SOUTHWESTERN MONUMENTS

MONTHLY REPORT

JAMVARY, 1936



DEPARTMENT OF THE INTERIOR MATIONAL PARK
SERVICE

Southwestern Monuments January, 1936, Report INDEX

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Southwestern Monuments PERSONNEL

HEADQUARTERS, Southmestern Monuments, Coolidge, Arizona: Frank Pinkley, Superintendent. Hugh M. Miller, Acting Assistant Superintendent. John H. Diehl, Associate Engineer. Robert H. Rose, Assistant Park Naturalist. Dale S. King and Louis R. Caywood, Junior Park Naturalists. A. T. Bicknell, Custodian on Special Detail. Robert L. Cole, ECW Clerk. Luis Gastellum, Temporary Clerk-Stenographer.

GENERAL FIELD MEN: Charles A. Richey and Harry Langley, Resident Landscape Architects. J. B. Hamilton, Associate Engineer. J. H. Tovrea, Chief Engineering Aide. Andrew Clark, Topographer. Carl Schmidt, Rodman.

FIELD SPATIONS:

- 1. Arches --- Mosb, Utah. J. M. Turnbow, Custodian.
- 2. Aztec Ruins -- Aztec, New Mexico. Johnwill Faris, Custodian.
 Robert W. Hart, Ranger-Archeologist.
- 3. Bandelier --- Box 669, Santa Fe, New Mexico. Earl Jackson, Custodian.
- 4. Canyon de Chelly -- Chin Lee, Arizona. Robert R. Budlong, Custodian.
- 5. Capulin Mountain -- Capulin, New Mexico. Homer J. Farr, Custodian.
- 6. Casa Grande Ruins -- Coolidge, Arizona. W. J. Winter, Custodian. Charlie R. Steen, Park Ranger.
- 7. Chaco Canyon --- Crosmooint, New Mexico. Thomas C. Miller, Custodian.
- 8. Chiricahus --- Willcox, Arizona.
- 9. El Morro-Raman, New Mexico. E. Z. Vogt, Custodian.
- 10. Gila Cliff Dwellings --- Cliff, New Mexico. Wo Custodian.
- 11. Gran Quivira --- Gran Quivira, New Mexico. W. H. Smith, Custodian.
- 12. Hovenuecp --- Cortez, Colorado. No Custodian.
- 13. Montezuma Castle -- Cemp Verde, Arizona. Martin L. Jackson, Custodian. Frank Fish, Park Ranger.
- 14. Natural Bridges --- Blanding, Utah. Zoke Johnson, Custodian.
- 15. Mayajo -- Mayenta, Arizona. John Wotherill, Custodian.
- 16. Pipe Spring---Moccasin, Arizona. Leonard Heaton, Acting Custodian
- 17. Rainbow Bridge --- Rainbow Lodge, Arizons. No Sustodian.
- 18. Saguaro --- Tucson, Arizona. Paul Beaubien, Temporary Ranger.
- 19. Sunset Crater -- Flagstaff, Arizona. J. W. Brewer, In Charge.
- 20. Toute --- Recsevelt, Arizona. Woodrow Spires, In Charge.
- 21. Tumacacori --- Hox 2225, Tucson, Arizona. George Boundey, Custodian.
 Martin Evenstad, Park Ranger.
- 22. Walnut Canyon --- Flagstaff, Arizona. Donald Erskine, Ranger In Charge.
- 23. White Sands--- Alamogordo, New Mexico. Tom Charles, Custodian. Barry Mohun, Utility Man.
- 24. Wupatki --- Flagstaff, Arizona. J. W. Breder, In Charge.
- 25. Yucca House --- Cortez, Colorado. No Custedian.

CONDENSED REPORT

Coolidge, Arizona February 1, 1936

The Birector National Park Service Washington, D. C.

Dear Mr. Director:

The Condensed Report for Southwestern Monuments for January, 1936:

TRAVEL			
	January, 1935	<u>January, 1935</u>	January, 1934
Aztec Ruins	225	298	131
Bandelier	254	233	72
Capulin Mountain	350	300	400
Casa Grande	3,370	2,327	2,272
Chaco Canyon	260	361	300
Canyon de Chelly	10	ទ	
Chiricahua	250		-
El Morro	4	C	
Gran Quivira	287	-	37 0
Montezuma Castle	612	321	960
Natural Bridges		,	-
Navajo			
Pipe Spring	337	3.45	454
Saguaro	800	~- -	
Sanset Crater	28		
Tombo	751	425	-
Tumacacori	1,607	886	1,498
Walnut Canyon	ໍລ85		
White Sands	4,402		
Wupatki	106	60	34
Yucca House			
Actual Reported		- unc	6 (0)
Registration	13,960	5,370	6,491

The 18 monuments which reported both in 1935 and 1936 showed an increase from 5,370 to 7,856---2,486 visitors, or 46.2 percent.

The ten monuments which reported both in 1934 and 1936 showed an increase from 8,491 to 7,378---887 visitors, or 13.6 percent.

Thus, it would appear that January, 1936, as a travel month was 46.2 percent better than the same month in 1935; 13.6 percent better than the same month in 1934. General heavy increase in travel is shown all through the Southwest, particularly in the southern part of the area. This is notable, because some monuments reported increases despite adverse earlier conditions.

CONDENSED REPORT (COLT.)

CELTELLA

C2C STEATHER

January throughout the Southwest has been colder than the same month last year with the singular exception of a darm area apparently surrounding the San Francisco Peaks, including Walnut Canyon and Wupatki Monuments. Northeastern New Mexico also experienced weather slightly warmer than the rest of the Southwest. Excellent moisture conditions brought about by good snows are found at Gran Quivira, El Morro, and Bandelier. The southern part of our area is still suffering from lack of moisture.

100 ADMINISTRATIVE

121 MONUMENT INSPECTIONS BY SUFFRINDENDENT PINKLEY

Superintendent Pinkley made a one-day trip to Tumacacori to re-check certain architectural data in the light of recent investigations.

122 INSPECTIONS BY SPECIAL FIELD REPRESENTATIVES

Lyle Bereume, associate landscape architect at Bandolier January4; et Canyon de Chelly several times during month.

Associate Engineer J. B. Hamilton and Chief Engineering Aide Paul Duvie at Canyon do Chelly January 3.

Regional Wildlife Technician Adrey Borell at White Sands and Tumpencori. Associate Engineer J. H. Diehl at White Sands.

Landscape Architect A. C. Kuehl and Superintendent Guy Edwards (Grand Teton National Park) at Pipe Spring.

123 INSPECTIONS BY NATIONAL PARK OFFICERS

Acting Assistant Superintendent Hugh Miller at Chiricahua Jan. 21-24.

18C PUBLICITY

The White Sands National Monument float, donated by public-spirited citizens of Alamogordo, New Mexico, won first prize in its division at the El Paso (Texas) Sun Bowl Carmival, January 1.

200 MAINTENANCE, IMPROVIMENTS, NEW CONSTRUCTION

SIO MAINTENANCE, UNUSUAL

CASA GPANDE --- Sewage disposal system still giving trouble and requiring maintenance with makeshift methods.

CAPULIN MOUNTAIN--- road up the Crater in very bad condition. Is really unsafe, and needs maintenance.

220 IMPROVEMENTS

CHACS CANYON --- minor museum improvements effected during month. SAGNARO --- Register stand built. Temporary ranger quarters being constructed with aid from the University of Arizona in the University storehouse on the monument.

WARMUT CAMMON --- Cistern cleaned and now in first-class shape.

230 MES CONSTRUCTION

AZMEC RUINS --- ECW work progressing with sheds tork down, patio work almost completed, and cleanup under way.

BANDELIER --- CCC barracks moved and Museum Building footings completed and walls are at three-foot height. Hesidence road drainage structure complete as far as grading is concerned. Telephone conduit trench completed. Tree and shrub planting carried on all month. Water line excavation to 10,000 gallon reservoir completed and reservoir about

S MONTHLY REPORT FOR JANUARY, 1936 SOUTHWESTERN MONUMENTS

COMDENSED REPORT (CONT.)

75 percent excavated. All materials on job for this project. Timber crew in Santa Fe National Forest has delivered all vigas and lintels for Museum and Quarters No. 1 buildings.

The quarry crew had worked steadily producing building stone for the museum, quarters and other building projects.

A small crew has been working on carved signs for the monument and has recently started supplying signs for other southwestern monuments.

CANYON DE CHELLY --- Custodian's residence 90% complete

Well complete. 98 feet 5 inches deep; 6-5/8 inches (C.D.) diameter. Pumping 2,880 gallons per hour, the level remains constant at 41 feet. Fine cooperation from Indian Irrigation Service.

CHACO CANYON --- Boundary fence complete except for minor cleanup. Custodian Miller reports excellent job by contractor despite hard-ships. 12,672 rods of fence, 18 gates, 2 cattleguards, 106.953 cubic yards of concrete.

CHIRICAHUA---ECW progress as follows:

1400 additional feet on Sara Deming Trail, making a total of 4,900 feet.

200 additional feet of heavy construction on Echo Trail. 1500 square yards of backsloping on Bonita Highway. About 2,000 cibic yards of material moved.

Hoadquarters Ranger station 75% complete.

Bath house 50% complete.

PIPE SPRING --- ECW work as follows:

Ditch diversion 90% complete.

SC% of rock laid for walk from west building to Fort. Considerable road widening accomplished.

300 ACTIVITIES OF CTHER AGENCIES IN MONUMENTS

320 COOPERATING GOVERNMENT AGENCIES

CANYON DE CHELLY---Custodian Budlong deeply appreciates efficient cooperation of Indian Irrigation Service in well drilling. Especial thanks to Mr. C.A.Burns, engineer, and Mr. Burt Cravath, driller. CHACO CANYON---Scil Conservation Service has been forced to lay off men for lack of funds to buy materials for large basket dans in revetment work. This work should proceed while ground is frozen and would result in much protection to important ruins.

400 FLORA, FAUNA, NATURAL PRENOMENA

430 ARCHECLOGY, PRAMISTORY, MISTORY

BANDELIER -- Mrs. Betty Jackson discovered a six-room cliff duelling, the only one known to occur on the shady side of Frijoles Canyon, one half mile above Ceremonial Cave.

--- Excavation for a box culvert disclosed a fragmentary skeleton. No accompanying artifacts.

--- Another bison tooth discovered. Previous one identified in 1934.

--- Small six-room ruin uncovered by grading behind utility area. No damage, fortunately.

CHACO CANYON --- "Prehistoric turkey nest" found 10 feet below surface

COMMENCED REPORT (CONT.)

in arroyo near Pueblo III ruin. Eggs removed in block and placed in museum.

440 INSECT CONTROL

CASA GRANDE --- Infestation of mesquite trees requiring examination by forester. More than 20 trees badly damaged.

460 BIRDS

RANGELIER --- Merriam Turkeys unusually tame.

GENERAL --- Total of 579 birds now banded by six stations.

MUPATKI --- Turkeys still in high country, which is unusual. Flock of dozen introduced Scaled Quail noted at Heiser Spring.

470 ANTIGALS

BANDHITER --- Benver have ascended into monument within half mile of early. Cutting about 50% of young cottenwood growth.

WAIMUT CAMMON -- Herd of 19 deer noted on monument.

WYPATKI --- Deer reported as still in high country. Unusual.

500 USE OF MONORMY FACILITIES BY PURLIC (see travel figures on page 1) 530 NEWSJORTTY VISITORS

CASA GRANDE -- January 9, Br. W. H. Campbell of Desert Laboratory of Southwest Museum; Jan. 10, Arthur Snyder, state supervisor of vocational education; Jan. 17, W. Ross Teel, Indiana state archeologist; Jan. 20, Amos Alonzo Stage, facous football coach; Jan. 24, W. L. Simpson, U. S. Commissioner in Grand Teton area, Wyoming.

TONTO--- Amos Alenzo Stagg, January 19.

WHITE SANDS---Giovanni Bassett, editor of "Popolo d'Italia," Milan, Italy.

WPATKI --- Alexander Woolloott, noted author and critic, and Joe Honnessy, January 4-5, "to be somewhere where no one could call him up to day his maiden aunt had just been arrested for disorderly conduct."

600 PROTECTION

650 SIGNS

WAINUT CANYON --- Reports need of better signs at entrances on Highway 66.

900 MISCELLANEOUS

MAIL COUNT

Incoming, official Incoming, personal Cutgoing, official only	1,307 759 1,590
Telegrams, incoming Telegrams, outgoing	13 23
Total number of pieces handled	3,692

Cordially,

REPORTS FROM MEN IN THE FIELD

EL MORRO

By Even Z. Vegt, Jr.

Travel to El Morro is at a standstill. Visitors for the month number four, two from Gallup, one from the Gemerco coal mine, and myself. No one has been inside the monument grounds, except myself, since the 5th of the month. The entrance road leading from the main road into the monument is covered with two feet of hard crusted snow. A solitary rabbit path leads across the cattleguard. I made an attempt last Sunday to drive my car into the monument; after bucking the snow for 20 feet, I stuck in a snowdrift and spent an hour shoveling and backing out into the main road. Then I decided it would be better policy to leave the car in the road and plow through the snow on foot to the register.

After looking at a practically blank register, I waded through kneedeep show around to the south side of the Rock where it is warm, sunny, and dry in most places.

If the administration building were to be built on the north side, it is clear that a snow plow would be needed to open the road for the ranger or custodian. Either that or he would have to find a nice warm cave and hibernate during the winter months.

There are about six inches of ice on the water in the cove. I was unable to remove the pipe which siphons the water down to the cabin before the water froze, because homesteaders insisted on hauling water all through December. The pipe is not being damaged and could not be removed without a great deal of chopping, so I think I shall leave it in the pool.

From the water cove one can see that the prehistoric hand and foot trail leading down from the top of the Rock to the water in the rincon could not have been used in the winter time. The snow clings to that side of the cliff and completely covers the old hand and foot holes. But, I guess, the puebleness didn't need to come down for water when there was snow on top to melt. If they did come down to the rincon for water, it must have been quite a sight to see several old Indians dressed in doer-skins and shivering around trying to keep warm chapping a hole in the ice with their stone axes.

El Morro is pretty this time of year. Three colors dominate the picture that is seen by the visitor. The snow, clouds, and rocks are more or less white. The green of the evergreen trees is quite dark and colorless compared to the dark blue of the distant Zuni Mountains and the beautiful blue of the New Mexican sky. Other colors which make up minor parts of the picture are the grays of the oak trees and sagebrush, the browns of the tree trunks, and the slight traces of red coloring nearby mesas.

But one can hardly appreciate this beauty when the snow cozes down inside overshoes and cools one's feet to a much lower degree than is comfortable and clouds gather for another storm which promises to cover the monument with another foot of snow.

After admiring the color of our new steps just after the application of the Copperas, I examined them two weeks later to find that some chemical reaction had taken place and the color was white, almost as if they had been whitewashed. They are still white. Although the color of the south slope of the Rock is quite light, it is far from white, and the steps do not blend into the natural sandatone at all.

BANDELIER

By Earl Jackson, Custodian

Visitors:

Visitors numbered 254, arriving in 76 cars, from 27 states, Washington, D. C., England, Australia, Manitoba, and Chtario.

The six highest states by visitors were: New Mexico, 16C; Colorado, 15; Cklahoma, 13; Texas, 9; Kansas, 8; South Daketa, 6.

Visitor attendance, discounting 10 people who came from December 22-24, inclusive, shows an increase of 11 over January of 1935. This increase is in spite of bad weather conditions.

Visitor Trip Chart:

From the first of January, 19 trips with Park Service guide were taken through the ruins. These totalled 55 people. The others were all contacted and registered, but either didn't go through on account of weather, or went through with local guides or Harvey couriers, or went through unattended in my absence from the office. Many of those going through unattended are with local people who have seen the ruins so often they feel like they partially owned the place, and specfically prefer to wander informally about the canyon to going with a guide. The average of minutes devoted to each guided party was 54.7.

Weather and Reads:

Days partly cloudy:	8		
Days cloudy:	1.8		
Clear days:	11.		
Maximum Temperature:	51.	January 15	
Minimus Temperature:	2	January 18	
Moan Maximum:	37		
Mean Minimum:	14.8		
Precipitation:	. 60		
Snowfall:	3"	January 7	
	4"	<u>", 18.</u>	-
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BANDELIER (CONT.)

In other words, weather has been brisk during January, with the heaviest snows since 1933. There has been a high percentage of cloudy days. Temperature has been only moderately low. Snow was 18" deep at a 1200-feet higher altitude, on Sawyer Mesa.

Roads have been bad, as is to be expected in January, but are better than they were at this season last year. They have been passable at all times, and tire chains were needed only for two days, on the steep grades of the Ramon Vigil Grant. The road to the highway is good now, with just a few very wet places.

Special Visitors:

Fanuary 8 - John Knox, of Denmark, late of Chicago, was a very interested visitor, unding through snow to see the ruins.

January 14 - Lyle Parcume, associate landscape architect from the San Francisco office, was in for a day inspection, and visited the principal ruins while here.

January 19 - L. K. Waring, instructor at Los Alamos Ranch School for Boys, Was in with 14 of the boys for an afternoon stay in the ruins.

January 21 - Mrs. Ruth Cornwell Woodman, of the McCann Erickson Advertising Company, was an interested visitor. Mrs. Woodman prepared broadcasts for the National Broadcasting Company. Unfortunately, I did not know which day to expect her, and so was in Santa Fe on business the day she arrived, but she left word she had been treated very nicely by Mr. Chase and the CCC guide.

Nature Notes:

Until two weeks ago, four large turkeys were lingering in the canyon below the custodian's house. They were huge fellows, and looked very healthy. Coming down from lunch one noon in the Ford pickup truck I rounded a large boulder and had to jam on the brakes and slide on the snow for ten feet to keep from running over one of these fellows.

Recently Betty and I saw 30 turkeys on the higher land near Los Alamos Ranch School. They were unusually tame, remaining in sight of the truck for two or three minutes. If I didn't know better, I would swear they were tame turkeys. However, they are very shy if one approaches them on foct.

Recent patrols on the eastern part of South Mesa and on the Detached Section showed no turkey tracks. There were a great many coycte tracks everywhere, however. A moderate sprinkling of rabbit tracks were seen, and a considerable number of squirrel tracks - if I am correct in the distinction I made in the snow signs of these creatures.

BANDELTER (CCNT.)

On South Mesa we saw a lot of bird tracks, persumably Juncos, in the sacu around bunches of blue gramma grass. There must be a few spads in these dry stalks which have not fallen yet.

Abert squirrels are very inconspicuous here in Winter time, but I saw a nice one yesterday just a few feet from the office.

The beaver reported on last month as forging up the canyon from the Rio Grande kept on coming. He is well above the Upper and Lover Falls now, and has progressed as far as a short distance below the swimming pool, less than half a mile domestream from the camp ground. I should say he was cutting sell over 50% of the young cottomwood growth. For the past en days he has made no further progress, seeming content with a makeshift dam where he has several down trees in one cluster. He hasn't should himself yet, but his trail is clear in the last snow. One tree he cut was 14 inches in diameter.

Betty has had good luck with her bird banding this month. Her report will follow on another page. (See Supplement)

Antiquities:

About a month ago Betty discovered a small cliff-dwelling on the south side of frijoles Canyon, about half a mile above the Ceremonial Cave. It had been a talus structure, with about aix rooms on the ground floor, and the rafter heles remaining in the cliff face showed it went to a third story with one room.

This find is interesting, because it is the only evidence of cliff structures on the shady side of the canyon. Of the 17 groups of ruins charted by Dr. Hewett in 1908, all save one were on the north side of Frijeles Creek, and the exception was a ground structure on the flat across from Coronomial Cave.

This ruins find was mentioned to Dr. Kenneth M. Chapman, acting director of the Laboratory of Anthropology, and he states he has never seen or heard of the ruin before, although he was with Mewett in here in 1908 and later came in 1916 for a petroglyph survey.

Excavation for a box culvert in the road leading from the utility area to the new residence area recently uncovered the poorly preserved skeleton of a man. The skull and long bones were saved, and the position of them revealed puzzling possibilities. The bones were twisted into unnatural positions, yet the ends of them, where natural articulation belongs, were quite close together. Had the bones been washed down the arroyo from a higher point, they would not have been so close together, unless sufficient ligaments were preserved at the time to bind them. And it is improbable that a burial further up the slope would have been so shallow as to wash out before all tissue had entirely disintegrated. So it leaves the suggestion the body may have

BANDELIER (CONT.)

been twisted into unseemly contortions immediately after death and buried in the wash. But it was covered with only a foot of soil, and there was no sign of slab or other liming to a grave intended for the corpse. No artifacts were found.

