinct volcano in the United States.

******

WUPATKI RUINS NATIONAL MONUMENT By James Brewer

Pardon my southern scrawl----no ketchum typewriter. Find redemption in brevity. Wupatki OK. Too many rabbit hunters, too few visitors (42), two nice rains, no more snow. Having a dandy Christmas and hope you are doing likewise. Trails look like scars. Hope you come and see us. Wishing you a very happy New Year....

SUNSET CRATER NATIONAL MONUMENT By James Brewer.

Well, I squeezed Sunset Crater into my itinerary this trip. And I'm

glad I did because I always get a kick out of that huge pile of cinders with the perfect name. I've seen it in all angles of light and never has it appeared to look like it was without a setting sun. It is dark at the base and turns to red which in turn becomes yellow at the crater giving the effect of sunset.

If all the 170 visitors enjoyed it as much as I always do we will have a lot of repeaters.

One hundred and seventy names were written from October 25 to December 23. Of this number only 53 were visitors in December. That's quite a decline in view of the very mild weather but Christmas may have something to do with it.

Hope your stocking was well filled on that happy day. Sallie is limping around because she forgot to take an orange out of hers----

******

WALNUT CANYON NATIONAL MONUMENT — By James Brewer

I am pinch-hitting for Paul Beaubien, as suggested by Bob Rose, while Paul is away from this Monument. I drove out on the afternoon of the 23rd and found everything shipshape.

The ground was damp and just enough breeze to blow that smell pine smell around. Made me feel like doing some setting-up or Swedish exercises.

I checked all the doors and windows in the cabin and found all were secure, then went out to the point and counted the registered visitors. To my surprise 122 people had signed between November 24 and December 23. This seems to be a good attendance for this time of year.

I will keep a close eye on the Monument in the future because I am afraid pot-hunters might try to grasp an opportunity. It is the first time in nearly 20 years that Walnut Canyon has not had a resident Ranger.

On my return trip I noticed a badly wrecked car at the railroad crossing of the Monument road and inquired about it in the barber chair. I learned it had been struck by the east-bound Chief a week ago. The crash awoke Dean Eldrige and he rushed out and with the crew examined the wreckage. It looked mighty bad so they phoned Flagstaff for a Coroner's Jury. They went back for a better look only to find Pete Salzberg, the only occupant, was still living and able to ask for his pipe. After getting his pipe going the extricated him from the wreckage and rushed him to the Flagstaff hospital where he is still mending a broken leg and some cracked ribs.

The engineers' new proposed road crosses the railroad where an overpass can be provided very simply, I heard tell, so let's hope there'll soon be no more wrecks to users of this highway.

******

MONTEZUMA CASTLE NATIONAL MONUMENT By Martin L. Jackson, Cust.

Have had 775 visitors for the month and for some reason am not able to get my hands on the December report for last year for comparison as to number of visitors. And it may be that it is just as well that I don't find it for I have a feeling we are off in number. (Ed. Note: Montezuma visitors, December, 1933, 1,045).

Have had quite a lot of stormy weather during the month and no doubt visitors have been reluctant to leave the highway, and we told that travel on Highway 66 is quite light.

Louis Caywood, Ranger at Casa Grande, drove up during the first part of the month. He brought some lantern slides and a projector and while here gave an illustrated talk to the boys in the CCC camp at Sedona. The talk must have been well received as they have since requested that we come back and give them another talk.

Ranger Fish and myself have since talked to the other three nearby camps: Beaver Creek, Clear Creek, and Mayer. Needless to say, we found the boys quite interested and courteous. The Educational Department at these CCC camps seem to think that these illustrated talks on the National Parks and Monuments fit in very nicely with their educational program.

Earl Jackson, Custodian of Bandelier National Monument, is spending the holidays with us. He has talked so much about Bandelier and what it has to offer the visitor that I have almost reached the point of expecting Charlie Steen of Tonto National Monument, or Rob Budlong of Canyon de Chelly to write and tell me that Montezuma Castle has no standing at all as a cliff dwelling.

So far this Christmas we have not had a single drunk or even a near-drunk. Ordinarily during the holidays we have some who have imbibed too freely of the drink known as long life bitters. This is not an argument in favor of the repeal of the Eighteenth Amendment.

******

CASA GRANDE NATIONAL MONUMENT By Hilding Palmer, Custodian

Travel for December showed a slight increase over both last month and the same month last year. Inclement weather the last three days slowed traffic considerably.

The total visitors numbered 2,463 as compared to 2,343 for December last year and 2,389 for last month. These visitors came in 748 cars from 41 states, Alaska, Hawaii, District of Columbia, Canada, Mexico, Italy, and Uruguay.

They were contacted in 303 ruins trips and 275 museum trips. Besides these visitors there were 248 persons who used some of the facilities of the Monument such as the picnic grounds, camp grounds, etc.

Mr. Paul Wilkerson, enterman from the Washington Office, spent several

days photographing the Casa Grande Ruins. He was fortunate upon his arrival to get some very good light effects and cloud backgrounds for long shots of the ruins. A number of other shots were made by him showing a group of visitors going through the ruins.

Dr. C.P. Russel, Field Naturalist from the Berkeley Office, stopped at the Monument twice, once on his way to Tumacacori National Monument, and again on his return to Berkeley. Dr. Russel made the trip especially to study the chain of missions founded by Father Kino, but he also talked over some of our more important museum problems.

Weather conditions during the month were varied. Rain fell on four days with a total precipitation of 2.15 inches. The coldest night of the month came on the second with a temperature of 17 while the warmest day, which was December 11, brought 77 degrees.

The Berkeley Office is making a model of a new type of cremation burial found by Mr. Carl Roesberg of the Agricultural Station, Safford, Arizona. This addition, when completed, will make four types of cremation burials found in the Gila Valley. Undoubtedly many more will be found in further excavations.

When time permits, both Mr. Dale King, Junior Park Naturalist, and Mr. Louis R. Caywood, Park Ranger, make changes and additions to existing displays in the museum. Due to the great number of visitors at this time of year, it is hard to find extra time to devote to such work.

Prominent visitors included Count and Countess Gradenigo of Rome, Italy, and Frances Gillmor, author of "Traders to the Navajos."

*****

REPORT OF G. H. GORDON, ASSISTANT ENGINEER

Transmitted herewith is my report covering the activities of the field engineering crew, during the month of December, 1934.

Dec. 1-2. At Coolidge, working up field notes.
Dec. 3-5. At Flagstaff, inspecting field work in connection with entrance road location at Walnut Canyon National Monument, as well as Sunset Crater and Wupatki. This trip was made in company with Mr. Attwell and Mr. Langley.
Dec. 6. At Coolidge.
Dec. 7. At Chiricahua National Monument.
Dec. 8-9. Enroute to White Sands National Monument.
Dec. 10-20. At White Sands National Monument. Re-running of the Center Line and Cross-sectioning for further construction.
Dec. 21. Enroute to Coolidge, Arizona.
Dec. 22-30. At Coolidge.
Dec. 31. At Tumacacori National Monument.

SOMETHING OF THE FUTURE

You may have noticed that we have had a good deal to say lately about museums at Bandelier, White Sands, etc. This is all part of a campaign to get the Southwestern Custodians museum-minded. We have a definite conviction that no historic or prehistoric National Monument is completely equipped for handling visitors until it has a museum. The first thing we need at these places is, of course, protection personnel; the next thing is housing and utility structures. After this first need is met, we need educational personnel and housing. Then comes the administration building and museum. We have reached the place in several of our monuments where the museum is a real necessity if proper service is to be given and at many other Monuments this phase is just around the corner, so we might as well get ready for it.

We are serving notice on the Custodians that we want them to get out plans and ideas on administration buildings which will include museum collections, reserve collections, and all the facilities for handling the public for the next six or eight years.

We want to work these plans and ideas up among ourselves and then get them over to the Educational Division and hammer them into such shape with that Division and the Branch of Plans and Designs that we may know what we are going to do and how we are going to do it. I would even like to have the working drawings of such plans made up while we have the forces to do the work.