The interesting feature about the skull is that, although it is positively that of a man past maturity, and, from other points of evidence, not likely under 30 years of age, it shows no closure of the metopic or frontal sucure. The zig zag of the sucure line is as clearly defined as in a small child. It is known that normal closure of the metopic sucure is complete by the age of six years. By that time it should appear as a solid piece of the skull, instead of two halves.

In the excavation for the museum foundation just a few feet north east of the Park office, workmen found a part of a bison tooth. This is the second specimen of the kind found in Frijoles Canyon, both from points a helf mile apart. The specimen checks perfectly with one identified by the University of California in 1934.

If buffalc never wandered west of the Pecos, they must at least have been considered important in some respect, otherwise the Frijolitans would never have brought their teeth so far.

I might mention that a small ground ruin of approximately six rooms was found in the road cut back of the utility area. The road did not disturb the ruin, but came close enough that clean-up revealed the wall alignments barely doming to the surface.

Genoral:

The visitor run has been quite satisfactory this month. Interest is at a high level.

The country is going to be in good shape for the summer. There is plenty of snow and plenty of moisture, and that is what makes the Southwest block-

Fence cutters and last year's storms wrought hoved with the fence line in the Detached Section. Am availing a visit from Jack Diehl to straighten me up on how to make a fence across a sandy wash with no bottom that will keep cattle out, when those same arroyos carry trees in flood time 60 feet long and two feet through the base.

The custodian looks forward with much worry to the task of maintaining the fence which is to be built around the main 22,000 acre portion of Bandelier National Monument. In addition to arroye troubles, there will be trouble with local cattlemen, who cut fences as in the old days, smug in their belief that they are but carrying out "an old Spanish custom." Nothing but regular feace patrol will keep wire cutters idle. Because it would take a regular patrol to stand much

chance of catching one of these bright fellows at work. A prosecution and conviction is the only graphic lesson for fence cutters.

GRAN QUIVIRA

By W. H. Smith, Custodian

I will try to submit my monthly report for the last month, but it seems there is but very little to report. My register sheet shows 287 visitors entering the bonument in 53 vehiclet. This number shows a decided increase over the previous month and a slight increase over the same month last year. As weather conditions have been extremely disagreeable for travel all through the month, it would lead one to think that travel has improved generally to get an increase in travel under these circumstances.

The ground has not been clear of snow this month and the temperature has held near the freezing point even at mid-day and far below in early mornings, late afternoons, and nights. There have been two or three snows and the ground is thoroughly wet. The travel that we have had over the road of approach has rutted it pretty badly. When it thaws enough to where one can obtain some more gravel, it will be necessary to had about 20 yards more and distribute over the rutted and sunken part of the road. All this moisture the last month wetting up the mortar in the walls has cost us some falling of stones, too.

There have been very few visitors the past month that merit special mention. On January 19, we had two trucks of CCC boys, about 40 in number, registering from Camp No. 3808, Carrizozo, New Mexico.

The visitor charts came in about the first of the month, and we have been using them since. The number of contacts shown on the charts and the number shown on the report are not going to agree as we register any one entering the Monument for any purpose, so you will find a number of local people registering who are not contacted concerning the monument at all. I find these charts to be very interesting; for instance, we have no museum now so the majority of the visitors stay in that room only long enough to register while others who are more interested in the monument in general will spend 15 to 26 minutes going over what few things we have since the museum was robbed.

I notice that those who spend fifteen or twenty minutes in the museum room generally use an hour to cover the field trip through the missions and the Indian pueblo, but those who give our collection room only a passing glance are through with it all in but a few minutes. This only shows how necessary it is that there be a museum collection at each monument.

Or in other words, those who visit the monument for the monument's sake would spend as much time in the museum as they would in the field

GRAN QUIVIRA (CONT.)

trip if our collection was only as good as before it was robbed. So viewing this from the angle that these large mercantile companies do by the theory that a window display will sell merchandise, I should think that a museum collection helps sell those who visit on the menument. Consequently, in my estimation, the museum is indispensable to a menument.

WALNUT CANYON

By Louis R. Caywood

Following is the report for Walnut Canyon Mational Monument for the month of January, 1936:

Visitor registration, plus those who used the facilities at the Monument, give a total of two hundred and eighty-five for the month. Because figures are missing for the month of January, 1935, no comparison in travel can be unde-

The weather has been exceptionally warm and sunshiny; consequently; we have been honored with visitors every day except three during our stay of over two weeks. Last Sunday, January 19, was a record day this month with 33 registrations. Old-timers of Flagstaff advise that this winter is one of the mildest they have ever witnessed.

From January 9 to 24, inclusive, the time I have been at this monument, 114 visitor contacts were made either at the ranger cabin or at the trail entrance to the island. Nine of these were made by the H.J.P. N.W.P., who showed visitors the artifacts at the ranger cabin and told them something of the life of the prehistoric inhabitants of Walnut Cangon.

Roads are in good condition with the exception of the short distance from the ranger cabin to the Lockout Point. The trail leading into the canyon and around the Island is in very good repair. As the Walnut Canyon National Monument road is connected with Righway 55 at two points and is clearly shown thusly on all maps and as the read is signed at both entrances, one would suppose that visitors from the west (Flagstaff) would enter the Monument on the approach road from that direction. However, an average of 25% of the regular tourist traffic from the west enters on the approach from the east (Winslow), completely The remedy for this would be missing the signs at the west entrance. a larger and more noticeable sign at the west entrance. This sign, I om sure, would also bring in more visitors because many going east who fail to see the signs at the west entrance will not come in from the east because of having to retrace their route west again in order to see the Monument.

Bird banding activities for the month are rather meager, but considering that the traps were set only a week gives promise that next

month will see quite an increase. Kine new bands were used in banding the following:

- 2 Rocky Mountain Nuthatches
- 1 Mearns Woodpecker
- l Rednaped Sapsucker
- 3 Redbacked Juncos
- 1 Pigmy Buthatch
- 1 Cray To agouse

We were honored limit night (January 14) by an overnight visit from Sallie and Jimmie Brewer of Mapatki. They arrived about nine o'clock just as we were about to reture. We decided that a game of Bridge should mark this special occasion, but Jimmie and I were so busy talking Place names, etc., that we were badly beaten.

CANYON DE CHELLY

By Robert R. Budlong, Custodian

Visitors for the month of January numbered ten persons. Four of these were Covernment officials, and one a relative of one of the officials. These five drove to the rim of the canyons in two parties, averaging sixty minutes each party. The remaining five persons arrived at this Monument at a time when the road to the rim was covered with snow and ice. They had no tire chains for the car, and were unable to drive to the rim. They were local residents, however, who will soon make the drive to the rim when the road is in better condition.

The canyons are practically impassable, as usual. The stream is quite large, and usually frozen over except for a few spots where there is running water. The Soil Conservation Service trucks, equipped with big tires, have been going within the canyons once a week, and have regularly been breaking through the ice and gotting stuck. They have a tractor within the canyons, however, and the trucks very conveniently manage to become stuck near the tractor, which is used to pull them out. Two days ago one had the misfortune to get bogged down just within the mouth of the canyon. On that occasion another SCS truck and the Park Service wickup were chained together, a hundred fect of wire cable connected from them to the stranded car, and we managed to extricate the one that was stuck. It had broken through the ice, and flowing water mashed the sand from around the wheels.

Weather for the month has been about the same: nothing to boast about. Minimum temperature, I degree above zero, on the 9th; maximum 57, on the 15th. We have had six falls of snew, totalling but 5.3 inches. Roads have been from fair to poor.

The Custodian's Residence is about ninety per cent completed. We had hoped to be moving in about this time, but a number of metters

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needing correction before the building will be accepted have arisen, and it is feared that such corrections may delay our moving for some little time. But the thought of having a real house in which to live is too good to be true, especially to the Honorary Custodian Tithout Pay. I have lived in six different places since first coming here, having moved twice before the H.C.W.P. arrived at this Monument to be the H.C.W.P. She is already figuring on the number of yards of curtain material needed, and the total yardage is appling — especially with such material listed around \$1.75 a yard. Then there is the matter of furniture for the house. At present we possess one steel table (government) and two cots (borrowed). With two bedrooms in the new house, bath (no furniture needed), enormous living room, office, dining alcove, kitchen and service porch . . . but this is the monthly report.

The well is finished. Moving-in of the well rig was begun on January 1, and the well was finished and the rig moved to its next location by January 17. The well rig used belonged to the Indian Irrigation Service. The men employed were also of that Service. The will is ninety-eight feet, five inches in depth. Diameter of casing, 6-5/8 inches (C.D.) Water stands within three feet of ground level. Pumping at the rate of 2880 gallons per hour the water level remained constant at forty-one feet. Pumping at the rate of 1500 gallons per hour, water level remained constant at fifteen feet. The water has not yet been analyzed, but is clear and of a good taste.

I doubt if finer cooperation than that rendered by the Indian Irrigation Service in this matter could be found anythers. Mr. C. A. Burns, Engineer, at Central Agency, Fort Defiance, has been most courteous and helpful, and I wish to acknowledge the debt we one him for his fine cooperation and assistance. Mr. Burt Cravath, the driller in charge of the work, performed his work in the finest possible manner. He knows his work thoroughly, and went about it most efficiently. It has been a real treat to know and to work with such men, and I wish to go on record in this report as expressing my very great appreciation of what they have done, and the manner in which it was done, from start to finish.

Mr. Lyle Barcume, the government inspector (and designer) of the Custodian's Residence, has been in a number of times during the month. He has been accompanied by Mr. Laurance Cone and Mr. Saunders and brother-in-law, Mr. Eames. We have greatly enjoyed their visits.

Mr. Paul Duvic, Engineering Aide to Mr. Hamilton, visited this Monument January 3, returning to Mesa Verde on the 4th.

On December 30 I attended a New Year's party held by the Canyon Chapter of Navajos, at the foot of White House Trail. About 350 Navajos were present, and their bright costumes made the gathering most colorful. They had invited me to attend, after the meeting held on

CLIMON DE CHELLY (COMI.)

December 21. At their request I again addressed them, and believe that many matters pertaining to the work and activities of our Service were straightened out. Following this, we all partock of a most appetizing dinner. It was a real party, complete even to gifts of fruit, nuts, etc. It was also a very pleasant occasion, and I greatly appreciated both the invitation and the opportunity to talk to them.

And so we start another month. Last February we had only one visitor, due to impassable roads. We hope to do better this coming month, but refuse to be held responsible for weather or roads.

WHITE SANDS

By Tom Charles, Custodian

There have been some heated arguments in the White Sands bailiwick in the past two weeks over the question, "What is a Contact?"

Where did that word "contact" originate and what does it mean at the White Sands? It seems plain that there is a contact with the visitors of a monument when they are crowded into the walls of a building even though they never get closer than within the hearing of the contact man's voice. But it is not so clear just what constitutes a "Contact" on the 20 mile front of the White Sands where a visitor is likely to stop at any point in a museum or in a ruins, and I imagine that visitors seek information but many of the visitors to the White Sand do not seem to care to be told just how to play in the sand and frequently, if we talk to them at all, we have to run them down.

We station our ranger at the entrance to the Sands and a party of six drive up and ask, "Is there wood at the picnic ground?" The answer is "yes" and they drive on. Undoubtedly that is a contact. But the next group barely slows up, they nod or wave a griendly greeting. Is that a contact?

The word "contact" may fit in at all the other Southwestern Monuments, but for the White Sands, it seems to me that they should still be visitors.

For 58 days we had a count for 12% percent of the time, on Federal Highway No. 70 which passes through the monument for a distance of some 12 miles. From December 15 to January 15 there was an average of 13 cars per hour or 182 cars per day, (figuring on the basis of a 14-hour day). That gave us 5460 cars through the monument in 30 days. The most interesting part of this count, to me at least, is that 19.7 per cent of all cars through the monument stop some where along the 20-mile front and let the occupants play in the Creat White Sands.

In the 58 day count we had 1003 California licenses, 970 from Oklahoma, 880 from Texas, 511 from Kansas and 289 from Arizona.

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WHITE SANDS (CONT.)

Thirty-five states, the District of Columbia and two foreign countries were represented. Another interesting fact is that while the State Tourist Eureau shows about 3 people to the tourist car, Barry's count shows nearly 4 occupants to each car.

Therefore we had 4402 visitors in the past month. About 50% or 2201 went to the Heart of the Sands. While this is the most accurate and complete count that we have ever had, it seems high.

The Sunday crowds are still good. On January 12 there were about 400 people at the turn-around in five hours. Dr. H. E. Quinn, head of the Department of Geology, Temas School of Mines, had a class of 70 with their parents and friends, about 126 in all. This group was saddened by an auto wreck about 20 miles from the Sands in which one boy was killed. It is said the accident was caused by dusty roads. On the same day, Govanni Bassett, editor of Popolo d'Italia, a paper published at Milan, Italy, was an interested visitor. Mr. Bassett was familiar with the White Sands before he left Italy and said that he made the trip largely to see the White Sands and the Carlsbad Caverns. He pronounced them the two leading attractions of America.

Here is another visitor who is no mean traveler. The manager of the Burroughs Adding Machine Company of Amarillo, Texas, was enjoying a visit from his mother and another woman from Ohio, and desiring to show them the White Sands they bundled the family up and drove over, 340 miles, spent a couple of hours here, and drove home the same evening.

Cur honored guests this menth were Earl Jackson and Betty of Bandelier, T. C. Miller and Family of Charo, Willia A. Rowe and wife of Sequoia, Adrey Borell and Bettie of the Wildlife Division, and Jack Biehl.

You may be interested to know that the White Sands float wen first in its class at the Sun Bowl Carnival. There were LCE floats represented.

Otto Coetz, California writer of some note, recently published a story of the White Sands. It is founded on the Indian legends as to the fertile valleys, the fine river and the prehistoric settlers. You may be interested in the last few lines:

"Visions into bygone ages, when majestic here a river Wound its way through fertile valley, home of now forgotten man-

See the targets of the city and the splender of the mansions, Swift cances with sturdy paramen, flitting on the glossy streem.

Conquest by the mighty army, and destruction of the city, Slaying of the peaceful dwellers, conflagration of their homes.

WHITE SANES (COMT.)

Year by year, the month of August, a memento of the carnage, Reappeared the crimson bloodstains, in the vaters of the lakes.

But revenge now followed swiftly, for the Sun-god in his anger, Smote the ruins of his alter, and a gushing spring came forth.

lo: Behold the living waters changed to grains of gleaming gypsum Rising, mounting, creeping, moving, high above the fallen temple.

Ever onward crept the sand dunes until the fertile valley, City, river, orchards, mansions, lay beneath their snowy mantle.

And the mischief loving spirits toss them playful, hither, yonder, Scatt'ring here a magic carpet of forgetfullness and rest.

And the whispering night winds murmur, "Was this fairyland created As a playground for the children of some future happy race?"

CASA GRANDE

By W. J. Winter, Custodian

As expected, the travel this month showed a considerable increase. The visitor count was 3370, an increase of a thousand over January of last year and of twelve hundred over last month. The tourist season is getting into full swing — our curb is lined with cars bearing "foreign" licenses and the general grade of visitor is noticeably higher. Also more wealth and prosperity is in evidence. Many chauffeur-driven equipages come in, and the boys are turning down enough dollar tips to pay the rent.

There were some visitors this month who were worthy of special notice. On the 9th we met Dr. W. H. Campbell, of the Desert Laboratory of the Southwest Euseum of Los Angeles. January 10, the State Supervisor of Vocational Education, Mr. Arthur Snyder, came in to see the ruins. On the 17th de greated Mr. William Ross Teel, state archeologist of Indiana. January 20, we had the pleasure of meeting Mr. Amos Alonzo Stagg, famous footbalk coach of the College of the Pacific, Stockton, California, and retired coach of the University of Chicago. January 24 Mr. W. L. Simpson of Jackson, Wyoming, came in. Mr. Simpson is U. S. Commissioner for the Grand Teton area. January 5, the ruins and museum were viewed by a group of 80 CCC boys from the camp at Rillito, near Tucson. We are glad to see these large groups but wish it were possible for them to come on a week day instead of Sunday when We are already swamped with visitors. If I am not mistaken, the CCC camps do not work on Saturdays. Such has been the case, at least, in other areas where I have worked with them in the past.

As usual there were a number of NPS visitors to Headquarters, but

CASA CRANDE (CONP.)

few came in to see the Monument. December 27, we met H. A. Anderson and R. L. Carlson of the seasonal ranger force at Yosemite. December 29, and 30, Earl and Betty Jackson of Bandelier paid a most welcome visit. Earl and I were inflicted on the University of Arizona at the same time a few years ago and the place hasn't been the same since.

Weather this month has been generally pretty good, though at times a 50 degree difference between day and night is apt to be uncomfortable. The maximum temperature for the month was 76 on the 11th, 14th, and 16th. The minimum was 19 degrees on the 20th. This is the coldest recorded this winter. This low temperature was at night, of course, though several unusually cold days were also experienced. During this period I was frequently called upon to defend the climate against the attacks of determined Californiacs, who miss no chances. (Chambers of Commerce please note). I think we managed to hold our own. A little moisture was noticed, the precipitation being .03.

This month we had a valuable addition to our force in the person of A. T. Bicknell, Custodian of Craters of the Moon National Monument, Idaho. Al's Monument is snowed under about this time, so instead of hibernating he got detailed down here. Al is an old timer, having spent some 15 years in Yellowstone and knows his way around. We are all mighty glad to have him here. Now, in turn, Charlie and I are wondering if we can't be detailed to Craters of the Moon next summer when the thermometer starts hitting around 115 here. Al says he could use us there all right in his summer season.

As you know, we are asked many questions concerning the cactus of this area. Last week a return gentlemen who registered from New York asked me if the chella cactus was poisonous and if it really jumped as reputed. It seems that a piece had gotten on the back of his hand and bung on. "Cy!" said he, "It was like a vicious creature, s'help me, it was like a vicious creature!" Though much impressed I assured him that the cactus did not jump and that he had little to worry about in the matter of being poisoned.

Cur sewage disposal system still gives trouble. We are rigging up a makeshift plump but hope that for the first of July the Great Thite Father in Washington will furnish adequate funds for a proper solution of the difficulty.

An infestation has been noticed on some of our mosquite trees. The Naturalist Division informs me that it is not usual and should be investigated by a forester. Is such an expert available?

The problem of Guiding is not so bothersome now that we have three men on guide duty for half of the week. Of course, if we try to give museum lectures on busy days it keeps our hands full. We tried putting the ruins trips on a half hour schedule and with three men guiding it

C.SA CRAPTE (CONT.)

worked fairly well. If a wan spends about 30 minutes in the ruins, then 30 minutes in the museum and the next half hour out in front directing traffic, registering, etc., it keeps thinks from getting too monotonous and keeps the visitor flow moving in a reasonably satisfactory manner. Under this system visitors who arrive in the first ten minutes after a party has left for the ruins are sent to join that party. All others are joined to the party in the museum. Thus no one has to mait more than 20 minutes for a rains trip and that time may be spent in the musoum if desired. If some one is in a big hurry and prefers a shortened rains trip to waiting for the next regular one, he may be sent on to the rains with the serning that the guide is over half through with his talk and that another regular trip starts on the half hour. Most people would rather join the museum group and take the next scheduled ruins trip. With three men working this seems to be the simplest and most efficient system. With only two men guiding there does not seem to be any satisfactory system possible. We just get along, doing a partial job, and are thankful when someone from Headquarters steps in and takes out a party -- something which we realize they should not be expected to do. However, it looks as though we shall have our three men for busy periods until April 1, which will almost cover the busy season.

Saguaro

By Paul Beaubien, Ranger

Loft Walnut Campon December 29 and, after a short stop at head-quarters, I arrived at Saguaro National Monument New Year's day. It was like stepping into another world. Even the visitors were different.

Walnut Canyon National Monument is beside a transcontinental high-way and the visitor there is in a hurry. They wish to see and learn as much as possible in a few minutes before rushing to the next scheduled stop. It reminds one of Union Depot. At Saguard, no one is in a hurry. The visitor rolls in slowly and prefers to sit around and chat for an hour or two. If the ranger dishes to discourse on each, it is C.K. with them, but they would just as soon talk about something else. Here more than anywhere else, education must be "sugar-coated" for the visitor does not come to learn but just comes to have something to de.

Another difference between here and Walnut Canyon is that visitors arrive at Walnut at any time between sunrise and sunset while Saguaro is strictly an efternoon monument with most visitors after 3:00 F.M. Visitors have asked me several times where they could find some of the more rare species. Twice I've been asked if I had any to sell.

Am keeping a list of questions asked by visitors besides checking the frequency with which each is asked. Find that nearly all questions are quite sensible. Hope to be able to answer most of them before they are asked next month. SAGUARO (CONT.)

On arrival here I took quarters at CCC camp SP-II-A. Have certainly been well treated by everyone at camp. However, the evening meal is served too early to make a lengthy stay desirable. I next rented a small house about a mile and three-quarters outside of the south gate to monument. After reging, I received some 25 to 30 dollars worth of material from the University of Arizona to make a residence out of a storeroom which the University owns on the monument. So I expect to have a place to live on the monument soon.

Haven't mentioned travel figures because I haven't any that are adequate. It took some time to erect signs directing the visitor to the store room where I built a register stand. Then I found that few people would come that far (4 miles) into monument. By checking at north gate, I believe that between 30 and 35 visitors arrive per week day, with Sundays averaging around 110. As an estimate only, I believe that 800 people visited Saguaro National Monument from December 31 to January 27.

Tumacacori

By George I. Boundey, Custodian

Visitors for January as follows:

 $\begin{array}{cc} {\tt Ynattended} & {\tt 228} \\ {\tt Attended} & {\tt 1579} \\ {\tt Total} & {\tt 1507}. \end{array}$

The new system of counting visitors is a great success as far as our conument is concerned. It keeps us more on the alort and I think visitors will get better attention all around.

We have had an unusually intelligent class of visitors this month. Situated as we are off a main highway, our visitors make the drive to see the Mission and they are interested in everything one can tell them about the Mission, about the local population, the cacti, the birds and unimals seen locally, and especially about historical points in the visinity. From the questions the average visitor asks this winter I would say the Depression does not rest half as hard on them as it did a year ago.

The first of the month we had a visit from Mr. and Mrs. Berell of the Wildlife Division. We enjoyed their visit very much but am not enthusiastic over the idea that our local Sparrow Hawks should be protected instead of exterminated. In the winter time the water does not flow in the river, and the irrigation ditches are dry. We keep our faucets (of which there are several about the place) dripping, and I would say at least 500 different birds each day drink from our faucets. Almost every bird wintering in this section of the country comes here to drink.

TUMACACORI (CONT.)

When the grasshopper season is over Mr. Sparrow Hawk does just what his name implies; he goes onto a strict diet of Sparrows, not the English Sparrow, but the Song Sparrow, the Fox Sparrow, and a dozen other Sparrows which winter here. The Agricultural Department claims these seed eeting birds are worth each year about four dollars to the local farmers. Just as the Indian followed the herds of Buffalos in the early days, so does the Sparrow Hawk follow these flocks of birds, watering here. There are at least five Hawks drawing rations from our song birds. Hawks are supposed to eat at least twice a day. If that is true, ten birds will be killed each day and at \$4 each, that is forty dollars a day lost by the farmers; now figure three months of this poaching - no wonder the farmers are hard hit and the Government has to help them out.

Speaking of birds, we saw a white Egret on the river on one of the coldest days. There is a place where the water rises to the surface in the river, and here one can usually find several of the Great Blue Herons, but this is the first time I ever saw the Egrets in the winter time.

The Boss and Mr. Tovres, chief engineering aide, spent part of a day at the Mission giving things a thorough looking over. We always enjoy having the Boss come down; it always seems as the the wheels go round a little better after he has been here.

Robert Rose, Chief Naturalist from Casa Grande Ruins, with his wife, daughter, and mether, paid us a visit during the month. We are always glad to have a chance to talk things over with the Chief.

Fifty-four pupils from the Nogales High School had their annual visit and lunch at the Mission. At least a dozen schools from the surrounding country pay us at least one visit a year and a number of them come twice.

We have had some artists painting hero during the month, but the spring is their usual time to paint.

D. M. Wootton and party from the Chicago, Rock Island and Pacific Railroad Company spent some time at the Mission. They were also calling on the dude ranches in the vicinity of which there are several.

Wupatki

By James Bremer, In Charge

Travel:

45 guests registered at Wupatki Pueblo; at the Citadel group, 63; two names are duplicated, leaving a total of 106 visitors to this monument in January, 1936; 1935, 60; 1934, 34.

WUPATKI (CONT.)

States were represented as follows; Arizona, 12; California, 6; Minnesota, 2; Massachusetts, 2; Pennsylvania, 3; Chio, 2; New York, 2; Georgia, Texas, West Virginia, Iowa, North Dahota, Colorado, Maine, Oregon, Illinois, Utah, Virginia, and Nebraska, 1 each; 1 visitor from Vancouver, British Colombia.

The new "visitor survey" or "educational contact" system brings a question to my mind. A visitor who registers at the Citadel group and then at Wupatki Pueble is counted once. Although he has used trails, roads, and improvements nine miles away from Wupatki Pueble and has seen a different type of somery and pueble, the count is the same as if he had come only to Wupatki Pueble. Is it fair that after he comes on to Wupatki Pueble, has used nine miles of monument maintained road, the Pueble trails and improvements, he is still "one"? From an angle of mear and tear Wupatki should call him "two". While Sunset Crater is administered by Wupatki personnel, there is no thought of eliminating names duplicated on Wupatki or Citadel registers and Sunset Crater registers only at one or the other be counted one-half?

Weather:

December 25 to January 2 not recorded. January 2 to January 25: High temperature 68, on the 13th; low is not recorded because of inaccurate cylinder. Precipitation .02 on the 7th (snow) and a trace of hail on the 15th. (Dr. Coiton has leaned me another thermometer)

On the 14th a terrific gale blew up and lasted all day, all night, and the following day, ending abruptly in a fall of bail stones.

There were 11 sunny, 8 party-cloudy, and 4 cloudy days. Altogether it has been a fair and very warm January; local sportsmen say that the deer are still up on the peaks and the wild turkeys still in the high country — which is very unusual at this season.

Memsworthy Visitors:

Alexander Woolbott and friend Joe Hennessey on the fourth, fifth, and sixth. I heard Mr. Woolbott one Sanday evening on the radio lamenting his inability to get away from reach by phone. As he put it "to be somewhere where no one could call him to say his maiden aunt had just been arrested for disorderly conduct." I extended an invitation to Mr. Woolbott assuring him no one could reach him here by phone or wire.

If Mr. Woolloott and Mr. Hennessey enjoyed their brief stay here as much as we enjoyed having them, I'm sure they will return.

On the 8th, Mr. Van Valkenburg of Soil Conservation Service called in at the Pueblo.

WUPATKI (COMT.)

Spring Clearup:

Drainage water pipes, diversion channels, room ducts, and roofs are undergoing a workout in anticipation of February rains. Vegetation that has rooted itself in back-dirt dumps is being removed so that these piles, intended to washout, will do so.

Water Report

Employing the same method reported in August, 1935, I have again measured the output of each of the local developed springs. At each spring an increase is noted excepting Herber Minor. The outlet of this source is so nearly identical with that of Heiser Major, a matter of inches, that the decrease may have some influence on the greater increase of Heiser Major.

As in August these figures do not include two undeveloped springs, Little Heiser and a prehistoric spring one half mile west of the pubble.

Result: (Gallons flowing in 24 hours)

	August, 1935	•	January, <u>1936</u>
Heiser Major Heiser Minor Coyote Spring Wupatki Spring	1,004.65 421.30 1,032.43 514.28		1,178.28 225.00 1,200.00 720.00
Total	8,972.66		4,023,28

Increase 1,050.62 gallons per day, for all springs.

Like Paul used to say about the travel figures at Walnut Conyon, I feel as though the round numbers lock like an estimate or a guess. However, if it takes Coyote Spring 72 seconds to fill a gallon can, doesn't it run 1,200.00 gallons in 24 hours?

The Jupatki Spring pipe line has been freezing up, and I think I'd better sink it a little bit lower and add enough pipe to reach the tank. (Since taking to you I know this is best and will do it).

Windometer:

Bocause I am convinced that the wind at Wupetki is sufficient to supply power, lights, etc., but am without proof, I have designed the above instrument. Using the speedometer from the wrecked Dodge on Highway 89, I have constructed a fish-tail vanc with a propellor. The propellor is mounted on the cable connector, the speedometer and fish-tail are bolted to a perfectly balanced horizontal bar mounted on a ball bearing and elevated on a pipe standard. When the windometer coincides with a moving car speedometer (on a still day) I think a

WUPATKI (CONT.)

a fair estimate of the speed of the wind is to be had. By varying the pitch of the propellor this correlation may be obtained. However, maybe I'm note so if you have an opinion here I would like to hear it! (A mechanical opinion).

Quail:

While Sallie and I were measuring Heiser Spring, a covey of 10 or 12 quait came in. The man in charge of the camp says they come in every evening and cot with the chickens; also that there is another covey matering at Rollin Springs.

Trappers:

Although I have no figures on their catch, there are trappers at Arrowhead Tank, Heiser Spring (a sheep horder traps between) and at Rodin Spring.

Navajo Arts and Crafts Exhibit:

The First Anhuel (?) Exhibit of Navajo Arts and Crafts at Wupatki Kational Monument is budding.

There are visions of many types of meaving displayed in the amphitheatre; a weaver, a spinner, a silver worker all at work; tables and racks displaying finished products; judges and awards; vegetal dye materials and their results.

Between our vision and accomplishment we see many evenings of "seed sowing" and encouragement to the potential exhibitors, collecting and rejecting exhibits, trails and disappointments; but in the end we hope for better Craftmanship and a finer appreciation of Navajo arts.

Lecture:

On Friday the 17th Sallie took Ruby B'Cai to Flagstaff, contacting the fourth grade pupils of the Emerson School who are studying the Navajo in their Ceography class. With a question and answer talk by Sallie, Miss Robertson, and Ruby, they managed to keep their audience interested beyond the dismissal bell. If I remember correctly, this would certainly require a good deal of interest.

Ξtc.

And so to Citadel, the mail box, Sunset Crater, and on to Walnut Canyon where Louis and I have a pitched hattle of place names scheduled for this evening.

SUNSET CRATER

By James W. Brewer, In Charge

Visitors January, 1936, 80; 1935 and 1934, not recorded. (The first travel figures for 1935 were taken up on March 25, at which time 53 visitors had registered since December 25, 1934. No register was provided in January, 1934.)

States were represented as follows: Arizona, 16; California, 10; Colorado, Massachusetto, and Maine, 3; Chio, Nebraska, and Missouri and Minnesota, 2; Michigan, Texas, New York, Pennsylvania, Georgia, and Oklahoma, 3.

On January 20, K. & F. Al Ravif of Nya, Arabia, registered in Arabic or Arabian (no, no, I can't read it—he registered in English also). Just to find out if the Arabic is "registration" and not a remark I am sending the line off for translation and will let you know later what he wrote.

TONTO

By Woodrow Spires, In Charge

Another month has relied by with nothing out of the ordinary happening.

The weather has finally broken; we had two light freezes this month, neither hard enough to crust the mater, only a thin crust around the edge of the drip. The minimum for the month was 32 degrees, while the maximum reached 72 degrees. Most of the days were very pleasant with sunshine. One cloudy and two part cloudy days being recorded. Precipitation was less than .50. I guess at that we are lucky; reading the papers I see there in the east a low of 55 degrees below zero was recorded, and some of my visitors tell me how they go for weeks at a time without seeing the sun while the thermometer hovers around zero.

Travel for the month shows a decided increase over the same period last year, when between December 22 and January 25, 425 people visited the monument, while this year between December 26 and January 25, 757 visited the monument. This gives an average of 24 a day this year against 12 last year, or an increase of 100%.

Here is a resume of SWM Stencil 16. Total visitors at the monument 757, total time guiding 7945 minutes, total visitors taking field or ruins trips 556, total number of field and ruins trips, 93, total time field and ruins trips 8235 minutes, average time field or ruins trip 67 minutes, average group field or ruins trip 6, total visitors museum trips 407, total museum trips 84, total time museum trips 1700 minutes, average time museum trip 20 minutes, average group museum trip 5 -- special trips to the Upper Ruin are so few (3) that I only counted them as separate field trips.

TOMTO (CONT.)

On Wednesday, January 15, I was honored with a visit by W. A. Rowe and wife. In the summer Mr. Rowe works as assistant naturalist in Sequoia National Park. Incidentally Mr. Rowe trained the animals for the picture, "Sequoia." That afternoon I closed shop early and accompanied him to the A-Cross CCC Camp, where he gave a lecture and showed some colored slides; it proved very interesting as well as educational afternoon and evening.

Sunday, January 19, Amos Alonzo Stagg, "The Grnad Cld Man of Footbail," spent two hours visiting his first group of prehistoric ruins.

Thanks to Mr. Whitehead of the Southwestern Aboretum, I now have two Rainbow Cacti which are, "so cute," according to most of the women visitors.

The car count which I started last month has progressed no further as there has been no spare time this month. The earliest party was 7:30 A.M., while the latest was 7:00 A.M. A total of six parties were guided after 5:00 P.M. during the month.

CHACO C'ANYON

By T. C. Miller, Custodian

General:

The Gustodian was absent from the Monument on annual leave, from December 22 until January 5. Junior Naturalist Caywood was in charge of the monument during my absence.

While away we had the pleasure of visiting the Carlsbad Caverns again. Several changes in trails and lights had been made in the past four years. On January 4, we visited the playground of Custodian Charles, the White Sands National Monument. I have seen the White Sands many times before, but it is much prettier now, since it belongs to the National Park Service. Sorry to have missed the Red Lakes, but I had the pleasure of shaking hands with Tom Charles and I took his word for the red water. Mr. Charles told me that they were running 85 cars per hour on off days, Boss! That is some travel record. Tom has a good monument with lots of room, and lots of visitors. I told Mr. Charles where he could see another wonder, and I think he was about half way convinced that the White Sands did have a little competition.

I think it is rather funny to hear each Custodian and Superintendent tell about their Fark or Monument. I think in the last month's report that Custodian Winter did not mention all that was on his mind about the best monument in the Southwest, and if I remember right one Bozo had the test Cattle Guard in the world or something. Of course, if that is all that boy has, let him have a good time: I am not men-

CHACC CANYON (CONT.)

tioning any names, but at least the boy is honest. The more I see and hear of these Monuments, the more I think of Chaco.

The approach roads into this monument have been passable all the month. Two light chows, supply days and cold nights have been noted. Weather conditions have been excellent for the most of the month.

Weather Statistics:

Maximum, 45 on the 16th; minimum was I below on the 2nd. Precipitation - .26 inch of melted snow was recorded for the month.

Travel:

260 people entered the monument in 68 cars, represented six states. The travel has been light this month; that is, actual visitors that were interested in the ruins. Travel through the monument has been very good, but only a few visitors were registered in the museum and conducted through the ruins.

Soil Conservation Project:

On Jamesry 17, 39 men were laid off because the ground was frozen until it was almost impossible to work the Soil. Il Men were retained to quarry rook for future use on the revetment work and the building of the basket dams in the Chaco wash. Much could be accomplished at this time on the basket dams if we had the money to buy materials. While the ground is frozen the trucks can have big leads in the Chaco wash, but after the thaw comes these rocks will have to be carried quite a long distance by men. All revetment work around the ruins has been suspended, waiting to hear semething definite from the Washington office about buying the materials to construct the big dams.

On January 4, Project Manager McKinney and Naturalist Caywood were out photographing the ruins and washes in the Canyon, 11 miles east of headquarters. While walking up one of the large side arroyos they found what they call a prehistoric turkey nest, at least ten feet under the present ground level and only a few feet from a Pueblo III site. The eggs were removed in a large block of clay and placed in our museum for study. Boss, if you have any of that preservative left, please send me a can to preserve these turkey eggs and other things of interest that we have in our museum.

Chaco Fence Project:

The monument boundary fonce that has been under construction since October 14 is now complete, except a little cleanup work which will only require a few days to complete. The contractors' men have suffered many hardships the past two months. Cold, wet, and suddy at times, it has been a hard job from start to finish. The contractor has pushed the work just as fast as he possibly could under the circumstances. Much time has been spent going and coming from work; at times it was almost SOUTHWESTERN MONUMENTS

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CHACO CANYON (COMT.)

impossible to get the trucks out to the job. Trucks were sticking in the mud when it was wet, and in the send when it was dry. Daily inspections were made by the Inspector Mr. Williams and the Custodian. We now have a fence of which we are proud. Much credit is due Mr. Williams, who engineered the building of the fence; it is a good job. The fence will keep out all stock and mark the Momement boundary for many years to come.

At my request, Associate Engineer Hamilton sent Paul Duvic, Chief Engineering Aide, to measure the fence. Following is the measurement made by Mr. Duvic, which should go on file for future use:

Total.

12,672.0 Rods

Concrete in Corner, brace and Strain posts --- 94.553 cubic yards. Concrete in Cattleguards ----- 12.4 ".

Aztec Ruins

By Johnwill Faris, Custedian

We well realize that time waits for no man, but it is hard to realize that time has slipped up on us like it has. We are still checking over the report for December, in accordance with your suggestion in the last "Broadcast," and here it is time for the January report.

Anymay, Boss, every minute of the New Year has been full of action of some kind. We are somewhat disappointed with our visitor record for the month, in that it falls short of last January, while meather and read conditions are on a par, if not better. The fact remains, however, that visitors for the month total 225 -- a very good month average for similar time over a six-year period.

We feel that these visitors received a very complete setup of our attraction. It is interesting that during this season of the year we would have visitors from both England and Australia. It is very interesting, too, to note that almost without exception these visitors take pains to tell us how much they enjoy our attraction, and how far ahead of the other nations this country is in the public service that is covered by "Our National Park Service."

It is often a source of worry to them, that our people do not take a greater interest, and that they often, seemingly, just take the Fark Service for granted. It has given this monument great pride in being SOUTH/ESTERM MONUMENTS 27 MONTHLY REPORT FOR JANUARY, 1936

AZTEC RUNUS (CONT.)

one of the units which is, not once but several times, mentioned as one of the outstanding wonders of the world.

A feature, too, that is interesting -- not once have I noticed an American tourist that has traveled in other countries, but what in going through have called to our attention how wonderful such and such feature in such and such country was to them. If course, I appreciate that many, many American citizens have traveled that never mention their travels, but with very few exceptions the foreign visitor always calls attention to the wonderful features covered by the Park Service, and how superior it is to that of their own country. I certainly do not went this to infer that we feel the American public is unappreciative of our efforts. As a general rule, we find most of our visitors very appreciative.

Regular monument routine has been average for the month. Mr. Hart has been making every attempt to outline our various duties and responsibilities in such manner that it might be much easier to check up on the way we are keeping up all ends. We find, too, that the interest headquarters is showing as indicated by the last "Broadcast" and the recent inspection forms is most invigorating.

This monument feels, Boss, that those new policies are going to do more to build up our monuments than any CWA, FWA, WPA, or any other work program. I do not wish to belittle any of those programs; they have all aided wenderfully in the advancement of our work, but all their worth is more or less from the physical or material standpoint, and those new developments are calling upon improvement of individuals.

I know from my own experience that, while we take every pride in cur monument and its appearance, that we get more or less discouraged in that in the past your duties have made it impossible for you to get around more than once or twice a year. Maybe then for only an hour or two. Well, the result was that we could have spent a week scrubbing our comfort stations, raking the court, etc., and you and your party may never see the features that represented so much toil. True, we had the satisfaction of knowing that we were ready had you noticed that particular point, but even then it was schetimes discouraging. Now we will know that our efforts will pass the most rigid inspection. And, Boss, I do not want you to think that many things get by you unnoticed. I meant in the above that since we did not particularly pass by the very point that meant all the work, that we might feel that it was unnoticed. Anyway whatever was the case, I sincerely feel that conditions are going to be improved, and this monument is most pleased to note the present trend in the betterment of our monuments. You have the assurance of both Mr. Hart any myself that we will do all possible to cooperate and shall endeavor always to have our monument ready for the most critical inspection without a minute's notice.

- AZTEC RUINS (CONT.)