Along the same line our Engineers are busy getting out maps and surveys so we may know where we are going far enough ahead to prevent most of the mistakes which arise from rushing things through at the last minute.

At this minute I want to go on record as a strong advocate of resident officials from the various Branches or Divisions at my headquarters. The Engineers were the first to try it out and I think we both went into it with more or less hesitation. I am frank to say that we have tried it long enough to admit that it works from our side of the arrangement to perfection. Our resident engineer is paid from San Francisco and reports there, but he is our man and understands the details of our problems very much more and better than could come from occasional visits. In the future I would like to see such an arrangement with some of the other divisions. The Educational Division furnished us one of their men during the past month, as is mentioned in these reports, to do some work on the Kino chain of missions. We could keep such a man busy for a couple of years along his special line. Why not let him work out of this headquarters exactly as the resident engineer does?

We also plan, in the near future, to examine two or three spots in Arizona which are being considered for National Monuments. We have been waiting for a dull season which has, thus far, not arrived and we might as well go out and do it in the busy times and get it done!

THE SOUTHWESTERN MONUMENTS SUPPLEMENT TO THE MONTHLY REPORT

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

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

THE NEW DEAL IN 1696.

We want to lift the following bodily out of the New Mexico Relief Bulletin; a mimeographed sheet put out by the New Mexico Relief Administration with Miss Margaret Reeves as State Relief Administrator. It is a bit of history interesting in itself and interesting to us because the late Mr. De Vargas ties into our Southwestern Monuments at El Morro.

"Who was it said there was nothing new under the sun?

"In 1696 Don Diego De Vargas Zapata Lujen Ponce de Leon, less formally known as De Vargas, the re-conquerer of the southwest who took the city of Santa Fe back from the Indians in 1693 and acted as Governor and Captain General of the Kingdom and province of New Mexico for several years, presented to Spain a petition submitted to him by a group of settlers which involved as clear a case of rural rehibilitation as any on the present records.

"One of the professional projects in Santa Fe County is the translating and transcribing of old Spanish documents which have been lying in the New Mexico State Museum archives for years. Recently there came to light a petition of the farmers in the New Villa of Santa Cruz asking to be moved from what was to them land which we would now call sub-marginal to the more desirable area of Alameda. The petition was accompanied by a document of presentation written by the great De Vargas himself and addressed to His Excellency, the Most Excellent Viceroy, Don Joseph Sarmiento Valladares, Count of Montezuma.

"The presentation document of General De Vargas, written in the involved terms and stilted phraseology of the time, discusses at length the condition of the petitioning villagers, the merits of the two locations, the danger from the Indians and various other phases of the situation. After many pages of discussion and polite explanation, the General finally says: '----and, if his Excellency should be pleased, that after they have left them, they might again improve them and better themselves and the residents of the New Villa of Santa Cruz by moving to the settlement of Alameda. The said settlement was found to be in much better condition in regard to having the same form of houses and other things, such as ditches, trenches, and water intakes, wood, pasturage and lands; and, if His Excellency would so give me the order, as soon as the wagons come from Parral, I shall order a sufficient amount of corn to be left there to feed the residents until the time of the crops; and those wagons that may come to this Villa, I shall order them to go to the new Villa of Santa Cruz and load them with the families, their furniture and the clothes that they might have, and will take the said population to the settlement of Alameda, where they will not have any other thing to ask or wish for, as they will have, in order to secure the raising of their stock, better conditions and better pasturing grounds, and where the snows will not fall or remain as long as in the said Villa. ----'

"There are no hostile Indians to menace settlers any more, and the

There are no hostile Indians to menace settlers, and the details of the old Spanish resettlement program are as different from the present day one as a lapse of 250 years would naturally make them. But the parallel is there, amazingly interesting in its clarity, and giving New Mexico a lead of more than two centuries in the land program relief experiment.

**

SCIENTISTS DISCOVER PRESERVATIVE FLUID

We doubt that anyone familiar with Southwestern Monument problems will deny that next to protection, the problem of preservation of ruins ranks very high. The problem isn't a theoretical one---it is downright serious. We have miles and miles of stone walls which are weakening and getting ready to fall. We have an enormous number of square feet of clay walls which are slowly (and sometimes swiftly) crumbling and melting away to nothing.

It is particularly with Adobe Conservation Research that Stanford University has been cooperating with Park Service engineers---the work having started early in 1934 under CWA funds.

After months of experimentation with adobe test bricks of Casa Grande caliche, the scientists have developed a preservative fluid which may prove to be the long-hoped-for solution for our problem. Not only does this fluid preserve adobe, but it also will retard erosion and deterioration of stone walls to a great extent.

The manner of testing is very interesting. Under the direction of Frederick T. Martius of Stanford University, 43 sets of test bricks of caliche were coated with various commercial weather-proofing materials and weighed accurately. The bricks were then frozen in a special refrigerator at 10 degrees F., heated in an oven at 140 degrees F., placed in a sand blasting machine, and then immersed in water and weighed again. The absorption of water indicated the deterioration of the waterproofing material. The cycle was then repeated. Each cycle produced wear equivalent to about one and one half years of exposure to ordinary weather conditions.

It was found that 10 of the light-colored commercial coatings penetrated deeply into the adobe, but had little waterproofing value because the bricks failed in the first immersion in water.

Six other materials, also light in color, were so damaged by the sand blast that they, too, immediately crumbled when placed in water. Several of the light colored materials, however, survived six cycles or about ten years of wear.

All other materials were of a dark color(unsuitable because they would change the color of ruins too greatly) and were of a syrupy liquid consistency. Their high specific gravity precluded much penetrative value. They were coatings, rather than penetrants, and formed a thin hard crust.

There was one commercial material, Number 21, which was only a little darker than the natural color of the adobe, which showed no absorption of water after six cycles of wear---in other words, the water was retained only on the outside crust, but not within the brick. It appeared, however, to change color under exposure to light, indicating deterioration.

Thus, as matters stood about August, only one commercial prepara-

tion showed any indication of being at all satisfactory. An enormous amount of painstaking work by Mr. Martius had eliminated all the common weatherproofing materials.

Martius then proved that Number 35 deteriorates and becomes porous when repeatedly exposed to ultra-violet rays from a Mercury Vapor lamp and ozonized air (wet atmosphere). The obvious next step was to develop an entirely different solution.

For preserving clay, limestone, sandstone and granite, glazed objects, painted inscriptions and plasters, archaeologists have been using a solution of celluloid dissolved in equal parts of acetone and amyl acetate. However, due to the rapid evaporation of the solvents such coatings could be used without glossing only as a one percent solution and, therefore, objects had to be coated with as many as six applications. Resinous materials in mineral spirits or in paraffin wax produced a dark color.

Consequently, Mr. Martius experimented with 3% and 5% solutions of celluloid in equal parts of Acetone, Cellosolve (Ethylene Glycol Monoethyl Ethe Acetate), and Butanol (Normal Butyl Alcohol). These solutions, applied to adobe are colorless, do not gloss, are good penetrants and will withstand extreme cold, light, and heat. The 5% solutions appeared the most satisfactory.

This preparation, then, seems to solve the problem. It is effective not only on adobe, but on sandstone also. Preliminary estimates place its cost considerably below other commercial preparations. A gallon, costing about 40¢ to 50¢, will cover approximately 100 square feet.

The outstanding characteristics of the fluid are:

Absolutely colorless and clear liquid.

Specific gravity .878 (higher than any other colorless material tested).

Excellent blending qualities (adhesiveness).

Excellent penetrant for adobe.

Positively does not discolor adobe.

Solution may be made up in the field with unskilled labor.

This is heartening news. Armed with such a good preservative, our ruins preservation experts (when and if we get them) can make a bold stroke in the battle against erosion and decay of the hundreds of important ruins in the Southwestern National Monuments.

All due credit should be given to the Branch of Engineering which came to our aid so effectually in this matter. Protection work at any of the prehistoric ruins among the Southwestern Monuments is a great problem but the protection of the walls at Casa Grande has always been considered the hardest nut we have to crack. A rock-walled ruin makes at least a good base upon which to build your protecting layer, but the caliche walls of Casa Grande do not offer even that much. Being one of our rarest types of ruins in the Southwest, architecturally considered, makes its protection of the utmost importance.