The Southwestern Monuments Stencil No. 16 is interesting, but I em a little confused as to just how it will function in the midst of our busy seasons. Often times, Boss, one guide will start the party, join up with the other guide, have visitors join up with him, take the other party, etc., and I am wondering just how it will work out on the report. Then, too, in the busy season it is going to be hard in many cases to know just how long we are with each party, remember the number in each party, time in museum and field trip, etc., especially as we often in summer do not stop for even a few minutes from early morning until late at night. Perhaps you who have tried this through a busy season can give us some clows as to just what to do in this case.

The E.C.W. work here is moving along as well as can be expected. We are very much elated over the fact that at last we have some projects approved and have a few dollars at our disposal. We hope to end the sixth period without a single project unfinished. Of course, that is with the understanding that the house be counted out entirely.

One feature of the CCC work that is a blessing to this monument is the fact that we now have all but one of the old sheds torn down. This one we will have to leave until the end of the pariod, but we cartainly plan to have it down before we lose the boys entirely. The small patio in the rear of the Administration Building will also becomplete in a very short time.

The regular monument duties of the Custodian were no heavier than usual. Other than the CCC work and that of the office, Wr. Hart has shared largely in most duties. Your Custodian made one trip off the monument for lecture purposes to the Durango Chamber of Commerce annual banquet. Several trips were made to Durango in connection with the ECW work.

Closing a very pleasant month with the anticipation of starting on one even more interesting, we are.

Chiricahua Geology Report

By Norman Smith, Jr. ECW Geologist

Your letter signed by Park Naturalist Robert H. Rose on December 16, 1936, has been received. The weekly report forms were extremely welcome.

My work here will end about the first of February. By then I will be able to detail all locations of geologic interest on the trails. In fact, I can do that now. The rest of my time here will consider extensions of the scenic rocks beyond the present boundaries of the monument,

CHIRICANUA ECT CECLOGIST REPORT (CONT.)

with a review of literature on the geology of the general region and some time to write my report.

As to samples of the rocks for display and use by Park personnel it seems agreed that Massai Point is the bost place. Some kind of a structure there to protect them from the weather seems desirable. It, of course, will have to be designed by the Division of Plans and Design after the Maturalist Division decides on the size. The size will depend on the number and size of specimens. After a review of my notes, I will decide the number suggested by field work. But the naming and description of rocks will have to wait for examination under the microscope. This examination may also indicate more or less number of specimens nocessare to be wholly representative. In which case a geologic map may be indicated as more justified than seems the case so far in my examination. If so, by that time a topographic map will be available and a goologic map can be made at the same time specimens are located for empollees to extract and transport to the site of the exhibit. From the details of my report a naturalist-guide should be able to distinguish the several varieties of lava so as to point out or mention them in his talks with visitors.

I noticed the topographic map of Chiricahua mentioned in your monthly bulletin as the the map was completed. I am told it is not completed so I hope it will be seen. I refer to the work of Mr. Andrew Clark which would of especial value to a geologist such that my return here for a week or two after the map is ready would be worth while.

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CHIRICAHUA

By Wm. Stevenson

Following is the monthly travel report for Chiricahua National Monument:

During the month 250 tourists arrived in 52 cars. The increase over the past month is undoubtedly due to the ideal weather conditions.

Norman Smith, ECW geologist, has been compiling a great deal of data, on the rock formations of the monument, which will prove valuable to the ranger force. In the past some of the "dudes" have been able to embarraso us.

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CHIRICAHUA E.C.W.

By Wm. Stevenson, Project Sup't.,

I heremith submit the following report for the month of January:

Fourteen hundred feet have been completed on Sara Deming Trail this month, making a total of 4900. Approximately 500 feet remain

CHIRICARUA ECW (CONT.)

to be constructed for a tie to the old Balanced Rock trail. The crew will then be started at Massai Point to make the connection thru by way of Balanced Rock.

Echo Trail can show only 200' completed this month; however, a great deal more yardage has been handled than in any previous month.

Fifteen hundred square yards of bank have been sloped on the Bonita highway. The highest rock bank has worked this month, and it is estimated that CCO cubic yards of material have been moved.

The Ranger Station at Headquarters area is 75% complete. The roof is finished, window frames are in place, talks are plastered, and the flagstone porch and the fire place are completed.

The Bath house is 60% complete.

January 21-24, we sere visited by Hugh M. Miller, Acting Assistant Superintendent, Southwestern Monuments.

BANDELIER FORESTRY

By James Fulton

During the first part of this month, I devoted my time toward the completion of Bandelier's 1956 fire atlas and fire control plan. Last year's plan and atlas, constructed by me, were the first for this monument. The new atlas is a revision of the old one, but it is still incomplete. Next year, new information will be available which will permit the atlas to present itself in a complete form.

The last two weeks of January, I am engaged in cutting timber for vigas and lintels to be used in the new museum. The timber is being cut on the Santa Fe National Forest About ten miles west of the head-quarters area. Thenty inches of show at the scene of the timber operation complicate matters a little; but, at the same time, the snow makes a good skidding surface. A caterpillar tractor is being used to snake the logs to the loading point; a tractor-skid pole combination loads the logs on a trailer; and the timber is hauled to the building site to be converted into vigas and lintels.

CAPULIN MOUNTAIN

By Homer J. Farr, Custodian

This month has been a great month for the stockmen. Cattle and horses are fatter than any month in the year for a good many years, comething very unusual. No extreme cold weather and two or three small shows and very even temperature both day and night has been experienced. This partly accounts for the splendid livestock condition.

SOUTHWESTERN MONTERES 31 MONTHUY REPORT FOR JANUARY, 1936

CAPULIN (COMT.)

Visitors, between three and four hundred, have called on our menument this month.

Reads and trails: The trails are in fair condition, but the roads are in a deplorable state of affairs. The road must be taken care of soon or the park entrance closed, as it is not right to permit the public to travel the read two-thirds up the mountain, then on a narrow road find an unsurmountable barrier in the way of a rock slide and not a place to turn around. I have repaired the road two different times this winger and before long it is going to need it again. However, it is passeble right now.

Montezuma Castle

By Martin L. Jackson, Custodian

Have had the usual Arizona weather throughout the month -- meaning clear and warm by day, with temperatures dropping at night. In proof that we have some winter climate, some of the mesquite bushes still have green leaves.

Our register book shows 612 names for the month. Registrations from 29 states and one party from British Columbia appear.

Reports on roads leading into the monument are that they are full of chuck holes, and badly corrugated, which is to be expected because of the long spell of dry weather.

Since you fellows in the office are giving this monument so much credit for the decrease in number of visitors to the Southwestern Monuments, I feel that it might not be amiss for me to say a word or two. It would seem that you have me pretty well cornered. And you know it is claimed that even a rat will fight when cornered.

Some, if not all of you, will recall that back in 1933, when the present parking area was put in use, when all cars, picnic parties, overnight campers, and etc., were shut off from the lower grounds, that I ventured the prediction at the time that it would bring about a big decrease in the number of visitors to the monument — that people from the near by towns, the Pioneers of the Verde Velley (400 or 500 strong) would go elsewhere to picnic.

I respectfully submit the following figures for your consideration: They, I think, will bear me out in my contention that the decrease in numbers is due entirely to Arizona people.

Have just checked the last quarter of the travel year of 1935 against that of 1934 for the same period. Results: 1935 was off 20% as against 1934, and we had 40% more out of state registrations in 1935 than in 1934.

MONTEZUMA CASTLE (CONT.)

After all, the new parking area has its advantages, as national parks and monuments are not administered entirely for local people and picnic parties. Naturally, when you have locals or picnic parties on the ground, they require more or less of your time, leaving less time to devote to other visitors. As to the new method of checking visitors, will have to check over a period of a year before any very definite conclusions can be drawn as to how far off we have been in the past.

PIPE SPRING

By Leonard Heaton, Acting Custodian

Again I sat down to make a report of the activities of Pipe Spring National Monument, which is always a pleasure after it is in the mail, especially when there isn't very much to report.

The travel has been about normal, with the total number of 307. Of this number I have given guide trips to 53 in and about the fort and monument. Ten went through the fort while I was working in another part of the monument, and before I could get to them they were ready to go on their way.

Among the visitors to the monument this month were Al Kuehl and Carter of the Landscape Division, Superintendent Guy D. Edwards of the Grand Teton National Park, and Mr. Knight of San Francisco. These men spent 30 or 40 minutes with me visiting and going over the E.C.W. projects so that we have our differences settled up to now. Don't know what will develop later.

In one of my field trips with a visitor we discovered an "Indian death warrant." The lead was from an old time rifle and has been fired into some soft material as indicated by the way it is mushroomed. Its measurements are one half inch at the base, one inch across the mushroomed nose, three-quarters inch long, and it has all the markings of a homewade slug. This slug was found at an abandoned camp site of the early Indians, about one half mile south of the month. It is only a guess as to what the bullet was meant for when fired.

January 21, with my family, I went up the hill to the Major Powell monument and placed a marker there, gave the date of the discovery by the CCC boys and a copy of the survey note, together with a warning to those that might pass that way not to destroy or deface the mound or grounds there.

Our weather has been very ideal for work and the CCC's are getting a lot of work done on their projects. The road from Pipe Spring to Fredonia, Arizona, has been widened to Federal standards, most of the turns have received a trimming, and gravel has been hauled on eight miles of the road. Mr. Draper, Superintendent of the E.C.W. work, tells

pipe Spring (Cont.)

me that they will have about ten or eleven miles of road graveled this week, but didn't know how much longer they would work on the road. I do hope that they can find time to finish up the road before the summer travel starts.

While I think about it, I want to put in an order for a sign, 3' x 5' or about that, to be placed at Fredonia directing the travel to "Pipe Spring National Monument 15 miles, An Old Mormon Fort."

I am wondering if Superintendent of the Grand Canyon National Park would want "Grand Canyon Mational Morausent on this sign, too, as the road leads by Pips Spring.

The E.C.W. work has not progressed on the monument as rapidly as it should; the reason is that they have been changing men until they have had three or four new bunches on the jobs this month.

But as it is, the following projects have been coming along well:

E.C.W. 308 Ditch Diversion; which is 90% complete below the road, just the finishing up touches to it. In working this ditch they have also been working the campground grading of the road and camp sites, so when it is all leveled off there will only be the hauling of the gravel on the camp road and that part will be complete.

MCW. 718 Walks; Rock 80% laid from the west building to fort.

These three projects are the only ones that have been worked because there has been a "tie up" on the funds to purchase material for the other projects, but this I understand has been taken care of. Mr. Draper tells me that as soon as he receives authority he will purchase the material for these other projects on the monument.

I am attaching to this report, the report called for on SMI, Stencil No. 16, for January up-to-date. This new duty has added to my necessary personal equipment. Which, I am wondering, will be the most economical, one of the \$1.25 type or the higher priced time keepers? It some like my luck with watches is very limited as they usually step in about six weeks regardless of their guarantee to run a year and a day.

NATURAL BRIDGES

By Zeke Johnson, Custodian

I wish to thank you for your very kind letter dated January 23, also to submit my report for this menth.

It seems I have more invitations to speak than I can fill --- there are so many classes and groups of people that are interested in the scenic wonders of southern Utah and especially in the Four Corners country, and, SOUTHWESTERN MOMENTS 34 MOUTHLY REPORT FOR JANUARY, 1936

NATURAL BRIDGES (CCNT.)

of course, Natural Bridges and the many caves and ancient buildings are very easy subjects for me to talk about. I hardly ever show up on the street but some one asks me about my work and the many interesting objects in the country. So I am intensely interested and am doing all in my power to create interest in the monument I represent.

BANDELIER E.C.W.

By H. B. Chase, Project Sup't.

The moving of CCC barracks No. 1 was completed this month and construction of the Museum building on the barracks site was started. To date all footings are in place and approximately one half of the walls are completed to a height of three feet.

Grading, and construction of the drainage structure included in the residence road project, is complete this date. Surfacing of this read will follow as soon as power and telephone cables are installed underground along the gutter line.

The treach for the telephone conduit leading from the floor to the canyon rim has been completed.

Tree and annub planting has been carried on all month along the entrance road and vacant areas adjacent to the road.

Water line excavation to the 10,000-gallon water reservoir has been completed and excavation for the reservoir structure is about 75% complete. All materials for construction of this project have been delivered to the job and some preparation complete for hoisting the concrete.

A timber crew working in the Santa Fo Forest area west of the morument has cut and delivered necessary timber for vigas and lintels for the museum and Quarters No. 1.

The quarry crew has been in operation all month quarrying and shaping building stone for the museum, quarters, and other building projects.

A small crew has been working on carved signs for this monument and recently work has started on signs for other monuments in the Southwestern district.

HEADQUARTERS STUFF

BRANCH OF EDUCATION

By Robert H. Rose, Park Naturalist

Staff:

During the month of January, Junior Naturalist King and the writer SOUTH-WESTERN MONUMENTS 35 MONTH: Y REPORT FOR JARVARY, 1956

NATURLEIST DIVISION (CONT.)

have been at headquarters except for a short field trip to Tucson to which later reference will be made. Junior Naturalist Caywood has been on relief duty throughout the month. During the latter part of December he left for Chaco Canyon where he remained until Custodian Miller's return early in January. From Chaco Canyon, Caywood went to Walnut Canyon to assume charge after the transfer of Ranger Paul Beaubien to Saguaro. Later sections of this report are given over to the reports of Messrs King and Caywood.

Muneum:

During the month special attention has been given to the following problems relating to museum activities:

- 1. The Study Sketch of the proposed Tumacacori Museum was studied. Comments and suggestions were prepared and forwarded to the Museum Division and to the Field Division of Education.
- 2. Material for the Geology Came of the Bandelier Museum now under construction is being collected. This work involved writing ECW Regional Geologist Vandiver in regard to geologic cross sections and specimens; and the Field Division of Ferestry for panaroma pictures desired in the exhibit.
- 3. About 110 negatives of photographs of the Kino Chain of Missions were classified, indexed and appropriately labeled and segregated for the making of slides and enlargements in the Berkeley Laboratories. It is hoped that we can make a picture album from one complete set of these pictures for use at Tumacacori National Monument. A second set of these enlargements will be kept for use in exhibits in the proposed museum plans for that monument while the third set will constitute file records here at Headquarters.
- 4. Lentern slide binding; acknowledgement of receipt of £3 botany presses from field Division of Education and recording their distribution among monuments; attending to correspondence with field Division of Education relative to lantern slide cabinets, slides, enlargements, case layouts for the Bandelier Museum, and other matters; and the forwarding to Berkeley of copy of a chart prepared by Jr. Naturalist Caywood for Chaco Canyon Museum, were among detailed work done.

Educational Contacts Records:

Early in the month each monument having personnel was contacted with reference to supplying estimates and records on visitor service for the months of the current travel year thus far passed. In each letter some of the special circumstances in handling visitor traffic at each monument were cutlined. Replies have been received from practically all custodians

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NATURALIST DIVISION (CONT.)

to date and tabulations are being prepared. The records for January, 1936, are being received with monthly reports. Once this matter is brought up to January I on the best estimates obtainable, then actual records will be available for each month thereafter. In the Southwestern Monuments Report for this month there will be found a tabulation for the travel year ending September 30, 1935. This tabulation indicates the possibilities in studying the records now coming in for the current travel year.

Memorandum to Custodians No. 95 was prepared and distributed. This communication calls attention to the difference between total travel and total educational contacts. It stressed the need for keeping closer check upon total monument travel. The Educational Contacts records will tell the story of visitor service. A file on educational contacts records has been sent to the Washington Office and to the Field Division of Education in order that Southwestern Monuments might receive recognition among all National Park Service units with respect to educational contacts work being done.

My daily memo book shows that from about an hour up to several hours were given to contacts work at Casa Grande on eleven different days. For the most part these were days during which monument personnel was short-handed due to days off of custodian and ranger.

Custodian Joyner of Devils Tower National Monument wrote concerning the methods of recording visitor service and asked for complete sets of forms and instructions. These were forwarded to him for whatever service they might be to him in working out a system of records for that monument.

Clerical Work and Personnel:

Considerable correspondence was handled with reference to temporary and permanent ranger applications and appointments. With the approach of the summer season more and more letters of application are received and answered.

Clerical:

During the month some progress has been made on proparation of preliminary estimates for Museum and Education for the Fiscal Year beginning July 1, 1938. This goes over into February as unfinished work. The matter of the Geographic Place Names report is also incomplete due to all material such as maps and pamphlets not yet being received.

A complete file has been organized in the naturalist office on educational contacts and monthly travel; a number of general information letters were handled during the month; and the complete set of prints of Grent's negatives of the Kino Chain of Missions taken during the recent Reconnaissance Survey, has been organized and indexed. (Other detailed clerical work which will not be itemized was done.

NATURALIST DIVISION (CONT.)

Field Trips:

First, under Field Trips I might mention the trip made to Nogales, Sonora, on the occasion of a day off duty. Stopping in at Tumacacori, I had a good visit with Custodian Boundey and Ranger Evenstad. Mr. Boundey made a donation of certain interesting museum specimens to the Casa Grande Collection; educational contacts records and uniform regulations were discussed; and Mr. Boundey assured me that the album on Kinc Missions pictures would be valuable in their daily contacts work.

On January 24 and 25 Junior Naturalist King and the writer attended a conference of CCC Educational Advisors and guests held at the Hotel Santa Rita in Tucson. The conference emphasized chiefly the ways and means of carrying out educational programs in the CCC Camps. Valuable information was obtained on how we might cooperate in furthering this program in camps under our supervision. Contacts made with the various educational advisors proved especially valuable to us in furthering the spirit of cooperation with them.

Special Lectures:

- 1. On Friday evening of January 31 the writer gave an illustrated talk of Arizona's National Monuments to the CCC boys of the Crazing Division Camp at Eloy, located about 20 miles southeast of Coclidge. Attendance, Approximately 200.
- 2. On the occasion of the conference in Tueson referred to under Field Trips just above, Mr. King and the writer each gave talks of about 15 minutes in length on work being done by the CCC Camps among the national monuments, attendance about 35. Mr. King also stressed the good work educational advisors of CCC Camps are in position to do in discouraging illegal digging for archeological materials.

Report of Jr. Naturalist Dale S. King:

Approximately 10 days on December Monthly Report.

Two days guide service at Casa Grande Mational Monument.

Two days at ECW educational conference at Tucson.

Slightly less than two days on correspondence.

Half day keeping bird banding files current.

One and one half days cataloguing library accessions.

One day irrigating nowly planted trees.

Three days planning map case for proposed Bandeliar Museum.

Half day conferring on accumulated museum plans for Bendelier, Tumacacori.

One day on advance January Report material.

About six days preparing comments of ranger guide service at Casa Grande.

NATURALIUT DIVISION (CONT.)

Report of Jr. Maturalist Chywood:

Following is my report covering the month of January, 1936;

Field Work:

The entire month was spont in the field on relief duty at Chaco Canyon National Monament and Walnut Canyon National Monament.

While at Chaco, December 25 to January 6, relieving Custodian Cal Miller who was apply on summal leave, I took quite a few pictures, under instructions from Headquarters, of the following ruins showing the condition of the walls:

). Talus Ruins

- 5. Wijiji
- 2. Pueblo Bomito
- 6. Shabik'eshchec Village
- 3. Little Pueblo Alto
- 7. Arroyo House

4. Hungo Pavi

Although the walls of many of the unexcavated rules are still standing they are in critical condition. Each summer rain and winter show with its subsequent thaws and freezes levy their toll on the walls. Walls at Little Pueble 11th, Wijiji and Hungo Pavi are still standing to a considerable height, but sections are in bid condition and in order to stard many more years some form of bracing and repair should be resorted to. Even while visiting the rules and photographing them I often heard rocks fall from the walls and on the snow covered ground fresh fallen dirt and stones could be seen.

On the excavated rains, Chettro Kettle, Talus Ruin and Pueblo Bonito, there is much needed repair work to be done. The repair work done by Neil M. Judd after excavating Pueblo Bonito has held up very well considering the severe attacks of weather, but the time has come when the weaknesses in these repairs are being brok ht out duily, aspecially during the winter months. The chief causes of rains disintegration at Pueblo Bonito would come under the following headings:

- Undergining of walls at floor levels and ceiling or beam hole levels.
- 2. Improper or no drainage.
- 5. Cracking of coment capping which allows water to seep into the walls, either mashing out the mortar or freezing and bulging the walls, or both, with the result that the wall falls out from begenth the capping and the capping then caves in.
- 4. Uncapped walls begin to lean and weather conditions soon cause them to fall.

NATURALIST DIVISION (CONT.)