A POSITIVE NEGATIVE

Chief, here is something too good to bury in the files.
One of the officials reports on a recent preliminary survey for a new road coming from transcontinental highway 66 over to Walnut Canyon. His report:

"This route is 95% on Forest Service land, is more direct than the existing road and crosses the railroad tracks with an overpass.

"I consider this route to be satisfactory as such but question the advisability of building five and one half miles of entirely new road as against improvement and minor relocation of the existing loop road which I recommended in my report dated March 28, 1934.

"The railroad crossings are an important item as there are two grade crossings on the old loop road which are eliminated on the proposed new road by the construction of an overpass but apart from this and the shorter distance I see no real advantage in the new road and favor the improvement of the old loop road."

I guess we will just rest our argument for this road on these objections to it. All it does is shorten the road a few miles, eliminate two pretty bad grade crossings and a few right angles and sharp curves. Aside from this it doesn't open up any gold mines but it cuts annual maintenance on about 18 miles of loop road to about five miles on the new survey, but "aside from all this there is no real advantage in the new road and so he favors the improvement of the old loop road."

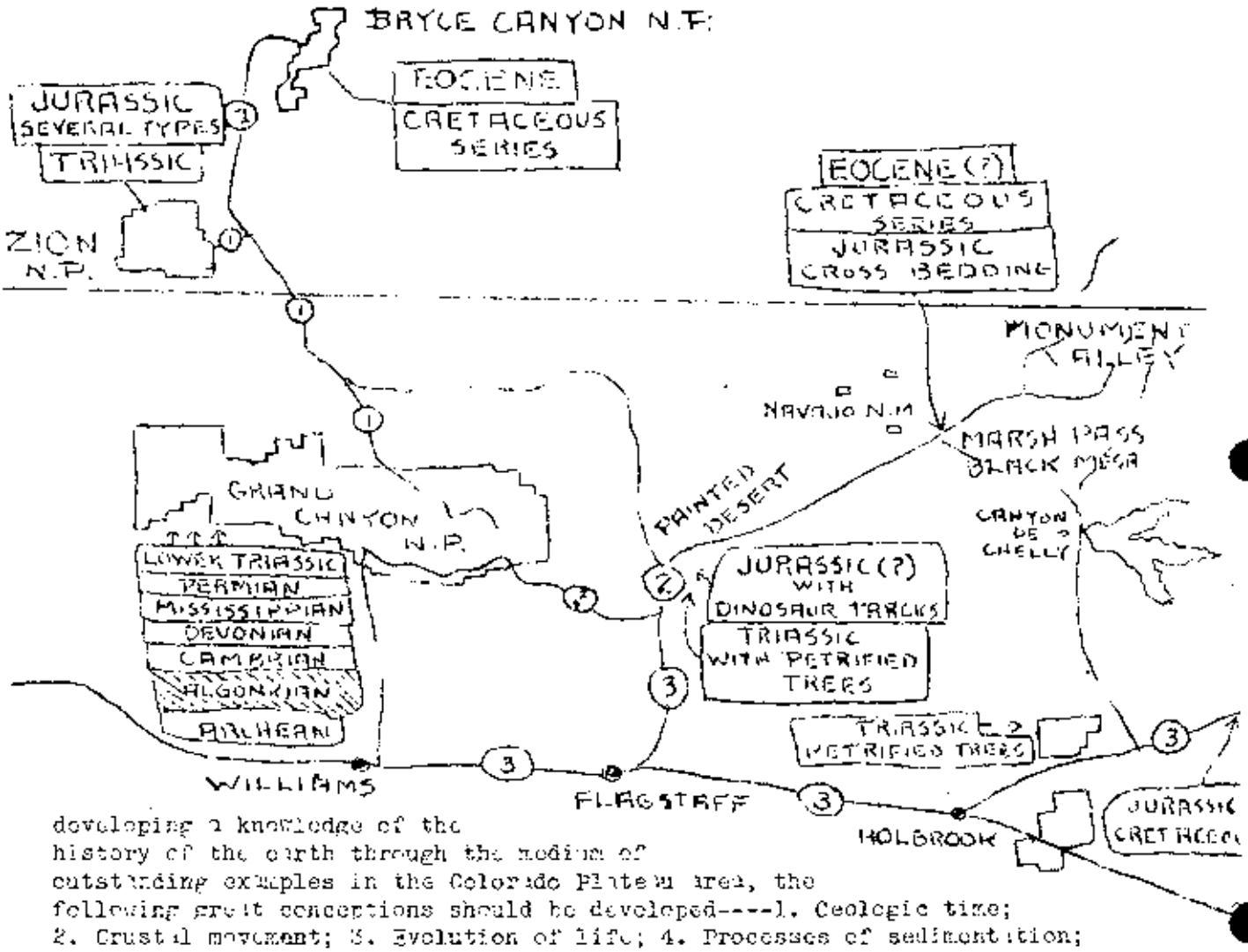
To tell you the truth, I believe he doesn't want to change from the old road.

****

MASTER MUSEUMS

We are in receipt of a "Plan for Telling a Unified Geological Story in the National Parks and Monuments of the Colorado Plateau Region." The plan is the work of Edwin D. McKee of Grand Canyon National Park, and his statement of facts makes some most interesting reading. We present the heart of his plan here for the information of the Washington Office and the men in the Southwestern Monuments field:

"If the history of the earth is to be skillfully and artfully presented to visitors of the Colorado Plateau region, emphasis must always be placed on original materials. Facts must be dealt with and presented in a way that will guide peoples' thoughts towards a realization of certain great principles. By way of illustration, let us consider the result of calling attention to sea shells in the rock some thousands of feet above the sea. In most cases a conception of crustal movement comes to the visitor, evolved through his own thinking and not because of a theory advanced to him by some scientist. Again consider the result of showing a visitor sea deposits, buried beneath continental deposits which, in turn, are beneath other marine deposits. Not only will he unconsciously develop a conception of earth movement but also one of geologic time. In brief, by



developing a knowledge of the history of the earth through the medium of outstanding examples in the Colorado Plateau area, the following great conceptions should be developed----1. Geologic time; 2. Crustal movement; 3. Evolution of life; 4. Processes of sedimentation; 5. Process of erosion; 6. Volcanism.

"If we admit that the independent development of the conceptions stated above is best obtained through a realization of what geologic history is, and if we consider the remarkable "open book" represented by the flat-lying strata of the Grand Canyon region as the best teacher of the orderly succession of geologic history, then it is a primary duty of the National Parks and Monuments of this area to make fullest use of their natural advantages in guiding and helping the thinking of the visitors. The following plan, therefore, is presented as one which should be practical in developing an unified ~~xxxxxxxxxxxxx~~ project.

"There are three principal routes which visitors to the regionmay use and in doing so obtain the geologic history as outlined. One of these is from Grand Canyon northward, taking in Zion and Bryce, another (which will probably be much used in a few years) is from Grand Canyon northeastward through Tuba, Kayenta, and Monument Valley, and the third from Grand Canyon eastward by way of Petrified Forest. Visitors traveling any of these routes from Grand Canyon, or taking them in reverse order, i.e., ending at Grand Canyon, should have the

advantage of apparatus and explanation to give them the story in orderly and appealing fashion as they travel. Wayside observation stations and sub-museums, markers for exhibits in place, and literature covering the routes should be available to give a unified story.

"At Grand Canyon is given the story of earth history through the first and oldest three eras or chapters. In traveling from there over any of these routes mentioned above, the story is supplemented by rock representatives of the last two eras or chapters so that one can grasp the scope of entire history. It is obvious, therefore, that at each place (Park or Monument) not only the local features of geology, especially sedimentation and paleontology, should be brought to notice as they appear in place, but also by means of charts and diagrams, the position which that particular unit holds in the general scheme of things should be emphasized.

In the accompanying diagrammatic drawing (see previous page) the principle involved in the proposed plan is set forth. Details of museum and exhibit development and of circulars needed to take people from one unit to another over these routes are not given in this general plan."

As far as this general idea of correlating the various geological stories of the Parks and Monuments goes, we recognize the value of it and have been preaching it to visitors for the last fifteen or more years, urging them to see the Grand Canyon, Zion and Bryce as the great chapters in the book of geology written by the Master's own hand in the Plateau region. We will be more than willing to play up this correlation idea in our geological Monuments among the Southwestern group.

Having agreed with the main idea, let us now set forth some thoughts which come to us as we forecast the future details of the plan which will be built on this foundation with which we agree.

It is pretty clear to us that the detailed plan will consist of a Master Museum at the Grand Canyon and sub-museums scattered elsewhere over the area; else why is the point played up that the Grand Canyon is the point of arrival and departure for the region? Be it understood that we have no objection to a geological museum of any size which may be determined upon at the Grand Canyon. That it ought to be the biggest geological museum in the southwestern group of reservations sounds very logical, although you will pardon us for pointing out that if you are building big museums for the greatest possible number of people to see, the Grand Canyon would not be the place among the southwestern reservations to put it. It would be built at one of the Monuments. But we will let that point go and agree that the Grand Canyon probably has more geology than any other reservation and should therefore have the largest geology museum.

The next point, so far as we can forecast it in the future details of this plan, will be to argue that, since the Grand Canyon will have the largest geology museum, we must therefore play up the whole geological story there and, to save repetition, we will not play up the whole story any other place. The very word "Master Museum" connotes this and the word "Master

Museum", not mentioned at all in Mr. McKee's excellent foundation scheme, is plainly inferred by the word sub-museum. It is this angle of the detailed plan to which we wish to object as soon as it comes up. We fear there will be a tendency to strip our geological Monuments of some of their best stuff to build up your Master Museum. We fear there will be a tendency to tell our geological Monument museums, "No! No! You can't have this or that display because it would duplicate the idea we are playing up in the Master Museum!" We fear there will be a tendency, in general, to tie our monument museums one after another as a tail to the Master Museum kite and look at them through the Master Museum eyes. We fear that our monument museums might be put under the direction of a master museum curator who might be so interested in the master museum idea as to overlook the fact that the Monument museums were reaching by far the greatest number of interested visitors with far less cost and effort than his master museum.

If we considered this Master Museum idea a good one we would have advocated a Master Museum for the Southwestern Monuments some years back. Our first protest against the Master Museum idea was made in 1906 when the material was excavated and removed from the Casa Grande to the National ("aster) Museum in Washington, D.C. These folk who are arguing for Master Museums have a positive stopping place in the line of logic beyond which you cannot drive them. Tell them you are very much in favor of Master Museums,---so much that you want to gather all the museum material from the Parks and Monuments (or any large part of it), into the National Master Museum at Washington and see how far they ride with you!

And this is all aside from the fact that there is a simple faith that we can outline a trip to ten or fifteen points on the Colorado Plateau, scattered hither and yon over ten thousand square miles, and any large percentage of the travelling public will follow the outline, for instance, I will forecast that the details of this general scheme will carry the idea that the travelling public must start its trip or close it at the Grand Canyon Master Museum. That the public won't do anything of the kind can be shown by the most cursory examination of the travel figures. If you don't believe our travel figures, give me a couple of men for a couple of months and I will compile some records on a few thousand visitors that may startle these folks who are willing to spend a hundred and fifty thousand dollars on the calm assumption that the public will go where it is told to go and in the order laid down for it.

This Master Museum idea originally broke out in the archaeological field along last spring and I, not realizing how serious it was, waxed facetious about it for which I afterward apologized to those at whom I poked some fun. I notice that Master Museum idea is still extant and from time to time the reports carry the approval of some museum personage who isn't acquainted with our southwestern work to any appreciable extent but believes in branch museums as a general benefit to big city museums, which, by the way, is an entirely different matter.

The Master Museum idea in the Southwest is a development along the wrong line. The idea of correlating the various areas through their museums is a splendid one and we hope it will be carried out. In doing so

it is not necessary to make the Southwestern Monuments a tail on the park dog and if you do so, it won't be ten years until your tail will be wagging your dog.

------0------

WHY THEY WANT IT

Chief, not long ago we received a request from the Congressional Librarian for copies to complete his file of the old Epitaph of the Southwestern Monuments.

Since then we have received a request from the Library of the Field Artillery ~~SCHOOL~~ School at Fort Sill, Oklahoma, for a file of the Epitaph.

Also we have a protest from an archeology student in one of our universities that her name has, through some accident, been taken off our list and her copy of our Monthly Report has not been arriving on time.

We feel highly complimented that folks outside the Service think this shop talk of ours is worth reading and preserving, but, quite frankly, we are inclined to wonder why. The report, in the nature of the case, must be thrown together hastily by an undermanned force so there is no time for extended thought or fine writing. Any copy will show crudity of writing, press work, drawing, and everything else. We come and go, all taking a hand in getting it out. When time gets short we compose directly on the stencil, which doesn't make for good composition or good stencil cutting.

The only answer I can think of is that these people aren't interested in us or in fine writing but in the job we are doing. Of course we agree with them in thinking we have the most interesting work in the National Park Service, and, to tell the truth, we get a lot of fun out of the report ourselves-----as well as a lot of hard work----

------0-----

FOLLOWING SPANISH TRAILS

Of extreme importance to the Headquarters Staff of the Southwestern Monuments and to those interested in early Spanish history in the Southwest, has been the renewed interest in the mission chain founded by Father Eusebio Francisco Kino, a Jesuit priest, between the years 1687 and 1711.

Dr. C.P. Russel, Field Naturalist from the Berkeley Office, used the old Tumacacori Mission as a base to trace out the routes followed by Kino and to visit the old chain of missions built by him.

In addition, excavation is being carried on at Tumacacori with FERA labor to trace out the walls of the old mission, dormitory, and other old structures. Mr. Paul Beaubien, archeologist, is FERA foreman in charge of excavations with a crew of 12 men. His reports will appear in this publication from time to time. Exceedingly interesting finds are being made.

Robert Rose accompanied Dr. Russell into Mexico to visit the Kino chain. Leaving Nogales on December 15, they journeyed to Magdalena and Cabores seeing as many of the old Missions as possible. The following were seen: San Ignacio, Pitiquito, Altar, Caborca, Tubutama, Imuris, Cocospera, Arizpe, Tumacacori, San Xavier, Magdalena, and Caborca.

-----O-----

REPORT ON WILD LIFE TECHNICIAN ACTIVITIES AT BANDELIER NATIONAL MONUMENT/ FROM NOVEMBER 5 TO 14, 1934. BY ADREY B. BOREL.

The following extracts from the lengthy report are of general interest:

NEW PROJECTS---All seem to be desirable and satisfactory as regards wild life. Fencing the detached portion of the Monument will keep domestic stock out of the ruins and preserve the forage for wild life. Caution must be used in burning debris along new Frijoles Canyon trail. The ~~trail~~ trail itself, Mr. Borell believes, is a "nature" trail his few competitors in Western parks and Monuments.

WILD LIFE AND RANGE---Conditions are very good, only a few small areas showing effects of overgrazing. Monument should be fenced along the south, east, and west boundaries as soon as possible. Cattle now grazing at mouths of canyons usurp best winter range of deer.

PATROL---Essential that Custodian Jackson accompany visitors through ruins lest they deface them, yet patrols should be made over the Monument and detached section. Recent violations: two Indians killed deer on Monument; Mexicans camped where is fire hazard; four new potholes in ruin; woodcutters tore down part of fence, admitting stock. A patrolling ranger, equipped with saddle horse, would protect game, the ruins, and reduce fire hazard. Boundaries should be plainly marked with signs.