The other excavated ruins and also the unexcavated ruins are gradually falling into a more ruinous state. In Chettro Kettle the repaired walls in the deep excavation done last summer have begun to crack from the pressure of the transmidous weight above. At Talus Ruin, which was partially excavated during the past two summers, 1934 and 1935, walls have fallen since last summer's work.

The solution to these problems would be of several classes. The most important at the present time would be to repair and brace the excavated walls at both Pueblo Benite and Chettre Kettle. If this is not possible, it might be well to spend a smaller sum and fill in all of the excavated rooms and brace the standing walls with earth. This, of course, would detract from the features of the ruins and leave only smaller sections of standing wall, but in the end would preserve the ruins for a period until repair work could be done. Another important may to reduce the tremendous depreciation in the ruins would be to forbid further excavation of any kind unless the parties excavating also have sufficient money to repair the walls and preserve the features.

Those who have not had the experiences of excavating and the thrill of finding the lost treasures of these old people have missed much. Those who have excavated know the thrill and satisfaction of finding and properly removing museum pieces, and discovering the kind of houses that were used for living and deremonial purposes. To those who have excavated comes the feeling of sadness and shock to see what was only recently a beautiful piece of masonry which had stood buried for hundreds of years now nothing but a pile of rocks and dirt. Such walls can never be replaced.

Lewis McKinney was very nice in offering to take me to many of the out-of-the-way ruins, including Wijiji, Shabik'eschee Village and Arroyc House. Together we climbed Fajada Butte where I saw the names of Richard Wetherill and Ales Hrdlicka inscribed there in 1899. It was a very windy day and after finally reaching the top my "beaver board" hat blew off over the edge of the cliff. I will say this for those hats, that although you can't keep them on your head on a windy day they stand a lot of punishment, for mire only had a few nicks in it when we finally found it a couple of ledges below the top. There was plenty of ice and snow on the Butte that day and climbing was not so good, but McKinney finally persuaded me to climb up the last crumbling sandstone ledge that had considerable ice on it and quite a drop below. We did succeed, however, in finding a better way down.

H. E. Williams, fence inspector, was kind enough to show me the bad places around Chettro Kettle, Talus Ruin and Pueblo Bonito. When Cal returned he took me around to more of the bad walls and places where there is no drainage. All of these places were photographed and sent into Headquarters.

RATURALIST DIVISION (COMT.)

During one of the snew storms while there I labeled the four massemy charts which were already in the massem with a heading of "Chaco Enserry" and worked up "The History of Chaco Conyon" which I cent into Bondquarters for approval.

Visitors were certainly among the missing during my two weeks' stay. Each snow and the condition of the roads prevented travel unless absolutely necessary.

Dirds were also source, but I noted the following species: Desert Horned Lath, Booky Mourtain Woodpecker, White-runped Shrike and the Shufeldt Junco.

We left Chace Canjon after seeing Cal, Mrs. Miller and the four children sefely back to their home roost on January 7 and arrived at Walnut Canyon January 8. We cortainly enjoyed our stay at Chaco and hope we are fortunate enough to return there again.

Everything at Walnut was found in good condition. The distern was being cleaned the day we arrived and was finished the next. So far there haven't been any storms to fill it up again. I am afraid we have outclessed Bud at Canyon de Chelly with running water 'cause we have to run four or five miles after ours.

There had evidently been quite a sterm here shortly before our arrival as there was its and should in avidence. Itse and should nak leading up to the cabin had to be elemed off with pick and should. One of the large signs in front of the cabin had partially blown down, but I've fixed that up now, so let it blow.

I made a thorough inspection trip of the roins on the monument and found that no vandalism had been perpetrated.

After feeding the birds for a week the traps were set with the following results to date: 2 Rocky Mountain Nathatches bended, 1 Mearns Woodpecker banded, 1 Rednaped Sapsucker banded, 3 redbacked Juncos banded, 1 Pigmy Muthatch banded, and 1 Gray Titmouse banded. We have also had 29 repeats. Winnie is becoming quite bird-minded and denes most of the bending. One afternoon she had both the Rednaped Sapsucker and the Mearns Roodpecter in the one Two-Compertment Trap that is being used. As a Long I same howe from the Island she was so excited she could hardly tell as about it.

We have seen one here of 19 door on the menument including two bucks. Individual deer and small herds are seen rather frequently.

For travel and further details at Walnut Canyon see the Monthly Report for this Montment.

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4220 *Lectures by Headquarters Parsonnel.

January 1936 educational contacts tabulations for Southwestern Monuments will be found on the previous page. Some comments and explanations are in order since this is the first appearance of the monthly tabulations. Reclassification of a few individual entries is necessary but totals will not be changed. Some items such as the special talks by Custodians have not been included but for February a revised tabulation will be published.

This matter of defining "educational contacts" has come up in a few of the field reports. Regularly organized guided field and museum trips present no difficulty since educational contacts under each heading are merely the total number of visitors who received each type of service. Other circumstances present preater difficulties, but an illustration will clarify some points. Suppose that a ranger stationed at Chiricahua knew nothing of the history, geology and botany of the monument and that he occupied his time checking cars; informing people where to camp; telling people the distance and condition of the road to Massai Point; directing them over the best routes to hearby cities; and in performing other services to visitors not related to a knowledge of the history and science of the region. This ranger would report TRAVEL, but he is not justified in reporting all visitors under EDUCATIONAL CONTACTS. Then, the question arises as to just what we are going to do about reporting this wast amount of general service related to assisting visitors? In this case it is not the educational contacts methods that are weak; it is the methods of reporting all of these general activities that need improvement.

Now, consider the Chiricalua ranger who performs all of the above types of services not classed under "educational contacts" and who, in addition, succeeds in getting visitors cut of their cars where they can see interesting pictures, specimens and other materials the ranger has assembled. These stimulate visitors to ask questions and he spends anywhere from five minutes to a half hour, telling visitors where to obtain finest views: something of the processes of Nature that fashioned the region; and in calling attention to, and in interpretation of, special exhibits visitors can see along the roads and trails. At once we see the services this ranger gives are dependent upon his thorough knowledge of Chiricahua. He might interest people still further in the Indian history in which the Monument prominently figures. There is no question here but what this ranger is performing educational service and he should report as educational contacts the total number of people to whom he has given this type of service. The problem here is not whether this service falls under educational contacts but lies in how to classify it is tabulations. There are of course borderline cases in which no set rules can be laid down and where individual judgment of the field men must be relied upon just as a man is expected to exercise judgment in reporting his other monthly activities under their proper headings.

BRANCH OF ENGINEERING

By J. H. Tovrea

Mr. J. H. Diehl, Park Engineer, returning from Field Headquarters, San Francisco, spent a few days at Southwestern Monuments' Readquarters. He then went to Carlsbud Cavern National Park and spent the belance of the month supervising construction and surveys. He also had some maps and estimates made for the Resettlement work at White Sands National Monument. At the end of the month he left Carlsbud for Platt.

Transituan Andrew Chark and crew were at Carlsbad Caverns National Park for the month making topographical surveys for proposed trail work.

Chief Engineering Aide J. H. Tovrea was at Headquarters for the month on map work and office detail.

CLOSING

The new year has taken a flying start, Chief, and we are pretty well satisfied with it thus far. We got the breaks in the Budget and, on the last reports, we were still riding the crest of the waves in the appropriation bill. It containly looks like we are going to be in a position to deliver better service next year to an increased number of visitors than we have ever been able to give thus far, so why shouldn't we be elated?

You have noted, no doubt, in the tabulation at the head of the condensed report, the increased run of visitors and we take it this is an indication of increased business during the spring and summer season.

For the first time we are trying to build the Condensed Re-art on the standard system so that, should you ever mant to do so, you can make a quick reference to any portion of it; or does anybody ever want to make a quick reference to a Siperintendent's Monthly Report? If you like it this way we will continue it, only we will run our travel at the head of the report instead of down in the body where it might got lost. After all, we have a feeling that the visitor figures make up one of the most important sections of any report and should have the right-of-way.

You will note on the Porcennel Page that Donald Erskine has joined on with us and is to be at Walnut Canyon National Monument after a little broaking-in period at headquarters.

Al Bicknell, whose native heath is up at Craters of the Moon National Monument, is talking to visitors at Casa Grande like an old time bone-digger, but I suppose when spring opens up he will be wanting to go back to the "finest National Monument in the system!"

I wish you would call the attention of Mr. Tolson and Mr. Wint to SOUTHWESTER: MONULENES 40-6 MONTHLY RELORT FOR JAMUARY, 1936

CLOSING (CANT.)

the El Morro Field Report in the matter of the snow on the north side of the Rock and the south side being warm and sunny and dry in most places. Possibly we had better call a conference up there on the north side of the Rock about the middle of February to pick the site for the administration area. We might even make it a two or three day conference and see who volunteered to camp on the north side of the Rock. Of course, if it were necessary for the prevention of vandalism or any other good reason, we would not hesitate to ask our personnel to live on the disagreeable side of the Rock, but there isn't any particular reason why he should be asked to endure two or three months more winter then, from the administrative standpoint, the comfortable side of the cliff would serve just as well.

Those are interesting nature notes in the Bendelier field report. And of course it would be Betty Jackson the discovered a new dwelling in Bandelier! You will remember it was she who last month walked into the Montezuma Castle and found a filled decruqy which Jack and I had been everlocking all these years when we almost called the Castle home because we worked around in it so much. Why couldn't she come along in the good old days before Chief Clerks when I was keeping my own filing system? She would have been invaluable as a finder of lost papers.

Gran Quivira did well, I think, seeing how far it is off the main travelled read, to draw 287 visitors in January. If you had driven in over that last 27 miles in bad weather you would understand how badly those people wanted to see ruins.

We are getting our first authentic information on January visitors at Walnut Canyon and some interesting points are developing. The H.C.W.P. sent in an interesting letter the other day dealing with the daily life at Walnut and containing some nature notes we are going to run in the next issue of the Breadcast.

I want particularly to call your attention to the fine cooperation of the Indian Service noted in the Canyon de Chelly field report. Let me add my word that we have found this same willing cooperation over at the Central Agency of the Navajo Indian reservation in the several times we have had to call upon them.

The White Sands report raises a very pertinent question: "What is a contact?" To tell the truth we have had a lot of doubt along that line curselves. We wish the Educational Division would give us the major points of information on what constitutes a contact and then maybe be could make some ground rules to fit some of the special cases that occur in our monuments.

Note that interesting observation in the Saguaro field report on the differences of visitors between Walnut and Saguaro.

The Tumacaccri field report speaks of Mr. Tovrea and myself visiting GOUTHOESTERN MOREMENTS 40-7 MONTHLY REJORD FOR JANUARY, 1936

the mission but doesn't tell how much fun we had climbing around over the top of the tower, the dome of the sanctuary and so on, nor of the fireworks caused by the explosion of archaeological, architectural and historical theories dealing with the Mission.

The Wupatki report is up to the usual good standard, and you will please note the reference to the Navajo Arts and Crafts Exhibit. I think thin is a splendid idea.

Tonto travel is booming. A typographical error makes the latest car arrive at 7:40A.M. instead of 7:00 P.M.

We are glad to see by the Chaco field report that the fence project is finished. It is a good piece of work well done.

I wouldn't want to pour any oil upon the troubled flames by mentioning it in public, but you will note that Aztoc now advances from "The finest Monument in the park system" to, "one of the outstanding wonders of the world." Page Chaep Canyon.

We are hoping great things for the E.C.W. geological report for Chiricahua. If it is detailed enough, we would like to publish it as one in the series of Special Reports we are getting out of this office.

I thought when I saw those hearty remarks about Montezuma Castle attendance going out that we would get a come-back and you will notice it in this month's field report.

Here in the office we all had a laugh at the Pipe Spring statement that his monthly report was always a pleasure - after it was in the mail! So say we all of us!

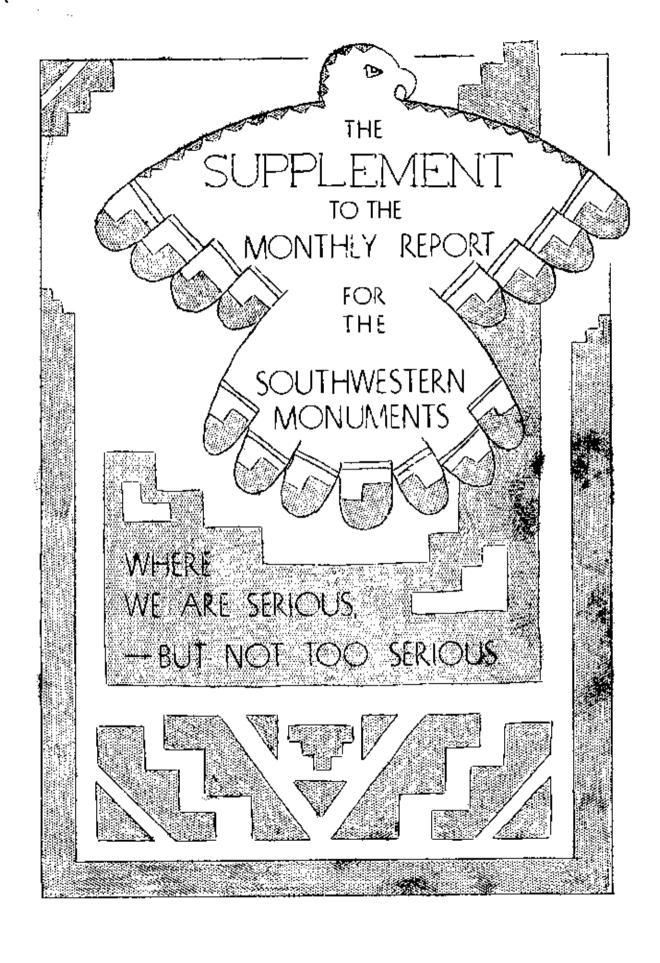
And you can't hold a man like Zeke Johnson down by snowing his monument in the winter time! He just goes where people are and talks to them as you will note by his report.

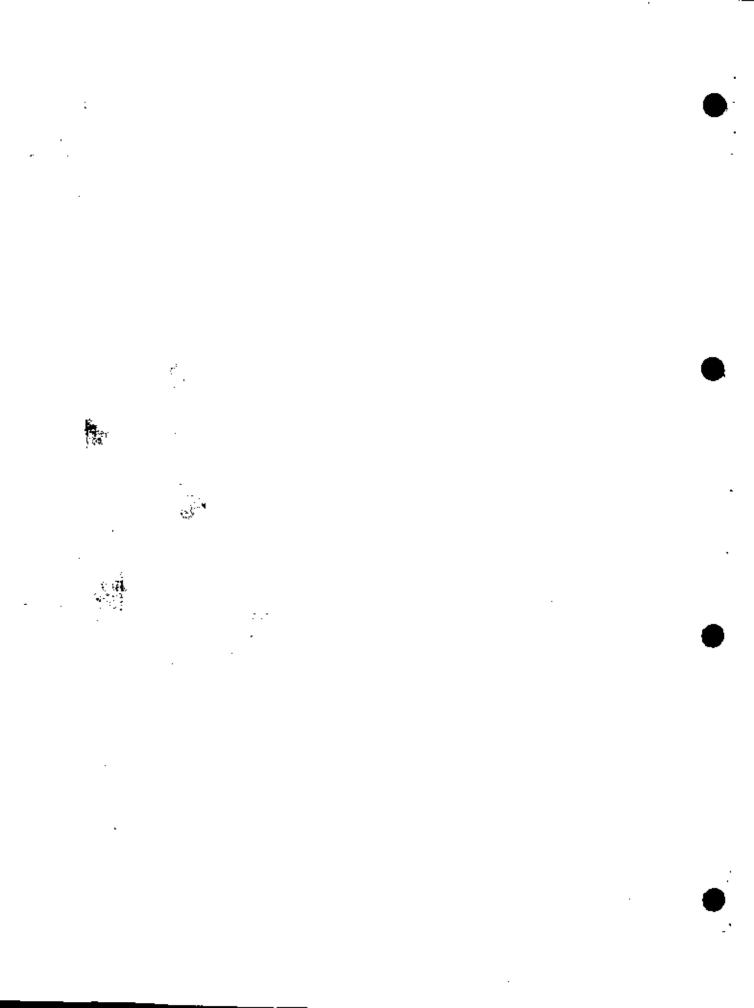
The two E.C.W. comps have been doing good work as usual. In the expressive phrase of our friend 'Gene Baird, Bill and Rub are "a pair to draw to and beat the world."

Taking it bye and large we have no complaints to make about January; if our desert gods stay with us through the next eleven months as well as they have the past one, we will have our plans well along toward a much improved service to the American Public.

Cordially.

Ruperint endent.





NATIONAL MONUMENTS NEAR TUCSON ARE BEING IMPR

THREE FEDERAL SPOTS SHARING PARK PROGRAM

Federal Funds Used for Work on U. S. Wanders In South Arizona

Taking full advantage of (rders).
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Survey of Old Missions Reveals Interesting Data to Aid Tumacacori Restoration Work

Editors Note, Much of the romance and secureta Maioriesi data the National Park florrice is securing line in the top property of resistance of Philades to the best of the top the top the top to the top the



several good argumons which would be very interested in sering would indicate that the premot which has been remodeled and surjected. Breelly, they see they

REPORT ON MISSION SAN JOSE DE TUMACACORT

By J. H. Tovrea

When we pass through the great arched docrway of the old Mission San Jose de Tunscacori, it is usually only a metter of a few minutes before we start wondering what it was like before nature and vandalism destroyed so much of it. Even those who are not particularly interested in old missions cannot help wondering what the ruined alters were like years ago. Perhaps some carry away with them a mental picture of the unfinished bell tower and vaguely try to visualize what it might have been. Those of us who visit the structure often enough find that this wendering gets in the blood and becomes a surt of mild mania. If, eventually, we find curselves staying awake nights pondering over little flakes of plaster which have different textures, or faded dats of paint which once might have been parts of intricate and vivid designs, we will begin to find enswers for some of the whats and whys.

Hast fall the National Park Service decided that answers or clues to unravel some of Tumacacori's architecture; problems might be found by a survey of the twenty-odd missions in Schore, Mexico, which belonged to the same chain as our own Tunacacori. The thought brought action, for a party of six men was sent into Mexico to gather as much data and material as possible for museum exhibits, historical research, and architectural detail. The time was limited to three weeks, so the party had to work fast. A lot of the time was consumed in travel between the missions, as the roads were poor and there was a certain amount of official rlearance to be obtained at each site. The party was composed of two architects and an archeologist-historian from San Francisco, a photographer from Washington, D. C., and a geologist and myself from Southwestern Monuments Headquarters. The party obtained some valuable data in the form of measured plans and sections of the better preserved missions, but the time was so limited that many of the details could not be measured though all were photographed. There is no doubt that a weelth of muneum material was obtained and the expedition was, I believe, A successful one.

My interest in the trip was concentrated in what could be found that would relate to Tummococori in the way of restoring in picture form some of her lost details.

Some eighteen years ago, Superintendent Frank Pinkley of the National Park Service started wondering about Tumacacori and set to work putting pieces of the puzzle together. His job was harder than ours because he had to start at the beginning. Now, with parts of the problem solved, it is easier for us to work out other parts. Some of the answers to various parts of Tumacacori's problem outlined in this report, are accompanied with substantial and logical proof. Others are

REPORT OM TUMAGACORI (CONT.)

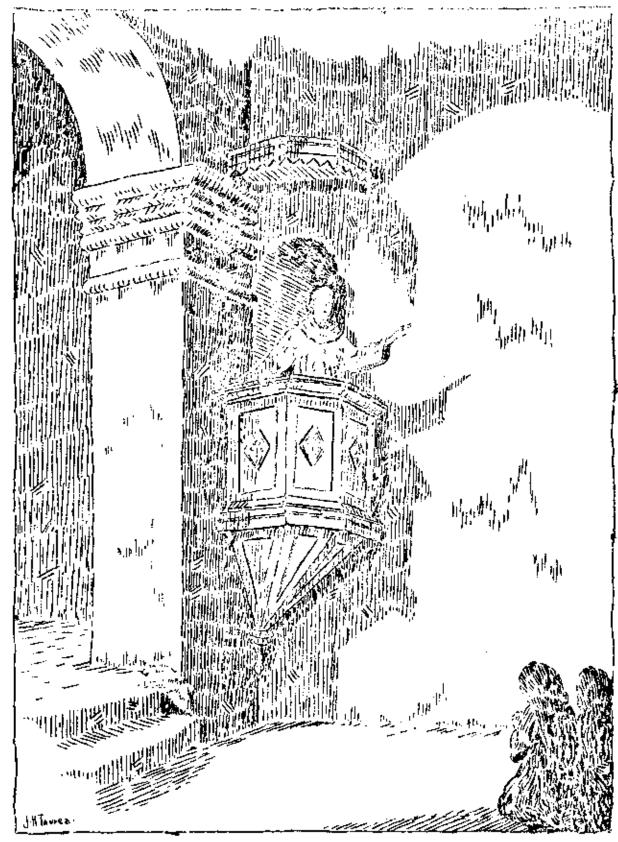
hased on comparative observations of the other missions in the chain; and still others can be boiled down to the very best and latest guesa.