BOUNDARY EXTENSION---"So far as I can learn Bandelier is the only Park or Monument in the Southwest which can boast the presence of the Merriam turkey."(Editor's Note: Wild turkeys reported on South Rim of Walnut Canyon National Monument). Turkeys nest in spring in higher parts of range off Bandelier National Monument. Effort should be made to enlarge the Monument to provide nesting range for turkeys. The proposed extension also provide summer range for mule deer, black bear, and possibly dusky grouse. A fine stream flows through the area, and residents claim that ptarmigan, dusky grouse, and beaver are also in the region.

DETACHED SECTION---Elevation and forage indicate a favorable wintering ground for deer, turkey, and possibly a home for scaled quail, but there is no permanent water within three miles of the area. Suggest construction of at least two reservoirs to catch run-off water.

BEAVER---Report that beaver had been planted in Rito de Los Frijoles unconfirmed. Saw no evidence of beaver on the Monument. Saw Muskrat, Abert Squirrel, and Chickaree.

DEER---Deer scarce due to former hunting and many mountain lions. Forage

could support far more deer. Saw tracks of mountain lion, bobcat, raccoon, coyote, and had definite evidence of black bear.

MERRIAM TURKEY---Very few pinyon nuts and acorns this fall. Consequently, these rare birds should be helped through the winter by feeding. Harmful consequences probably will not follow.

TROUT---In Rito, and Valle Grande, but apparently not in Alamo Canyon, or in Cavalin below the Stone Lions. In Rito are small due to cold water and lack of large holes. The 30 remaining wooden dams are helping some, but experiment should be made with large boulders as dams to form holes.

Custodian Jackson agrees and feels that fencing, posting the boundary, and patrolling are essential. He is much in favor of the boundary extension.

******

A DARK EPISODE

Chief, we have a dumb buddy down here among the Southwestern Monuments, who, from time to time, pulls something good.

The latest thing he did was to drain a can of mimeograph ink on a cold morning and then, having a little Scotch in his makeup and hating to throw anything away, he set the can on the office stove to warm it up and squeeze the last drop of ink out of it.

Do you know what deeply ingrained human trait it is in a man that makes him drain the last drop out of a flask and then always cork the bottle tightly before he throws it away? Maybe you never thought of that, but did you ever see a man throw a bottle one way and the cork the other? No, sir, he will always cork the bottle up and then throw it away.

Well, this dumb buddy just automatically screwed the cover down on this can before he set it down on the stove! At that it might have been all right and he might have thought of it in time but his desert gods were not with him that day and a bunch of company happening to get the boys in a jam, he stepped into the breach and went off and left his can on the stove, where, after sitting quietly for about so long a time, it blew up and scattered mimeograph ink over about nine square feet of the nearby wall and Gene's coat which he had hung over the back of a nearby chair.

There were no casualties and it came out of the coat and we can paint over the wall, but everybody around the outfit now claims the right to pull at least one grand boner without getting trimmed because the dumb buddy happened to be myself.

****

Dear Boss:

Many of us here at Headquarters are a little puzzled over the actions of Custodian Jackson at Bandelier National Monument lately.

Here they are in chronological order:

1. (December 10) An urgent appeal for an enlargement of living quarters.

2. (December 15) A request for a new cook stove.

3. (December 18) Order for redecorating interior of Custodian's residence.

4. (December 19) Notice of needed repairs to refrigerator.

5. (December 20) Request for leave of absence starting December 23.

6. (December 22) Arrangements for transportation to San Francisco, Calif., (Not government).

7. (December 28) It appears that Mister Cupid is meddling with the administrative affairs at Bandelier and it might develop into a new H.C.W.P. (Honorary Custodian Without Pay).

THE COMMITTEEON SAFETY OF CUSTODIANS.

****

CASA GRANDE DECEMBER TRIP CHART

On the opposite page are shown the guided trips made at Casa Grande National Monument during the month of December, 1934.

Each of the short horizontal lines represents a party and shows the time it started and ended.

Without any descriptive terms on it this chart would tell at a glance that it was made in winter when the days are short; the parties, with three exceptions, not arriving until nine o'clock in the morning and only one staying beyond six o'clock at night. Compare this with the July, August, and September trip charts on page 138, 139, and 140 when the first parties started about eight o'clock and the last closed at seven to eight at night.

One thing that doesn't improve with the short days, however, is the overlapping of parties. Two men were not enough to handle the situation on 14 days and at two or three times on some of these days. Whenever three lines overlap, two men were unable to give complete service, and at the noon hour whenever two lines overlap the one man on duty cannot give complete service.

The worst feature about this bunching of parties is that we are thus far unable to find any rhythm in it and so cannot predict when it will occur.

If you will hold this sheet at arm's length the bunching of the lines will be more evident, but while most of them occur between 10 and 12 in the morning and 3 and 5 in the afternoon, this is by no means an invariable time for the occurrence.

Since Sunday is the peak day of the week in attendance, you would

CASA GRANDE DECEMBER TRIP CHART

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

1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													
23													
24													
25													
26													
27													
28													
29													
30													
31													

SOUTHWEST MAP CO. PHOENIX, ARIZ. 1984

expect bunching to occur on these days especially. The 2, 9, 16, 23 and 30 were Sundays in December. The 2nd and 9th were days clear of bunching; the 16th had one bad spot about between three and four o'clock; the 23rd bunched pretty badly three times; and the 30th had difficult spots twice. These days ran, respectively, 156, 121, 183, 165, and 108 visitors, and, within reasonable limits, the number of visitors doesn't seem to make or break bunching.

We are beginning to think it is the god of chance who picks the day and delivers the visitors at exactly the wrong time!

******

DISCUSSION OF FOLLOWING TRIP RECORDS

On the following four pages will be found the detailed trip records of guided trips at Casa Grande National Monument for the months of October, November and December as well as a total sheet also giving the comparitive material including records on the three previous months.

Conclusions on the last three months, when compared with those for July, August, and September which were discussed on pages 137c and following, are remarkable for their similarity. Visitors come in bigger parties(an average of more than six persons to the party as compared to a former average of slightly more than four) but they stay just about the same amount of time.

During the first three months we guided a total of 47,591 minutes ---of which we were rather proud. Well, that figure for the second three months jumped to 58,102 minutes. More than 885 hours. More than 110 eight-hour days of actual guiding. This is rather an amazing total, and it is caused by the fact that our visitors come in small parties, and are given immediate service.

During the summer the average party stayed a little over 54 minutes. During the fall the average stay of a party rises slightly to almost 57 minutes----which must indicate the rather improved interest and quality of our cool-weather visitors. This increase is consistently caused by an increase in ruins averages from 32 minutes to 34.5 minutes, and an increase in museum averages from 24.8 minutes to 25.6 minutes. In other words, the very slight changes we have been able to make in the museum do not account for the increase. Visitors themselves must have more time or be more interested.

October's average stay was rather low, 53.7. There was a big jump in November to 59.4 minutes. Then December drops slightly to an average of 57.2 minutes. Just why these changes occur, we do not know. Particularly are we stumped by the December decrease under November. We started to blame it on a windy, rainy streak which, of course, shortened the ruins trips, but we suddenly realized that November also had a correspondingly bad stretch of weather.

All in all, we do not seemes much change in cooler weather as we expected, yet our season has not really started yet. January figures may change.

OCTOBER TIME CLOCK RECORDS

Day of week	Day of month	No. Parties	No. Visitors	RUINS: No. Parties	RUINS: Av. Stay	RUINS: Total Minutes	MUSEUM: No. Parties	MUSEUM: Average Stay	MUSEUM: Total Minutes	Total Stay	Average Stay
Mon.	1	6	15	6		271	5		150	421	
Tue.	2	8	30	8		254	6		115	369	
Wed.	3	4	8	4		72	2		23	95	
Thur.	4	9	25	9		268	7		130	398	
Fri.	5	5	12	5		190	3		111	301	
Sat.	6	10	72	10		360	9		169	529	
Sun.	7	18	141	18		681	18		522	1203	
Mon.	8	6	26	6		136	6		134	270	
Tue.	9	10	38	10		377	10		230	607	
Wed.	10	5	17	5		128	5		140	268	
Thu.	11	10	36	10		281	8		135	416	
Fri.	12	14	39	14		468	10		209	677	
Sat.	13	13	88	13		434	10		213	647	
Sun.	14	16	141	16		583	13		321	904	
Mon.	15	10	41	10		266	8		141	407	
Tue.	16	8	40	8		333	7		253	586	
Wed.	17	10	39	10		342	8		197	539	
Thu.	18	10	37	10		362	9		208	570	
Fri.	19	12	67	12		348	12		230	578	
Sat.	20	9	29	9		240	8		144	384	
Sun.	21	17	128	17		615	15		444	1059	
Mon.	22	12	36	10		388	11		265	653	
Tue.	23	8	32	8		295	8		210	505	
Wed.	24	11	47	11		408	8		205	613	
Thu.	25	14	46	14		407	12		216	623	
Fri.	26	13	55	13		356	10		168	524	
Sat.	27	15	87	11		447	11		377	824	
Sun.	28	25	275	23		778	21		505	1283	
Mon.	29	11	29	11		459	9		305	764	
Tue.	30	6	15	6		215	6		137	352	
Wed.	31	7	20	7		225	6		158	383	
		350	1401	324	33.9	10967	281	24.0	6765	17732	53.7

NOVEMBER TIME CLOCK RECORDS

Day of Week	Day of Month	RUINS: Number of parties	RUINS: Number of visitors	RUINS: Number of parties	RUINS: Av. Stay	RUINS: Total Minutes	MUSEUM: Number of Parties	MUSEUM: Average Stay	MUSEUM: Total Minutes	MUSEUM: Total Stay	MUSEUM: Average Stay
Thur.	1	13	34	13		429	13		259	688	
Fri.	2	12	54	12		374	10		290	664	
Sat.	3	11	50	11		452	9		369	821	
Sun.	4	22	183	22		895	22		786	1681	
Mon.	5	6	21	6		188	4		93	281	
Tues.	6	9	38	9		301	9		308	609	
Wed.	7	7	37	7		200	6		157	357	
Thur.	8	7	43	7		259	7		202	461	
Fri.	9	9	39	9		197	9		197	394	
Sat.	10	9m	42	9		292	8		265	557	
Sun.	11	18	290	18		721	17		490	1211	
Mon.	12	15	128	15		636	15		418	1054	
Tue.	13	9	38	9		261	8		148	409	
Wed.	14	10	50	9		272	10		253	525	
Thu.	15	7	36	7		251	7		222	473	
Fri.	16	9	45	9		273	9		292	565	
Sat.	17	10	46	10		357	9		158	515	
Sun.	18	9	103	9		409	9		294	703	
Mon.	19	6	34	6		196	5		232	428	
Tues.	20	9	74	9		320	9		193	513	
Wed.	21	11	42	11		387	10		197	584	
Thur.	22	10	67	10		322	8		158	480	
Fri.	23	5	14	5		123	4		76	199	
Sat.	24	8	38	8		221	7		137	358	
Sun.	25	12	186	12		548	11		323	871	
Mon.	26	10	51	10		395	8		227	622	
Tue.	27	6	24	6		161	5		117	278	
Wed.	28	12	66	12		401	5		105	506	
Thu.	29	7	83	7		288	6		128	416	
Fri.	30	14	135	14		475	11		248	723	
		302	2099	301	35.2	10604	270	27.1	7342	17946	59.4

D E C E M B E R T I M E C L O C K R E C O R D S

Day of Week	Day of Month	Number of Parties	Number of visitors	RUINS: Number of visitors	RUINS: Av. Stay	RUINS: Total Minutes	MUSEUM: Number of Parties	MUSEUM: Average Stay	MUSEUM: Total Minutes	Total Stay	Average Stay
Sat.	1	12	74	12		558	12		423	981	
Sun.	2	13	156	12		409	10		274	686	
Mon.	3	8	61	8		290	7		161	451	
Tues.	4	12	40	12		332	11		286	618	
Wed.	5	9	33	9		278	9		209	487	
Thur.	6	6	28	6		190	6		152	342	
Fri.	7	6	27	6		184	5		111	295	
Sat.	8	10	74	10		468	9		267	735	
Sun.	9	8	121	9		328	9		225	553	
Mon.	10	8	38	8		218	8		205	423	
Tues.	11	6	15	6		172	5		98	270	
Wed.	12	6	29	6		157	6		87	244	
Thur.	13	6	21	6		150	6		121	271	
Fri.	14	8	54	8		273	7		180	453	
Sat.	15	9	37	9		221	9		171	392	
Sun.	16	12	183	12		528	9		269	797	
Mon.	17	8	40	8		328	6		118	446	
Tues.	18	12	55	11		275	12		248	523	
Wed.	19	9	45	9		327	7		147	474	
Thur.	20	9	44	9		243	7		166	409	
Fri.	21	8	26	8		292	7		180	472	
Sat.	22	10	42	10		279	8		181	460	
Sun.	23	17	165	17		728	17		480	1208	
Mon.	24	10	34	10		330	8		277	607	
Tues.	25	12	110	12		360	10		314	674	
Wed.	26	9	64	9		425	9		257	682	
Thur.	27	16	120	16		612	13		364	976	
Fri.	28	10	35	10		305	9		207	512	
Sat.	29	12	65	12		433	10		241	674	
Sun.	30	9	108	9		374	8		279	653	
Mon.	31	14	83	13		396	11		238	634	
		304	2047	302	34.6	10465	270	25.7	6941	17404	57.2

TOTAL SHEETS: TIME CLOCK RECORDS

Month	Number of Parties	Number of visitors	RUINS: No. of Parties	RUINS: Average Stay	RUINS: Total Minutes	MUSEUM: No. of Parties	MUSEUM: Av. Stay	MUSEUM: Total Minutes	Total Stay	Average Stay
July	263	1068	247	33.8	8,343	223	25.0	5679	14022	53.0
August	314	1328	312	34.0	10,815	297	24.0	7359	18174	57.0
September	303	1289	298	33.0	8,849	269	24.3	6546	15395	51.0
October	330	1691	324	33.9	10,987	281	24.0	6765	17752	53.7
Oct.1-15	144	729	144	33.1	4,769	120	22.8	2743	7,512	52.1
1st 1,000 Parties	1024	4414	1001	33.7	32,776	909	24.5	22327	55103	53.8
Oct.16-31	186	962	180	34.5	6,218	161	24.9	4022	10240	55.0
November	302	2089	301	35.2	10,604	270	27.1	7342	17946	59.4
December	304	2047	302	34.6	10, 463	270	25.7	6941	17404	57.2
July-Aug.-Sept.	880	3685	857	32.6	28,007	789	24.8	19584	47591	54.0
Oct.-Nov.-Dec.	936	5827	927	34.5	32,054	821	25.6	21048	53102	56.7

SOME FACTS ABOUT TEN THOUSAND VISITORS*

Number in party----------	1	2	3	4	5	6	7
Number of parties--------	72	487	391	247	181	134	82
Percent of total time----3.39		24.53	14.28	13.83	9.64	8.09	4.82
Number of persons--------	72	974	813	988	905	804	574
% of total persons-------	.85	10.19	8.51	10.34	9.47	8.41	6.00
Total stay in minutes----3382		24441	14234	13782	9612	8068	4806
Average stay in minutes--46.9		50.1	52.5	55.7	53.1	60.2	58.6

Number in party----------	8	9	10	11	12	13	14
Number of parties--------	58	45	30	35	29	18	12
Percent of total time----3.34		2.94	2.0	2.42	1.83	1.19	.74
Number of persons--------	464	405	300	385	348	234	168
% of total persons-------4.85		4.24	3.14	4.03	3.64	2.45	1.75
Stay in minutes----------3335		2930	1999	3414	1824	1186	747
Average stay in minutes--57.5		65.1	66.6	68.9	62.8	65.8	69.2

Number in party----------	15	16	17	18	19	20	21
Number of parties--------	14	14	12	11	4	3	1
Percent of total time----	.93	.93	.76	.72	.26	.26	.07
Number of persons--------	210	224	204	198	76	60	21
% of total persons-------2.19		2.34	2.13	2.07	.79	.62	.21
Total stay in minutes----	930	928	758	720	265	264	74
Average stay in minutes--60.4		66.2	63.1	65.0	66.2	88.0	74.0

Number in party----------	22	23	24	25	Misc.	Totals	
Number of parties--------	3	3	6	3	24	1799	
Percent of total time----	.21	.18	.24	.22	1.97	99	plus
Number of persons--------	66	69	144	75	770	9551	
% of total persons-------	.69	172	1.50	178	8.06	99	plus
Total stay in minutes----	213	180	343	226	1963	99626	
Average stay in minutes--	71	60.6	40.5	75.3	81.7	55.3	

*Covering July 1 to December 31, inclusive.