I found that all the missions in the chain, that we visited, were quite radically different from one another with the exception of Caborca, which is practically a twin of the Mission San Xavier near Tucson, Arizona. If any of the missions is at all like Tumacacori, it is probably San Ignacio, and it was from it that I gathered data which helped conceive a restoration of Tumacacori's side altars, pulpit, choir loft rail and balustrade. It also gave me a mental picture of what Tumacacori's interior looked like when it was complete with choir loft and alters. It verified in my mind Superintendent Pinkley's idea that by restoring Tumacaccri's choir loft, illusions of greater height and size of the mave would be created and the entire picture would be more in keeping with what the builders meant it to be. Without those illusions the nave is out of focus, and when we say to the visitor as he enters the door, "Look--this is the nave which the padres built over a hundred years ago," we are showing him a distorted picture. The padres would have had the visitor view the nave thru the arched opening that upheld the front end of the chair loft; for thru this archway the room would appear longer than it actually was, and, as he welked forward and looked up, his memory of the low ceiling of the balkony loft would make the coiling of the nave seem higher by comparison.

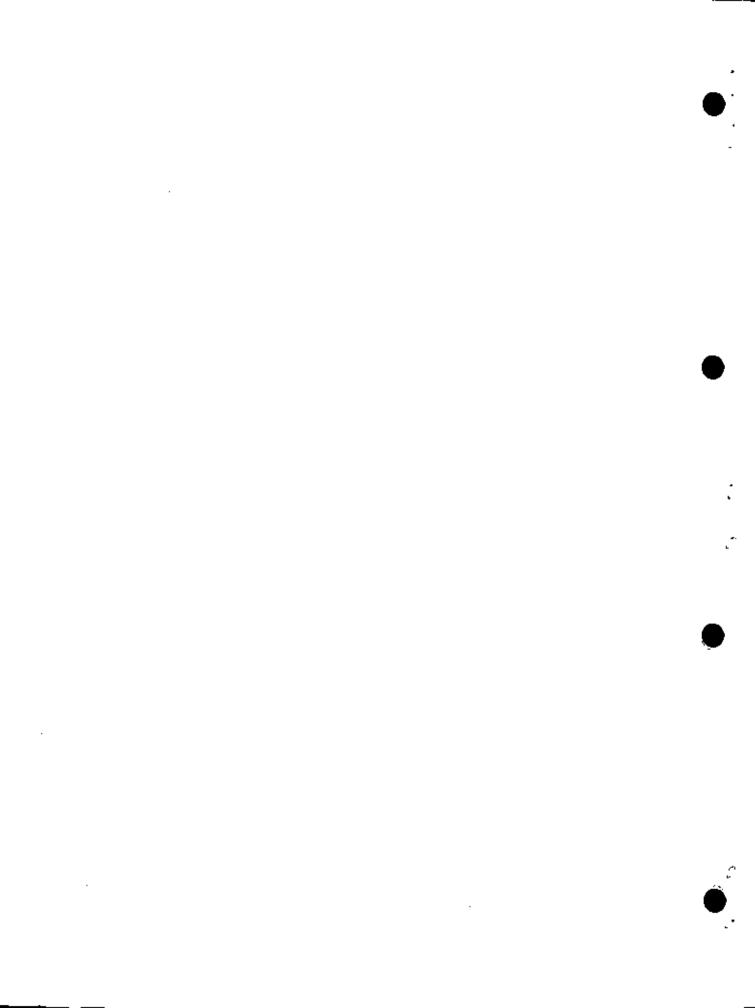
The missions as a whole made me feel that since the buildings were designed to impart a feeling of systemy and sanctity, so should such a feeling be re-created in Tumacacori, as nearly as would be practicable. This could be done in part by restoring some of the alters complete to the image in the niche. When the visitor enters San Xavier he tiptoes and whispers and is doubly impressed by what he sees. At the present time, the interior of Tumacacori could be mistaken for the interior of an old banquet hall, a fortress or even a storage room. A little restoration here and there would make it impress the visitor that it was the interior of a place of worship and he would be getting a truer picture of the mission.

PULPIT RESTORATION

When I entered San Ignacio, the first detail to catch my eye was the pulpit. The eye is drawn to it immediately because it is a spot of color against the plain grey-white wall. In the dim, shadowy light of the nave the bright colors of this pulpit are softened so that they blend together and assume a velvet-like texture. Indians like bright colors and would no doubt concentrate their attention on this particular spot when the padre was addressing them. All that was left of the Tumacacori pulpit at the time it was decided to restore it, were a few marks on the plaster wail. These marks proved two things; 1. That the floor beams projected at right angles from the two wells behind the pulpit and, 2. That three and one-half feet below the floor level, in



·PLATE·2-PULPIT·RESTORATION·



REPORT ON TUMACACORI (CONT.)

the corner formed by the intersection of the two main walls, was a mark which indicated the presence of an ornament which might have terminated the point of an inverted pyramidal corbel that supported the floor of the pulpit. With this scanty evidence to work from a square pulpit floor was constructed with the corbel below. This construction was then plantered over. If a pulpit of this square shape were used the speaker could not have faced his listeners in a graceful manner unless ne faced directly south where he would be looking along the line of the east wall, or directly west where he would be looking at a wall seventeen feet away and not at his listeners.

It would seem that the ideal horizontal section of a pulpit for this particular situation would be a quarter round, which would permit the speaker to face any direction in the space of minety degrees. For the purpose of ornamentation, however, this meetion would not be very satisfactory, as well as being a difficult one to build out of wood. All of the pulpits which we studied in the other missions were some portion of an octagon, depending upon their position. This octagon shape gave the same effect as a circle, was easier to construct, and when ornamented was more pleasing to the eye. The one at San Ignacio looked so appropriate for Tumacacori, if medified a bit, that I made a rough water color of it. Using this as a model, I have made a restoration drawing of a pulpit for Tumacacori. (Plate 2). This pulpit would med the requirements established by the marks left on the walls by the original pulpit and would, I believe, resemble the original very closely. The construction would be of wood and the colors similar to those of San Ignacio's pulpit. If this pulpit were restored, I believe it would create a pleasing contrast to the present drab interior.

AUTAR RESTORATION

Turnicatori had beven alters—three on each side of the nave and the high alter in the sanctuary. One can imagine how impressive the interior of this old mission must have been when all these alters stood complete, each one enshrining the image of a saint. Could not this picture be more clearly imagined by the visitor if one of these alters were completely restored? The possibilities of such a restoration are shown by the drawing in Plate 3. This particular alter is the first side alter on the left as we enter the building. All that remains of it now is the base, and the lower portion of the alter proper. The flat top has been restored. Existing evidence to support the accuracy of this restoration drawing is in the form of marks on the plaster wall showing the outline of the gabled moulding that frames the alter background, and the small remaining fragments of one of the columns, and one end of the lintle.

The ornamental designs on the column and lintle are painted and were suggested by the designs on other alters of the chain. At least two of the old carved wood images, which are now at San Xavier, belonged

REPORT ON TUMACACORI (COMT.)

at one time to Turacecori. I would suggest that midels of these images be made, full size, colored true to the originals and restored to the alter niches at Turacecori. One of these image models in the niche of the restored side alter would make it a complete restoration.

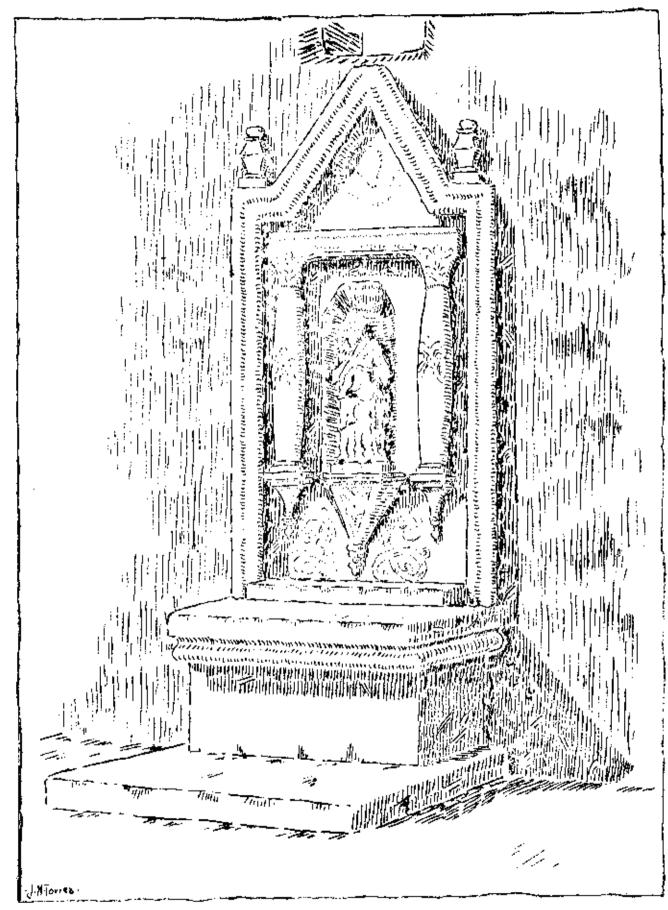
CHOIR LOFT RESTORATION

A complete restoration of the choir loft has been advocated for several good reasons—the primary one being that of improving the perspective view on entering the building. The arch support at the front of the loft can be easily and accurately restored from photographs of the original each. The floor we must assume to be of burned brick, as are the loft floors of most of the other missions. The railing and balustrade must be copied also from existing ones in the other missions. Detailed drawings of these existing balustrades were made on the mission trip and are filed ready to use in the event this restoration is ever attempted.

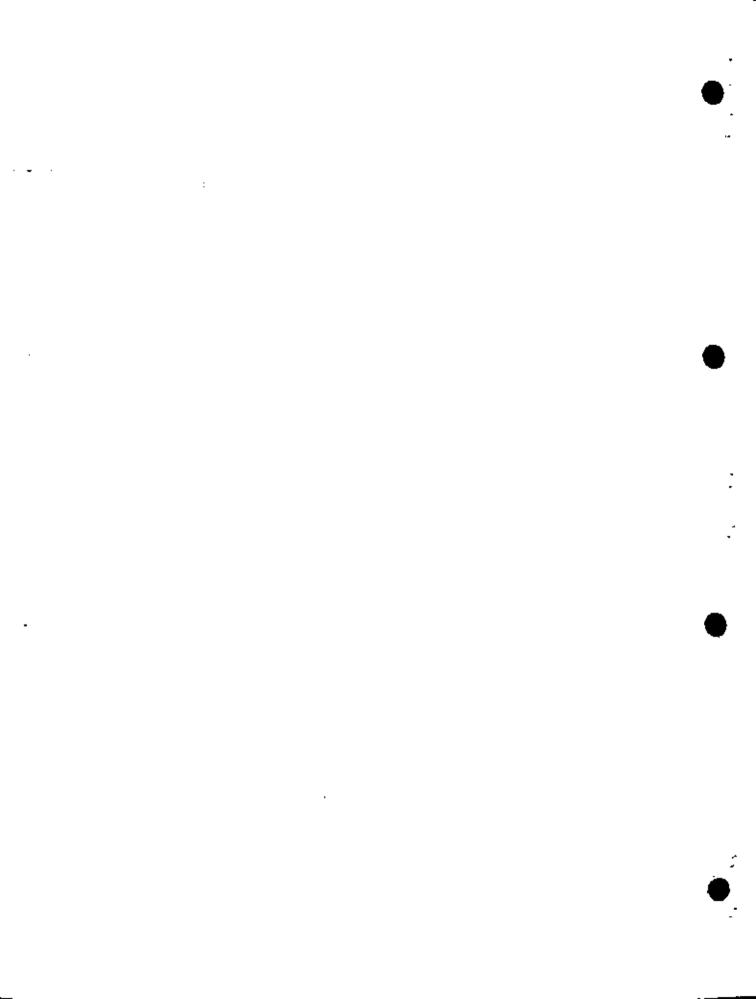
A DISCUSSION OF THE ORIGINAL PLANS

Records show that three buildings were constructed at Tumacacori at different periods, for the purpose of holding religious services. Whether these three missions were three distinct buildings or two buildings, one of which was remodeled and enlarged to make the third, is a question for debate. Last winter, under the competent supervision of Mr. Paul Beaubien, Archoclogist, the Area east of the present mission was excavated and a number of foundation walls and ficors were uncovered and mapped. One rectangular shaped set of foundations, in particular, could have been those of a small church, and is considered by some to be the foundation of the second church at Tumacancri. At one und of the rectangle the foundation walls seem to offset inward for a distance equal to the breadth of the foundation to form what might have been a sanctuary. However, the fact that at the point of offset the two walls are joined together by just the meeting of their respective corners, leads me to believe that they were the foundations of two different buildings constructed at different poriods; and I do not think that these foundations represent those of a church, though it is possible.

On the other hand, there are several good arguments which would indicate that the present building has been remodeled and enlarged. Briefly, they are, the presence of plantered foundation walls on each side of the nave—which would indicate that at one time there was an alter alcove on each side of the nave. The opening into these alcoves is clearly outlined by the unbonded adobe brick. The average height of these cracks is eight feet. Excavation has shown also that there were foundation walls crossing the nave just in front of the sanctuary arch and behind what was the choir loft arch. This would indicate that the nave at one time might have been confined within these limits or, at least, was of a different plan, even though the length and width were



·PLATE·3· SIDE·ALTAR·RESTORED·



REPORT ON TUMACACORI (CONT.)

the same. Let us assume, then, that the plan of the church was radically altered at one time. Now, how about the elevations of the side and end walls of the pave? No one has committed himself, to my knowledge, as to what change might have taken place here. I have always wondered about the two foot offset on the outside of the nave side walls. It has been a question in my mind for a long time whether this offset, caused by changing the wall thickness from approximately five feet to three feet, was in the original plans of the building; or if it indicated an addition which raised the height of the building; or was a change in plan after the offset point was reached.

VAULTED ROOF?

Referring to Plate 5, let us study the wall section. If this section were designed in the original plans of the building, a section of this shape could have been designed for only one purpose; namely, that of supporting a barrel vaulted roof. If the wall had been designed primarily to support a flat roof, the designer would surely have used a three-foot wail section all the way up. It is well to bear in mind that when the present roof was restored there was no evidence that a vaulted roof had covered the walls; but, at the same time, it might have been the intention of the designers to use the flat roof temporarily and eventually replace it with the highly favored barrel vault.* It is a well known fact that the padres were elever architects and that when they built a vaulted roof it was well designed and did not fail through structural weakness. In fact, they had a tendency to over-design; that is, to construct their malls even a bit thicker than was necessary in order to be sure that their buildings would not fail. Churches in Mexico which they built four hundred years ago (some of which would hold a half dozen of the Kino missions), are still in use today and are structurally sound.

Referring again to Plate 5, let us actually determine whether this section would support a vaulted roof. Since the width of the nave is the same as that of the sacristry, it can be assumed that the proposed vault for the nave would have the same thickness as that of the one that now exists over the sacristry. The spring line of the intrados of the arch is a point fixed by the fact that the proposed vault could not be higher than the north wall supporting the dome over the sanctuary. The stress diagram shows a resultant thrust of SIAC pounds per linear foot, acting at an angle of 38 degrees from the face of the vertical wall. The center of gravity of the wall section can be calculated to be 2.48 feet from the vertical face of the wall and the weight of the

^{*}This change was actually made at San Ignacio but, due to lack of foresight in making the walls thick enough at the time of construction, great outside buttresses had to be built to brace the nave walls.

REPORT ON THEACACORI (CONT.)

wall section creates a force downward of 9,800 pounds per limial foot through the point of the center of gravity. The resultant force between the thrust of the erch and the weight of the wall section completes the line which the thrust of our proposed wault would travel. This line of pressure is the heavy line shown on the wall section. It will be noted that the wall section is divided into thirds at the base of each of the two different wall thicknesses. When a wall section is designed to carry an arch, it is so designed that the line of thrust always stays within the middle third of the wall section. If it runs outside of this middle third, the section is considered unsafe and apt to fail. It will be noted that the thrust line of our proposed arch runs considerably outside of the middle third, both at the offset point and at the base of the section -- which are the two critical points. know then that if a barrel vaulted roof were built there would be great danger of the side malls failing.* Therefore, since the padres were efficient designers and even tended to over-design. I believe we can pafely say that the two-foot offset was not a part of the original plans of the building. That climinates one theory and leaves us two; namely, that the plans Sero changed when the offset point was reached, or, the portion of the building above the offset was an addition to the building. I believe that the five-foot section of wall was started with the idea of using the vaulted roof -- otherwise a narrower wall section would have been used. I believe that it was intended to carry this thick wall up to the point where the spring line of the arch we figured starts. When the point was reached which is now the offset point of the walls, plans were changed. L. There could be several periods when Turacacori was abandoned by the padres due to Indian attacks at Tumzeacori and other missions farther south. 2. It is possible also that since the Indian labor was not particularly skilled and was very slow, the padres decided to use a flat roof instead of a vaulted one, and so the wall was made narrower from the offset point on up. will be noted that on each side of the main entrance there are buttresslike columns. (Platc4). It seems logical to assume that they were used to support the back part of the choir hift. However, if this were true, they would be superfluous construction; as the choir left beams would receive their proper support and bearing in the front wall of the building, and a beas, under them would not be necessary. I puzzled over those peculiar columns for a long time before an apparently simple answer presented itself to account for them. When the plans

This does not, however, rule cut the possibility of the intention to use a lighter vaulted roof then the one figured here. It has been my theory that, for tack of funds, they could not erect a barrel vault at the time but designed the walls so the flat roof could later be removed and the barrel vault substituted with the least amount of trouble.