Do you know that if it takes 46.9 minutes to show one visitor around your shop and you add another one it will increase your time only 6.8%? A party of three will take 4.7% more time than two. A party of four takes 6.0% more time than a party of three. By this time you are probably saying that of course for each person you add you will get about so many more questions which will slow you down from 4 to 6 percent.

Then, since you know the answer so well, please tell me why, when you add the fifth person, you cut down the time of handling the party 4.6% as against a four-person party. Yes, we thought of that, too. By the time you get five, some of them get bashful and don't want to ask questions. Then please explain why when you make it a party of six your time goes from 53.1 minutes up to 60.2? About all we can say is that your explanation is wrong.

These are some of the interesting side lights on handling eighteen

hundred parties.

We can tell you that 40% of your visitors will come in parties of 2 to 6 inclusive and will take up 70% of your time, whereas if the same percentage came in parties of 23 they would take up only 10.5% of your time yet you could give them 20% more time to the party.

Given the same type of archaeological problems to put over and the same number of visitors at each monument, the answer is that the number of personnel depends inversely on the size of the parties. This is just common sense, of course. Thirty people in a caravan can be handled by one ranger in a certain time, but when they come in six parties of five at different times your service with one ranger promptly breaks down---when nearly half of the visitors (40%) come in parties of two to six you can see why we are continuously crying for more personnel for the Southwestern Monuments.

The first solution which comes to mind is to hold the parties as they arrive until you can bunch them and send them out twelve or fifteen at a time under one guide. The reply to this solution is that you can't hold them five minutes before they get restive and begin feeling that your service is faulty. We have tried it and we know. The psychology of the present day visitor is quite different from the same man when he was a visitor twenty years ago. He has increased his physical speed from 30 miles per hour to 60 and this has geared his nervous tension up to the point where any minute he is not doing a couple of things at once seems like an etennity.

I am well aware that TomMoles can hold a party for an hour without protest to make the start into the Caverns whereas the same party two days later will protest a wait of ten minutes at Casa Grande. The reason for this is the visitor knows there is risk ingoing into Carlsbad unguided and he is therefore willing to wait, whereas at Casa Grande he knows there is no risk and doesn't realize he needs a guide for information and protection purposes so he is impatient at once if you make him wait for one.

Casa Grande is simply the laboratory we happen to be working in. The problem is just as acute at any of our Southwestern Monuments.

******

And so we come to the end of the month and the end of the year. Both have afforded us a lot of work and no small amount of fun. We close this six months volume of reports with this issue and inclose a fairly complete index of the volume which we hope will be of some use to those who might have filed the preceeding issues.

Looking forward into the new year we have certain plans and hopes which we hope will work out into a better group of reports for the next six months which will give you a clearer picture of what is happening in the Southwestern Monuments.

HE Ross

GENERAL INDEX TO MONTHLY REPORTS AND SUPPLEMENT, JULY TO DECEMBER, 1934, INCLUSIVE

Arches National Monument
1934 travel totals 94
Attwell, Walter
July report 39,40,41
August report 80
September report 129,130
October report 174,175
November report 239
Aztec Ruins National Monument
July report 7,8
August report 63,64
September report 110,111
October report 162,163
November report 229,230
December report 287,288
1934 travel totals 94
"Proposed Museum in Great Kiva" by Johnbill Faris 261,262, 263,264,265
Bandelier National Monument
July report 8-10
August report 53-56
September report 106-108
October report 169-171
November report 234-238
December report 276,277
1934 travel totals 94
Landscape report, July 11,12
Museum
Proposed items for 86-93
"Future Museum for Bandelier" (First revision) by Earl Jackson 142-148
Museum plans (Second revision) 187-191
Museum plans, drawings, discussion 265-268
Nature notes
July 10
October 170,171; 235-237
December 276,277; 304,305
Pictographs 49, 56, 215, 217
"Story of Bandelier National Monument", by Earl Jackson 149-152
"Tsankawi, Ruins of" by Earl Jackson 213-214
"Tschirege, Ruins of" by Earl Jackson 216,217
Beaubien, Paul
appointment as temporary ranger at Walnut Canyon 52a
August Walnut Canyon report 74,75
September report 126
October report 165,166
November report 228
Berell, Adrey
December report 304,305
Botanical notes at Bandelier 170-171
Boundey, George L.
July report 30
August report 66,67
September report 119,120
October report 165
November report 228
December report 285
Brewer, James V.
appointment as temporary ranger at Wupatki Ruins 2
July report 31-34
August report 70,71
September report 124,125
October report 157,158
November report 224,225
December report 288
December Walnut Canyon report 289
December Sunset Crater report 288
Brown, Harry P.
July report 27
August report 76,77
Dudley, Robert R.
transfer to Canyon de Chelly 52
August report 59
September report 117,118
October report 167
November report 230,231
December report 275
Burial at Chetro Ketl, by Margaret E. Woods 61,62
Canyon de Chelly National Monument
1934 travel total 94
August report 59
September report 117
October report 167
November report 230,231
December report 275

Capulin Mountain National Monument
July report 12
August report 65,66
September report 117
October report 136
November report 232
December report 288
1934 travel total 94
"Dying Trees at Capulin" by Homer Parr 166,167
Casa Grande Ruins National Monument
July report 14,15
August report 79
September report 128,129
October report 177
November report 238,239
December report 290
1934 travel figures 94
Museum suggestions 47-49
Caywood, Louis R.
appointment as ranger at Casa Grande 155
Chaco Canyon National Monument
July report 16,17
August report 59-61
September report 112,113
October report 167
November report 227,228
1934 travel total 94
finding of burial at Chetro Ketl 61,62
Charles, Tom
July report 35-37
August report 77,78
September report 127,128
October report 160,161
November report 226,227
December report 283,284
Story of White Sands National Monument 82
Chase, H.B.
December Bandelier ECW report 277-279
Chiricahua National Monument
July report 17
August report 72,73
September report 103-105
October report 158-160
1934 travel total 94
ECW Progress report, Oct. 176
Labor Day Celebration, notes on 103,104
Conference Notes, by the Boss 247
Construction
July 2,3
August 51,52
S September 101
October 153
November 220
December 271
Cook, L.F.
"Forestry ECW Report at Bandelier" 281,282
Cornell, Ralph D.
"The Mesquite" 191-195
"Dark Episode, A" 305

ECW Projects
Bandelier December report 277-9
resume 273
Chiricahua December report 279-280
resume 273
Education
analysis of 1934 contacts 97-100
and Museum summary 136
and Museum Summary for December 274
El Morro National Monument
July report 20
Augsut report 67-70
September report 120-122
November report 232-234
December report 285-287
1934 travel total 94
FERA report from July 1 to Oct.1, 1934 241, 242
Recent Inscriptions on, by E.Z. Vogt 138-141
Engineering reports
Attwell, Walter
July 39-41
August 80
September 129,130
October 174,175
November 239
Brown, Harry F.
July 27
August 76,77
Gordon, Gene H.
November 239,240
December 291
Hamilton, J.B.
July 38

Engineering reports (cont.)
Hamilton, J.B. (cont.)
September 130
November 240,241
Sims, Richard D.
Chiricahua ECW for Oct. 176
Excavations at Snaketown 270