Mr. Towrea however tails me a thinner section would probably be dangerous, due to the fact that the line of pressure could more easily fall outside of the middle third in a thinner section. - Frank Pinkley

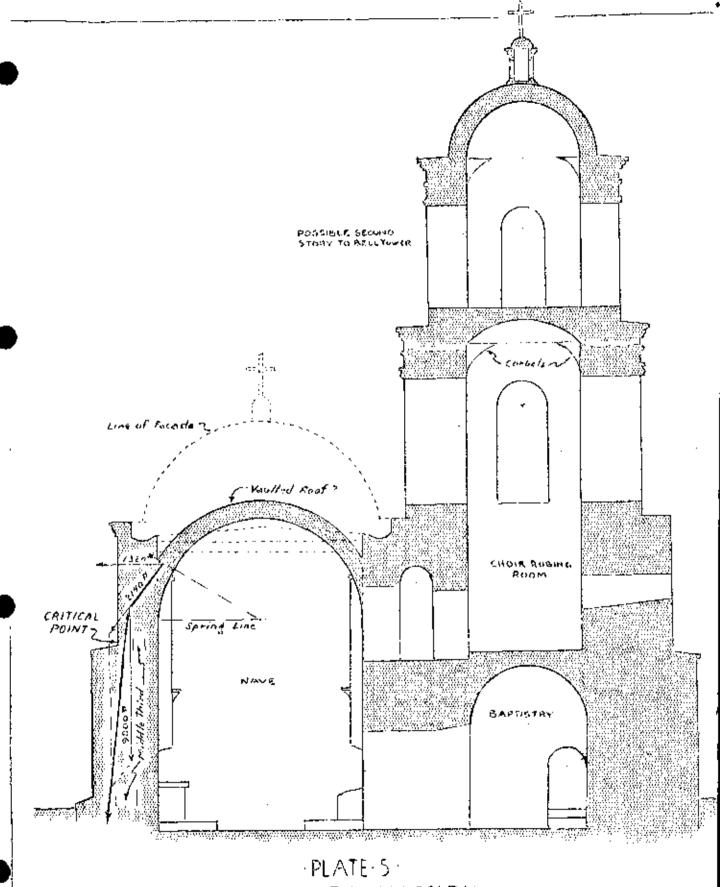
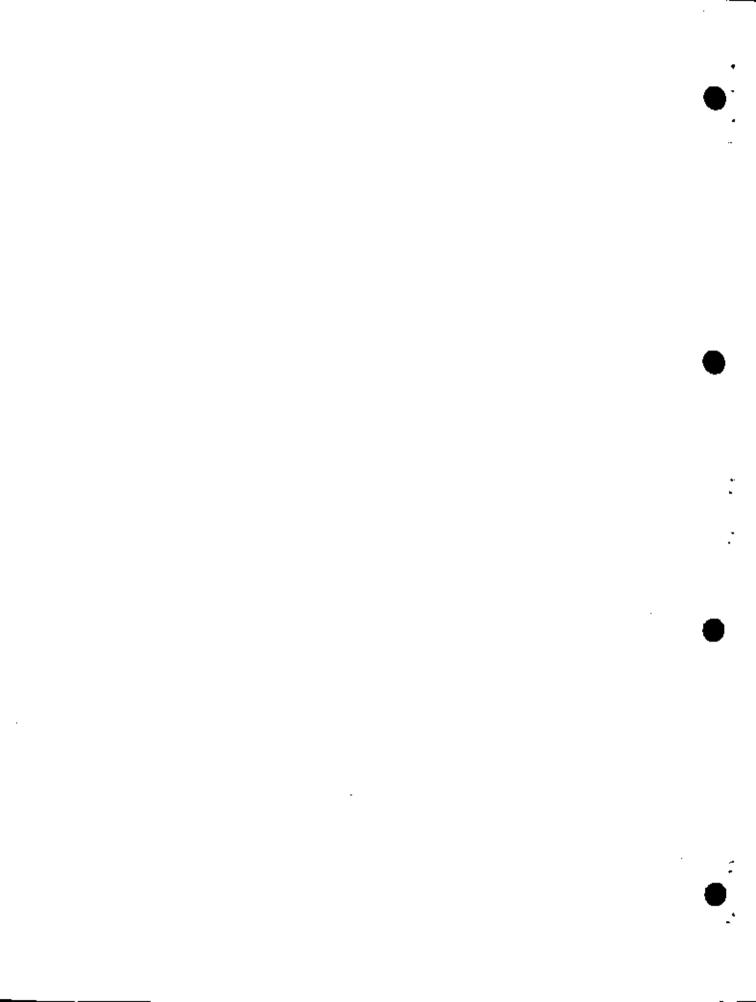


PLATE-5 -SECTION-THRU-MISSION-1/2" Jeale



REPORT ON TUMACACCRI (CONT.)

were changed and it was decided to use the flat roof which could be taken care of by a three-foot wall, the designer could easily take care of the offset on the side walks of the nave by putting it on the outside of the building where the break would make the elevation even more pleasing. But the front of the building, the main facade, would be practically ruined if the offset ran across it and divided it into two elements. So in this piace he put the offset on the inside of the building where it could be nicely concealed by the choir loft ficor. any offset on the inside of the nave that could be seen would but down the apparent height of the ceiling. There is nothing much harder to do than to make a radical change in a good set of plans and still keep thom good. This is especially true when the building planned is half built. Though Tumacacori is hardly an architectural jewel, it is an interesting building with many pleasing features. The fact that the building is still quite presentable should reflect even more credit to the padre architects.

THE UNKINISHED EXAL TOWER

The mystery of the unfinished tell tower will probably always keep us guessing, but the more we think about it and compare it with the tell tevers of the other missions of the chain, the more accurate our guessing becomes. Why it wasn't finished has been beiled down to about three or four stock answers which can be found in almost any Mission book. It is the question what would the bell tower have looked like if it had been finished, that we will try to answer.

There are two schools of thought regarding this question. School No. I contends that if the tower had been finished it would have consisted of the present single story above the roof line of the nave, topped with a dome, lantern and cross. School No. 2 believes that it was intended to add another story to the present one, making the tower two stories above the roof line of the nave, and on top of the second story a dome, lantern and cross. The second story would be smaller both in height and outside measurement than the present first story. At one time I was a semewhat doubtful School No. 1 advocate, but after I had studied the problem for some time, I finally jumped down off the fence and organized School No. 2. I will try to be impartial and give both sides of the argument so that the reader may draw his own conclusions.

There are three drawings in the report which will be used to illustrate the discussion. Plate 8 shows a restoration with a one-story bell tower; and Plate 8 shows a restoration with two stories.

The arguments in favor of the one-story bell tower are:

1. The brick corbels in the corners at the top of the unfinished tower might indicate that the final dome had been started when work was stopped. It could, however, be a domed ceiling between the two stories

REPORT ON TUMACACORI (COME.)

such as we find at Caborca and San Xavier.*

- 2. The architectural balance would not be any too good with two stories. This is true; but it is also true that the balance is not any too good with one story either. So it might be a question of choosing the lesser of two evils.
- 3. The fact that they used broken brick to finish the north side of the present tower might show that they did not intend to build another story or they would have had more brick made and would not have had to use the broken pieces. This argument is not a very strong one because they could always make more brick and the use of the broken pieces might have been prompted by economy.

The arguments in favor of the two-story bell tower are:

1. The baptistry side walls have the tremondous thickness of nine feet. This extra heavy wall must have been built for the purpose of supporting a heavy load.** Going up to the choir robing room we find a wall thickness of seven feet six inches—which is two feet thicker than the lower side walls of the nave. Moving on up to the first and only existing story of the bell tower, we find a wall thickness of five feet three inches—which is too feet thicker than the upper walls of the nave. One can hardly believe that this extra two feet of wall thickness was laid just for the sport of laying brick; and it is well to remember that burned brick, which is quite a bit more difficult to manufacture then adobe, was used in the bell tower***The fact that they used even the broken pieces indicated to be that they prized their burned brick highly and would not have wasted it on unnecessarily thick walls. According

^{*}In which case we should find an outside stair on the existing arches as we do at Caberca and San Xavier. (San Ignacio has no stair-way which might indicate that ladders were used in some cases.)

^{**}One fact which has been overlooked is the passagemay inside the north, west and south walls of the tower in the first and second stories. These walls might, partly because of this passage and partly because they were to carry a much heavier load, be much thicker than the nave walls. It is true the factor of safety is much greater than necessary, but did the Padres know that?

^{***}The bell arches and piers are not built solidly of burned brick. A shell of burned brick is back-filled with a mexture of adobe mud and rock plums. You can see this in the south niche in the southwest pier where the brick shell is broken and the back-fill is visible. - Frank Pinkley.

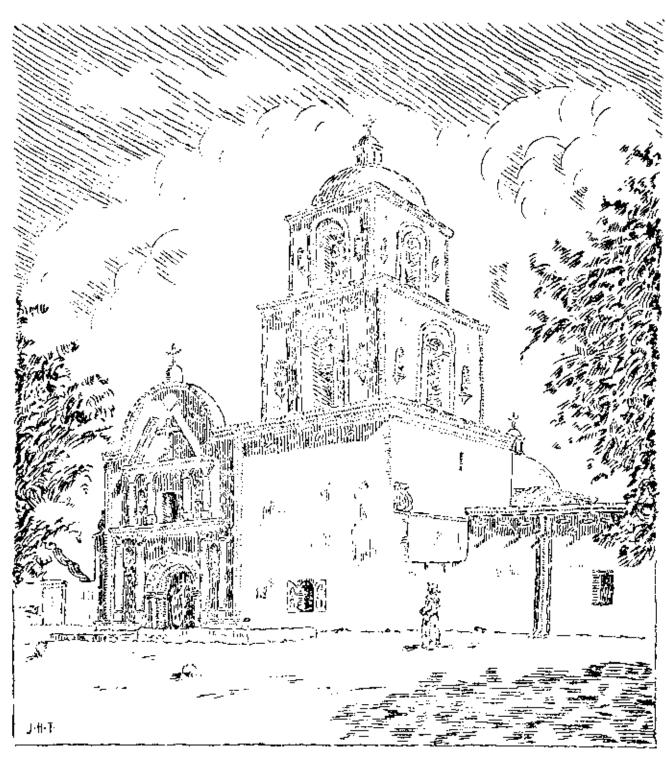
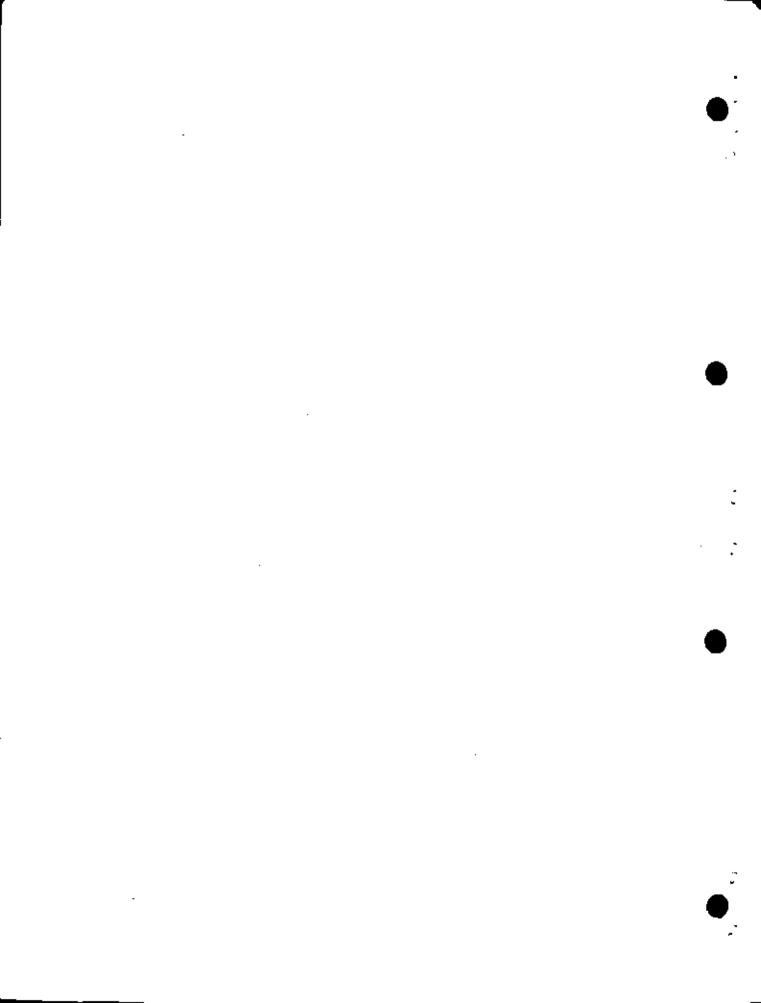


PLATE · 6 · TUMACACORI · RESTORED ·



REPORT ON TUMACACORI (CONT.)

to the standards set forth in the building, it would seem that the minimum thickness of a bearing well would be that of the upper wall of the nave-for three feet three inches. If we put a second story of this wall thickness on the existing story of the bell tower (as is shown in the section drawing in Plate 5), there would be an offset of two feet between the two outside wall surfaces of the two stories. This offset would correspond with the two offsets formed by the difference in the wall thickness below, giving the tower a pleasing pyramidal shape. Any question as to whether this second story wall thickness would carry the weight of a dome overhead is immediately settled by the fact that the same wall thickness carries the large dome over the sanctuary.

- 2. No other mission in the chain has less than a two-story bell tower. They are all two stores.* This is not a conclusive argument, but it does indicate the trend or style of bell towers. The church of San Francisco at Cuadalajara, Mexico, which was built in the sixteenth century, is a church which has very much the same architectural composition as Tumacacori. This church, like practically all the churches of Mexico, has a two-story bell tower.
- 3. The corbels in the existing story of the tower might have been put there for the purpose of supporting an octagon shaped second story similar to that of San Francisco. I believe that this shape would be more pleasing than the square one I have shown in Plate 6.

It is my hope that restoration drawings or paintings of the mission will be made by the government, and exhibited in the museum at Tummacacori. I believe the public would be very interested in seeing what the mission and its surrounding buildings looked like before they were destroyed, and in what certain unfinished portions might have looked like if they had been completed. Of course, we can never be positive about the unfinished bell tower; but we can follow the linu of the most logical reasoning on the subject, whether it be for one story or for two.

^{*}Cocospera is an exception to this statement.

All two-story towers in the Kino chain either: have an outside stair to get to the second story, as Caborca and San Xavier, or: have no floor between the stores.

The reason for this is that the arches were practical bell arches which were expected sconer or later to support bells. If there was to be no stairway to the supposed second story of bell arches at Tumacacori - and certainly none was intended, - and there was to be a floor in the upper story carried on the corbels and dome started on the existing arches, how were the bells in the upper arches to be rung? (A ladder by Gumil) F.P.

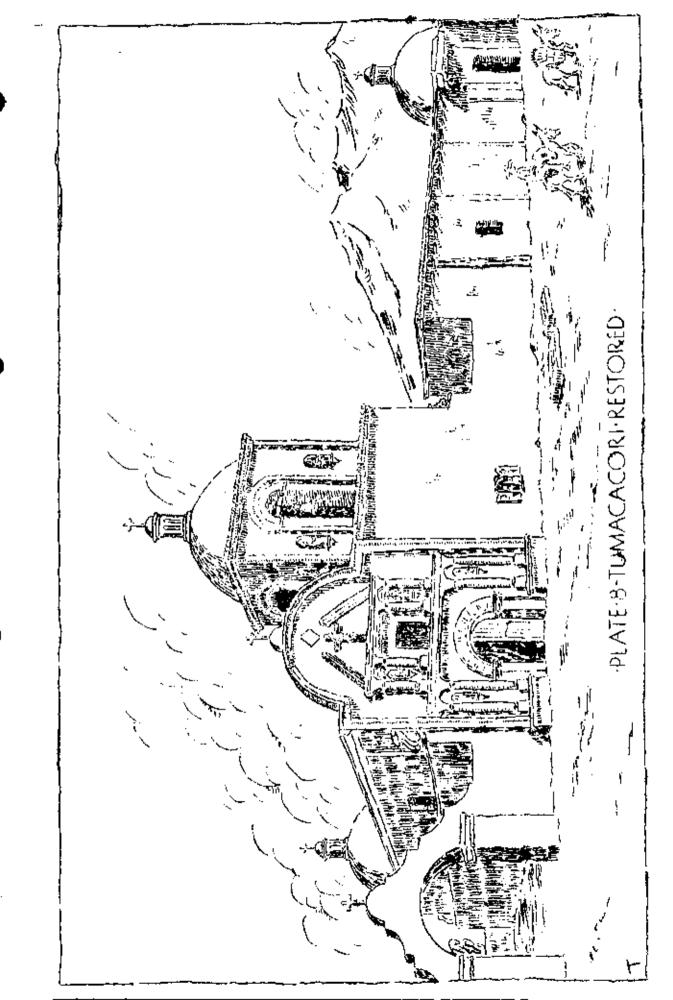
FACADE RESTORATION

When the Powell Expedition passed by Tumacacori in 1849, one of the members of the party tock the time to make an excellent drawing of the fecade of the mission together with a long line of buildings to the east of it. The drawing was made in pencil at a very small scale, so that it is quite hard to interpret some of the details. Though some portions of the walls and buildings were then partially in ruins, I have, by a careful study of the picture, been able to work out a complete restoration drawing of the facade together with the high adobe wall on the west and the buildings on the east.

Referring to the drawing (Plate 8), let us analyze the details and I will try to explain why each was restored as it is shown. In order to clearly show the details, it was necessary to make the drawing more or less a working perspective, showing each detail clearly and leaving nothing to the imagination. This did not help the artistic value of the drawing, so please consider it for its working value.

Beginning at the left of the drawing, let us analyze the large archway through the adobe wall. The Powell drawing shows just the beginning of this arch-perhaps two feet of it above the first column west of the mission. The irregular shape of the top of the fragment indicates that the upper portion of the arch was not a concentric circle. The design shown on my drawing is typical of gateways in old \cdot Mexico and California Missions, so it is safe to assume that this design is very close to the original. On the west wall of the have at the point of offset are two scroll shaped buttresses-one at each end of the building. The Powell drawing vaguely shows these and Mr. Pinkley's memory of the marks left by the originals gave me a basis for the design. The Powell drawing clearly indicates that the four columns of the first story of the facade extended down from their present level and rested on bench-like foundations. I have shown the window above the arched doorway as being covered with bars. I doubt if this were true, as iron bers were hard to transport to this new country, and wooden shutters closing from the inside of the building would probably have served the purpose. I have shown a dome on top of the existing story of the beli tower to show what might have been planned for the unfinished tower. It is my belief, however, that a second story was planned for this tower; a discussion of which I have already given. The buildings east of the mission were rather sketchy on the Powell drawing, but a careful study and comparison with a plan of the foundations (Plate 4) excavated last year, made it possible to work out a restoration. The dome shown is a doubtful guess at what the Powell artist shows and it is too far to the east to check with the possible church foundation that was excavated.

I was able to work out graphically the probable location point of the artist when he drew his picture. This point was on a line



REPORT ON TUMACACORI (CONT.)

extending from the northwest corner of the mission in a southerly direction, just missing the gate column farthest west from the front of the mission. I plotted the line on the map of the excavated foundations which showed this gateday. I then drew an imaginary picture plane across the southwest corner of the mission; next I moved a point on the known line to a position where the proportion between the distances shown on the Powell drawing for the north and wost walls of the mission were the same on the picture plane of the plan. This theoretically fixed the position of the artist and the more accurate his drawing was, the closer he was to this position. In order to check the accuracy of his drawing and thereby check the accuracy of my theoretical point, I located it on the ground at Tumacacori and found that the Santa Rita mountains shown in the background were in almost perfect position in relation to his drawing and the mission also compared well for perspective. Therefore, I assumed my point to be very close to the position of the artist. Returning to the plan of the foundations (Plate 4), I projected lines from this point to various points on the east foundation walls. This gave me dictances on my plan picture plane which I could check against the Powell drawing, and in this way I had a basis for making a check comparison of the drawing against the plan of the excavated foundations.

I believe this working study gives an accurate foundation for a more artistic presentation rendering of Tumacacori restored, with the exception of the single story bell tower. A rendering of this nature would be of great interest to the visitor.

RECURDS

Twenty years from now if someone asks the Ranger at Turacaccri detailed questions on what parts of the mission are original and what parts are restored, the Ranger is going to be embarrassed—because the charces are that he will not know. As a matter of fact, he might be embarrassed right now, if questioned closely, because there is no record of what is old and what is restored; which, of course, is not the Ranger's fault. I would respectfully suggest that the National Park Service make detailed measured drawings of the walls of the buildings, showing all restored portions. If this is not done soon this very necessary information will be lost forever.

Twenty years ago we could have made, probably, drawings in true color of almost all the designs on the interior and facade of the mission. Today, I would say that fifty percent of them have weathered away; but there is enough left to make it possible to work out what has been lost. Thenty years from now it is probable that even these traces will be gone. One man could record accurately this information in the form of detailed colored drawings in two weeks' time. This record would greatly assist in the working out of a restoration of the high alter in the sanctuary. I made a color study of the nave cornice

REPORT ON TUMACACORI (CONT.)

at Tubstama. This simple record will preserve forever this particular detail. Similar records of Tumacacori would preserve, as well as recreate the colored details.

SUMMARY

A brief study of the other missions of the Kino chain convinced me that some restoration was necessary at Tumacacori in order to present it truely to the public as a mission. I have tried to show that perspective, atmosphere, and interest would be improved by the restoration of the pulpit, side altar, and chair left. The respective restorations are detailed and the methods of arriving at these details are outlined.

As a matter of historical interest I have tried to prove that the plans of the mission were changed when the offset point of the nave walls was reached. In this discussion I proved that the present building could not safely carry a vaulted roof, and explained the presence of the two buttress-like columns on each side of the entrance.

For the purpose of restoration drawings I have tried to prove that it was the intention of the architects to have a two-story bell tower above the roof of the nave. This discussion points out some interesting comparisons on various wall thicknesses.

I have explained how I arrived at the various details of the restoration drawing shown in Plate 8. This drawing not only shows the missions, but also some of the other buildings and walls which existed at one time.