Faris, Johnwill
July report 7,8
August report 63
September report 110
October report 162,163
November report 239,230
December report 287,288
"Proposed Museum in Aztec Great Kiva" 261-265
Farr, Homer J.
July report 12
August report 65,66
September report 117
October report 166
November report 232
December report 288
"Report of Dying Trees at Capulin" 166,167
FERA Report of El Morro, July-October, 1934 241,242
Field trips of Southeastern Monuments Personnel
August 50,51
September 101
October 155
November 222
December 274
Fire report
Bandelier, by James Fulton 108
Fish, Frank L.
July report 26,27
August report 75,76
transfer to Montezuma Castle 52
"Following Spanish Trails" 303
Forestry ECW Report at Bandelier 281,282
Fulton, James
Fire report 108-110

Geological Museums, Discussion of 299-302
Gila Cliff Dwellings National Monument 1934 travel 94
Gila Pueblo, Excavations of the 270
Gordon, Gene H.
Report for November 239,240
Report for December 281
Gran Quivira National Monument
July report 25
August report 57,58
September report 119
October report 161,162
November report 223
December report 275
1934 travel total 94
Great Kiva Museum at Aztec, Proposed, by Johnwill Faris 261-265

Hamilton, J.B.
July report 38
September report 130
November report 240,241
Hammond, H.O.
Chiricahua December ECW Activities 279,280
Hatton, Leonard
July report 28,29
August report 64,65
September report 123
October report 172
November report 223
December report 282,283
Hovenweep National Monument
1934 travel total 94
visited by Attwell 239

Jackson, Earl
July report 8-10
August report 53-57
September report 106-108
October report 169-171
November report 234-238
December report 276,277
Discussion of peculiar actions of 305,306
Proposed Items for Bandelier Museum 86-93
Future Museum for Bandelier 142-148
Story of Bandelier National Monument 149-152
Ruins of Tsankawi 213,214

Earl Jackson (cont.)
Ruins of Tshirige 216,217
Jackson, Martin L.
September report 114
October report 164
November report 231,232
December report 290
Johnson, Zeke
July report 27,28
August report 74
September report 116,117
October report 173
December report 281
Junior Naturalist King July report 13

King, Dale S.
appointment as Junior Park Naturalist 1
July report 13

"Master Museums" 299-302
McKee, Edwin
discussion of museum plan by 299-302
"Mesquite, The" by Ralph D. Cornell 191-195
Miller, Thomas C.
appointment as Custodian of Chaco 2
July report 17
August report 59-61
September report 112,113
October report 167,168
November report 127,128
Missions, Study of 303
Montezuma Castle National Monument
1934 travel total 84
July report 26,27
August report 76-77
September report 114
October report 164
November report 231,232
December report 290
Monthly Report "Why They Want It" 303
Morse, Jared B.
July report 11,12
"Discussion of Bandelier Museum Drawings" 265
Museum and Education Summary
October 156
November 222
December 274
Museums, Master 299-302
Museum plan, drawings, and discussion at Bandelier 265-268
Museum plans for Bandelier 86-93; 142-148; 187-191
Museum Plans for White Sands 248-256
Museum service, listing of Monuments offering such 3
Museum Suggestions, by C.R. Steen 81

Natural Bridges National Monument
July report 27,28
August report 74
September report 116,117
October report 173
December report 281
1934 travel total 95
Navajo National Monument
July report 28
August report 74
September report 115,116
October report 163,164
1934 travel total 95
"New Deal in 1696, The " 296

Officials
August visits 52a
September visits 102
October 155
Ornithological notes at Bandelier 235-237

Page Numbering System for Monthly Report 178
Paleontology of the Petrified Forest National Monument, A Preliminary Report on the, by A.V. Walker 256-269
Palmer, Hilding
July report 14,15
August report 79
September report 128,129
October report 177
November report 238,239
December report 290,291
Patterson, J.L.
July Chaco report 16

Peterson Alfred
July report 23-25
"Rambling in the Southwest" 208-212
Pipe Spring National Monument
July report 28-29
August report 64
September repirt 123
October report 172
November report 223
December report 282-283
1934 travel total 95
"Positive Negative, A" 299
Powell, Charles E.
appointment as temporary ranger at Chiricahua 2
July report 17
August report 72-73
September report 103-105
October report 158-160
Preservative Fluid, Article on 297-298
Projects
July listing 2,3
August listing 51,52
September 101
October listing 153
November listing 220-222
December listing 274,275

Rainbow Bridge National Monument
1934 travel figures 95
Recent Inscriptions on El Morro, by E.Z. Vogt 138-142
Rose, Robert H.
Proposed White Sands Museum 248-256

Saguaro National Monument
1934 travel total 95
"Salesmen of Knowledge" by Glenn Frank 42
Scientists Discover Preservative Fluid 297,298
Smith, W.H.
July report 25,26
August report 57,58
September report 119
October report 161,162
November report 223
December report 275
'Snaketown Dig, The" 270
Southwestern Marriage 246,247
Steen, Charlie R.
Appointment as temporary ranger at Tonto 2
July report 30,31
September report 124
October report 168,169
November report 228,229
December report 279
Museum suggestions a la Tuzigoot 81
Sunset Crater National Monument
1934 travel total 95
December report 288
Time Clock Records at Casa Grande
July trip chart 132
August trip chart 133
September trip chart 134
October trip chart 199
November trip chart 269
December trip chart 307
Table for July 135
Table for August 136
Table for September 137
Table for October 309
Table for November 310
Table for December 311
July averages and graphs 43-47
August averages and graphs 83,84
Summary and discussion of three month's figures 137a-137d
Conclusions on 1,000 Guided Trips through Casa Grande National Monument 196-207
-Method of study 196,197
-Statistics on various sized groups 197,198
-Detailed table of averages of ruins and museum trips 200,201
-Graph of (1) average museum trips and (2) average ruins trips (3) average complete trips 202
-Graph of (1) total number of parties at various hours in day (2) average number of persons at various hours 203
-Conclusions on statistics and graphs 204-207
Totals for six months 312
Discussion of six month total 308

Time Clock Records at Casa Grande (cont.)
Facts about 10,000 Visitors, table 313
Discussion of Figures on 10,000 Visitors 313,314
Tonto National Monument
July report 30,31
September report 124
October report 168,169
November report 228
December report 279
1934 travel total 95
Travel
July 3
August 52a
September 102
October 153
November 219
December 271
Annual Travel Report 94-100
Analysis of 1934 total 95-97
"Trees, Dying at Canulin" by Homer Farr 166,167
"Tsankawi, Ruins of" by Earl Jackson 213,214
"Tshirege, Ruins of" by Earl Jackson 216,217
Tumacacori National Monument
July report 30
August report 66,67
September report 119
October report 165
November report 220
December report 285
1934 travel total 95
excavation of 303
Tuzigoot Museum, Suggestions by Charlie Steen 81
Vogt, Evon Z.
July report 80-83
August report 67-70
September report 120-122
November report 252-254
December report 285-287
"Recent Inscriptions on El Morro" 138-141
FERA report from July 1 to October 1, 1934 341,342
Vreeland, Frederick K.
Notes on Park Service policies 131
Walker, M.V.
"A Preliminary Report of the Paleontology of the Petrified Forest National Monument, Arizona" 256-261
Walnut Canyon National Monument
History and general character 31-33
July report 31-34
August report 74,75
September report 126
October report 165,166
November report 228
December report 289
1934 travel total 95
Waterproofing Fluid, Article 297,298
Weather
December report 271
Wetherill, John
July report 28
August report 74
September report 115,116
October report 163,164
Wetherill, Milton
August Nature Study Report 85,86
White Sands National Monument
General description of 82
Proposed museum at 248,256
1934 travel total 95
August report 77,78
September report 127,128
July report 35-37
October report 160,161
November report 226,227
December report 283,284
"Why They Want It" 303
Wild Life Technician Report for December 304,305
Woods, Margaret S.
"Burial at Chetro Ketl" 61,62
Wupatki Ruins National Monument
August report 70,71
September report 124,125
October report 157,158
November report 224,225
December report 286
1934 travel total 95

Yucca House National Monument
1934 travel total 95
visited by Attwell 259