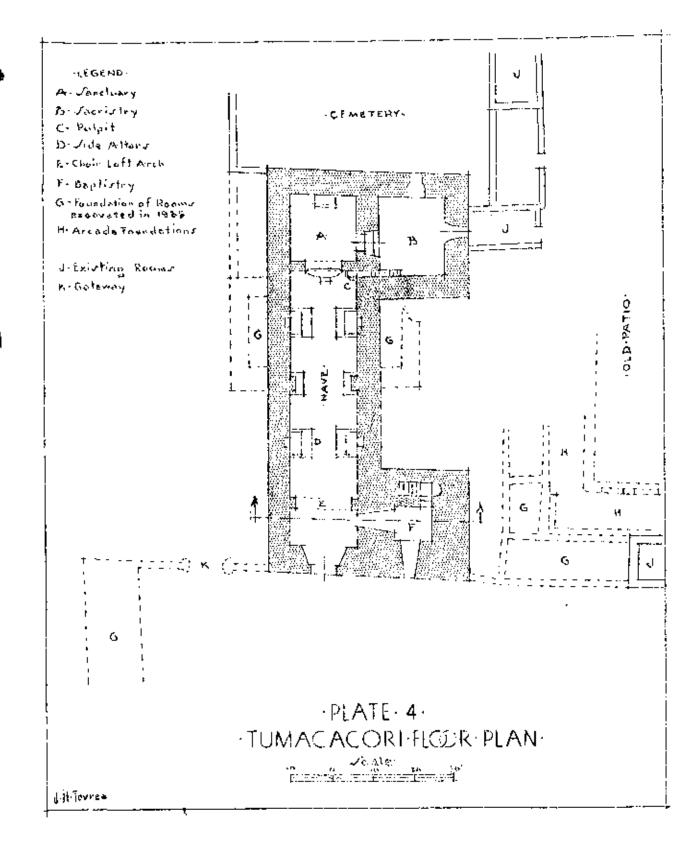
On the matter of records I have tried to impress the necessity of immediately making detailed drawings, showing the location of all restored parts of the mission, and showing all existing painted designs. It is pointed out that a record of the existing designs will assist in working out a restoration of the high altar.

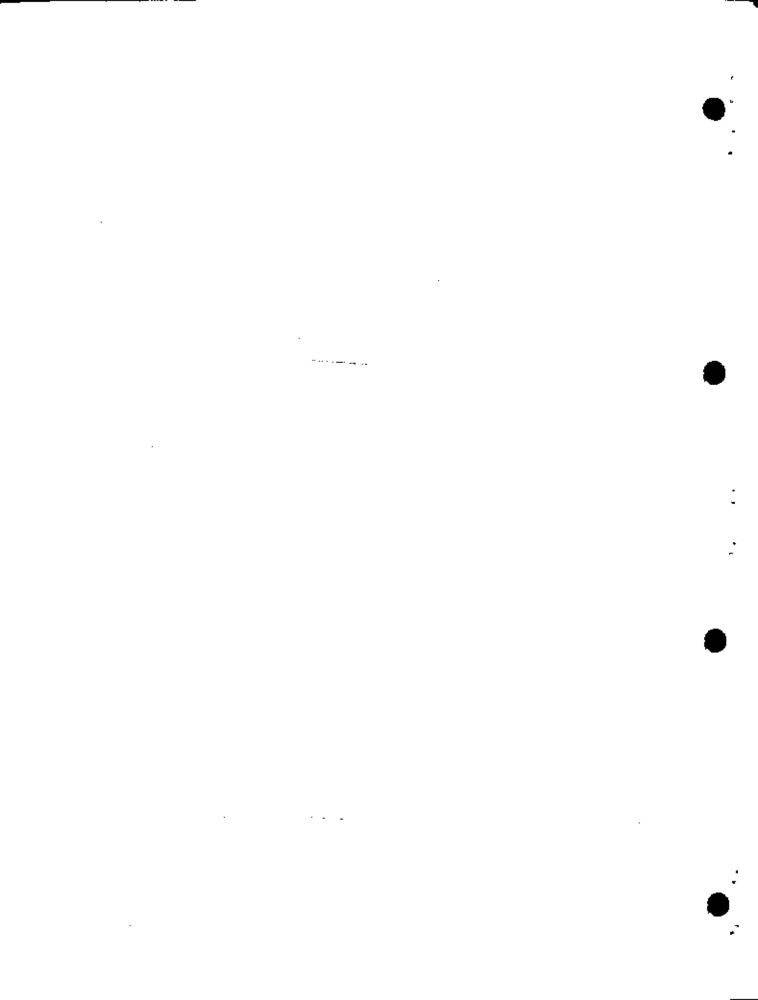
There is no doubt in my mind that the study of the other missions in the Kino chair will continue to bear fruit as I continue to work on the many problems which still remain at Tumacacori.

ADDENDA

The Proposed Museum

Needless to say, I am deeply interested in Tumacaccri, and enything that relates to the mission. The proposed museum is so intimately connected with the mission that I feel justified in commenting on the plan which has been submitted. Any criticism which I make of the present plan





REPORT ON TUMACACCRI (CONT.)

of the proposed building, is activated solely by my desire to preserve Tumacacori and present it to the public in the best possible manner.

If we could see the mission as it was a hundred years ago and compare it with the surrounding buildings which had low roof lines and severely plain walls, there is no doubt that the comparison would make the mission look quite magnificent and stately. It has always been the aim of the Catholic Church to construct their buildings of a magnitude that would make them the center of interest in comparison with surrounding buildings. If high roofed buildings had existed at the site of Tunacacori before it was constructed, the mission would have been built on a larger scale, probably. If the existing buildings had artistic wall ornamentation, then turacacori would have been aven more artistic and ornate. In other words, the church was always built to attract the eye, both by its height and by its ornamental facade.

How suppose the present proposed museum is built at Tumacacori. It is a modern building with plastered walls and having a two-story effect when seen from the outside. Over the main entrance is a large colonaded loggia, to the right of which is a well surface which has an ornamental niche. The cornies is also topped with ornaments. This modern building is fourteen fact lenger than the mission, alsost as wide, and is five feet higher than the top walls of the nave. Furthermore, the location of the building is such that the public must see it before they see the mission. Since the building is actually langer and tabler than the mission, it is certain to dwarf the apparent size of the mission. The mission, it is certain to dwarf the apparent size of the mission. The pipe architectural balance of the proposed building will emphasize the crudeness of the mission. This for words, it is my thought that the public will be admiring and studying the wassess building instead of the mission—if the proposed structure is erected.

If we look at Plate 6, the drawing of the mission imprecess us that Tummedori is a rather nice looking church. Now compare it side by side with a drawing of a church like Sen Francisco. The result would make Tummedori look smaller and orader. Semparisons may either improve or injury the appearance of a building. In there any now a reason who we should impose the appearance of Tummedori when we can improve it by building the proper port of building close to it?

My idea of a museum would be to make it as unobtructive as possible, by keeping its roof line low and unbroken and its wall confaces plain and simple. By doing this the mission would be seen by the public more as the padres who built it meant for it to be seen by their public.

If the proposed museum were planned to be a restoration of the long low building shows on the right of the mission in Plates 4, 6, and 8, and was built on the site of this original building, it is my bolief that two objectives would be accomplished. One of the original buildings would be restored, and the mission, instead of suffering by contrast,

REPORT ON TUMACACORI (CONT.)

would have its appearance improved. Enough of this building could be restored to amply take care of all administrative needs. A colonade once existed on the north side of this building, facing the old patic east of the mission. This could be restored also as part of the museum building. The one possible objection to this plan is an administrative one. This objection would be that visitors might enter the mission without registering at the museum first. This objection could be overcome by building a low adobe wall in front of the mission in the form of an atrium or courtyard, the gate of which would be an exit only.

PEYOTE NOTES

BOYCE THOMPSON SOUTHWESTERN ARBORFTUM
Mr. Frank Pinkley Superior, Arizona.
Casa Grande National Monument, Dec. 17, 1935
Coclidge, Arizona.

Dear Mr. Pinkley:

I notice in the Report for November by Tom Charles, White Sands, that he mentions "White Sage" as being gathered for the "Peyote" ceremonials of Indians. Will you kindly have him collect seeds and a hermbarium specimen and mail them to us so that we may grow some of the plants. Then if you want to add "a fragrance or sweet perfume" to headquarters, we might let you smoke a leaf or two.

The use of the word "Peyote" as a drink does not seem to be quite proper, but should be applied to the various cacti which are as follows:

From THE CACTACEAE

Vol. III, Pg. 04, under Lophophora williamsii. This species is known variously as pellote, peyote, etc.

Pg. 107, under Strombocactus disciformis. It is called peliote or peyote in Mexico.

Page 184, under Astrophytum asterias. Senor Solis says that the plant is known as poyote.

Vol. IV, Pg. 59, under Pelecyphora aselliformis.*** and is also called peote, and peyote, also peyotillo and pectillo."

From OUR NATIVE CACTI

Pg. 60 & 61, a description of the use of Lophophora, etc. It is the plant known as Peyote, Pellote, etc. The use of the Peyote spread

PEYCTE NOTES (COMT.)

from the Southern tribes to the North, etc.

Pg. 146. "What is the Peyote?" See Pg. 60.

From MANUAL OF POISONOUS PLANTS

Pg. 637. "under the name of Pellate (Anhalonium sp.), the Indians of the Rio Grande Valley of Mexico have for ages used the tops of this plant which they commonly call "mescal button" or "Mescal bean". The use has extended to Indians in Oklahoma and Indian Territory and it is said, to the Tama Indians of Iowa."

From BULL.TORREY BOT. CLUB, Vol. 23, #2, Pg. 38.

***"It is said to be the Payot, or Payoth of northern Marico,"
Vol. 23, #3, Pg. 116. ***"by a mention of the Payote (Anhalonium fissuratum Eng.) of the rocky highlands of Western Toxas and Morthern Mexico, a plant which, when chewed, is said to produce a sort of delirious intoxication."

Sincerely yours,

Fred Cibson

HOW TO TELL ABOUT "RINGS" By Earl Jackson

For a year and a half I have been struggling along without a museum chart to help me explain the tree-ring dating system to visitors who have never heard of it. I have worked out the following explanation which clicks, and am passing it on in the hope it may help some of you other men in the field without charts. I don't claim the explanation is perfect, but would very much appreciate any constructive criticism on it.

"Folks, do you see that big pine over across the creek?" (Pointing at a tall pine). "Let's suppose we were to saw that tree down. The cross-section would show that it is made up of concentric rings, starting with tiny rings at the center and ending with very large ones at the outside.

"Those rings show the growth of the tree. Ordinarily a pine grows one of those rings each year. So by counting the rings you tell how old the tree is. Suppose that tree we have cut is three hundred and fifty years old, having that number of rings.

HOW TO TELL THE TREE-RING STORY(CONT.)

"Now in wet years a tree grows a thick ring. In dry years the ring is sometimes quite thin. By this habit of growth we learn that rainfall comes in cycles. There will be a period of wet years, and a period of dry years. These make up a weather cycle.

"No two weather cycles ever leave exactly the same record in tree rings. Nothing in Nature is ever perfectly duplicated. So that each set of rings explaining a weather cycle is separate and distinct from every other set in its arrangements of thick and thin rings. The tree-ring specialist studies the growth rings under a microscope, and draws a chart of them.

"Suppose we find in this Indian ruin a pine timber which was used as a ceiling support. We saw the log in two and find it has 75 rings. We make a chart of the rings, as we did on the larger tree.

"Then we compare the two charts. If we find any part of the charts which show identical arrengements of rings, we will know the two trees were growing at the same period in history. Suppose we find that the cutermost, or younger, twenty-five rings of the ceiling timber show exactly the same alternation in thickness and thinness as the innermost or elder twentyfive rings of the large tree we have just cut.

"We have worked out a time sequence, or chronology. We have learned the year in which the ceiling timber was cut, by working back from the living trees. In other words, we have cross-dated - brought one date over to tie into or overlap with the other one.

"The ceiling timber of the fuin was cut \$25 years ago. How do we know? The tree we cut was 350 years old. The timber when cut was 75 years old. The first 25 years of growth of the mature tree are the same as the last 25 of the timber. So the first 50 years of the timber carry the date back to 400 years ago. And so, 325 years ago an Indian cut a timber to complete the ceiling of his house with."

VISITOR IMPRESSIONS By Drs. Dorothy & John Keur

Dear Boss,

We herewith submit for your scrutiny a more or less irregular and irrelevant report of our ramblings among the Southwestern Monuments during the past four summers. The "we" stands for Dot and John Keur, self appointed eastern representatives and boosters for the Southwestern Monuments and their personnel. We have tried to induce many of our friends to visit the monuments; we have shown them our collection of over a thousand pictures of the glorious country that is yours; we have read them choice selections of adventures from our diaries. We

VISITOR IMPRESSIONS (CONT.)

wish to thank all our friends of the Southwestern Monaments for the courtesies they have shown us and our eastern associates; notably Dr. and Mrs. Strayer of Toacher's College, Columbia University.

In preparing this report, we had quite an argument as to how we should title our literary efforts. Dot said "I'll call the part I write: Travels with a Donkey", but I voted for: "Exploring the South-Western Monuments with camera, notebook, tent, tire chains and one long handled showel," and so shall it be called. That shows who is boss in our family. Here Goes:

CHACO CANYON. My first contact with the Monuments was in 1925, when, as a forest engineer and confirmed bachelor, I visited White Sands, Bandelier, Natural Bridges and Chaco Canyon, on a hitch hiking trip from Louisiana to California, Six years later, our contacts with the femily of the late George H. Pepper, who worked at Pueblo Bonito in 1896; and Dot's interest in the field of anthropology started us on a 10,000 mile trip to the Southwest. We have repeated our visits every summer since that time. Our original interest and first love was Chaco Canyon, where we worked on, in and around Threatening Rock and the cliff cavities. Messrs. Julian, Patterson and Miller have been of invaluable help to us, supplying us with food, shelter and other necessities of life. The Springsteads also contributed more than their share. Hence, people in the east here think that Pueblo Bonito is the name of our summer home. We are so much at home there that we no longer worry about the condition of the road from Thoreau.

We are acquainted with the large amount of Chaco Canyon material at the American Museum of Natural History, only a small part of which is on display. Would it he too much to hope for a museum at Bonito where some of this extra material could be displayed?

Last summer, we were greatly worried about the walls of Bonito, which had fallen here and there, but Cal will put a stop to that, even if he has to stand there, holding up the wall with his broad shoulders. We sincerely hope that the land situation at Chaco will eventually be straightened out. We recall with much pleasure the many happy contacts made at Chaco, with N.P.S. men, anthropologists, archaeologists, ento-mologists, geologists, traders, Navajos, prehistoric mummies, and just people

AZTEZ RUINS. We were surprised at the changes that had occured at Johnwill's monument in the last few years. They told us some stories in the town of Aztec about the man on the flying trapeze over at the ruins. So we went to investigate, and enjoyed Johnwill's performance, flying through the air with the greatest of ease, via the wooden lintels. Then we visited the ruins, the museum was very crowded, but we see by the monthly reports that the situation is quickly being remedied. I used to corry about the drainage problems, but Bub Rose's report seemed

VISITOR IMPRESSIONS (CONT.)

to solve all difficulties. Three cheers -- the barn is gene, so we hear. We still like the Aztec Ruins, in spite of Cal Miller's insidious propaganda.

BANDELIER. An almost umbelievable change within eight years. A beautiful road leading to the floor of the canyon, a wonderful trail system and an excellent CCC camp greeted us. We liked the Ceremonial Cave, and could sit by the hour enjoying the view. Paul Reiter did a fine job framing the wall paintings. Earl Jackson was in Santa Fe at the time of our visit; we were sorry to miss him. A visit to this monument adds new beauty and appreciation to Pandelier's "The Delight Makers." How about a labeled nature trail from the parking area to the Ceremonial Cave?

CANYON DE CHELLY. We visited here in 1934 and 1935. Will we ever forget the hospitality of the H.C.W.P. and Mrs. Cozy? No, a thousand times no. I am sure that if Cozy hadn't pushed us cut of the trading post we would still be looking at his museum of blankets, pottery and paintings. In 1934, we camped near the head of the White House Trail. We used to clamber laboriously up and down the unfinished trail, to the mild antonishment of Mr. Gray. This year, (1935) with the trail complete, we fully realized the efforts of the Park and Indian Service in helping the Navajo and incidentally giving the poor white a short cut to the mystic beauty of White House. Both years, we hiked . To Chelly nearly to Monument Rock, and rode horseback in del Muerto up to Antelope House. The last time, Mr. Caywood staged a private rodeo for our special benefit, which we greatly enjoyed. Mr. Budlong thoroughly examined our credentials and equipment. We hope that he never had occasion to regret that he gave us permission to camp near the head of the trail. I certainly cleaned that campaite thoroughly....

No monument in the Southwest makes us fool so insignificant while contemplating its majestic grandeur.

CASA GRANDE. Well do we remember our arrival at headquarters late at night, tired, dusty and worn. We were greeted and revived by the kind ministrations of the Boss, Nancy Margaret and the Roses. We had the entire camping ground to ourselves at night. Next morning we thoroughly enjoyed the three and a half hour inspection of the ruins under the personal direction and stimulation of the Boss himself. You surely gave us a grand tour, and Dot and I still argue now and then about some of the points discussed during that trip. The design of the labyrinth, the two "lined up" holes in the walls, the Hohokam material, etc., have been subjects of debate. We consumed so much time here that the graph of the length of our visit in the next monthly report went clear off the top of the page. Our visit to headquarters was one of the highlights of our 1934 trip.

MONTEZUMA CASTLE. We visited here when Mr. Jackson was on Yeave. The fishes treated us royally. Charlie Steen and Frank spent the greater

VISITOR IMPRESSIONS (CONT.)

part of the day showing us the many unique features of the monument, while Corabeth spent the remainder of the day feeding us. We were sorry that we couldn't stay longer, but we are hoping to revisit here....if for no thing else, then to see and admire the latest little Fish. We hope that the water problem is solved by now.

MAVAJO. First me stopped at the unusual and charming home of the Wetherill's at Kayenta. We received directions on how to reach Betatakin, and little did we then realize that it would take us a good 24 hours to make the trip. I den't know to this day how we ever menaged to push our 1929 Ford over Marsh Pass. But that was only the beginning. After turning off the road, we were stuck for four hours in the sandy neally completed trucktrail. We decided to keep away from the truck trail after that experience, which we managed to do so well that we lost our way, and got nowhere. Wearily we made camp. Next morning we retraced our trail, and finally arrived at the Roricks, disappointed at having missed the famed ruin. But Mr. Rorick, bless him, took pity on the greenhorns from New York, jumped in his truck, and guided us all the way to the rim of the Tsogi. We hiked down the trail, and were repaid a thousandfold for all our trails and tribulations as soon as to got our first unforgettable glimpse of Betatakin, in its exquisite setting. A delightful afternoon was spent with Milton Wetherill hiking, exploring and talking. May we suggest the placing of a few signs along the road to encourage the weary pilgrim in search of prehistoric beauty, so that he shall not fall by the wayside and miss that gem of all the ruins, Betatakin.

TONTO. Up the steep trail to the fence we climbed. Our Apache guide produced an imposing bunch of keys to open the lock of the gate. He tried each and every key without success, but it wasn't his fault, he said, it was "the "Mexican" boy, he fool around with lock." We discovered later that he was referring to Charlie Steen, who had left for Montezuma. We held a short conference and decided to scale the fence, which we did quite readily. "If the Boss could have seen us," said Dot, "ho would have lost his faith in fences." Our climbing was well rewarded; the ruin has many interesting engineering festures. By the time we had climbed back to the right side of the fence again, our guide produced a key that did fit the lock, and proceeded to demonstrate that he could open it.

WALNUT CANYON. We had a short visit with Paul Beaubien and verified the presence of walnut trees in the canyon. Some of the cliff rooms here could probably be restored effectively.

During our travels we also visited Gila Cliff Dwellings, Wupatki, Hovenweep, Yucca House, and Saguaro; each with its peculiar interest. In due time, we hope to explore them more thoroughly.

With best wishes to our friends among the personnel of the South-western Monuments and with grateful appreciation of their services, we are, sincerely,

COMMENTS ON RANGER GUIDE SERVICE AT CASA GRANDE NATIONAL MONUMENT

By Dale S. King, Junior Park Naturalist

Location

Casa Grande National Monument is located on State Highway 87, a main-traveled all-meather entery, 57 miles south of Phoenix, 67 miles north of Tucson, Arizona.

A paved entrance road, six-tenths of a mile in length, stubs off the highway, ends at the Administration Building and parking area.

Climate

The middle Gila River Valley in which the monument is situated can be said to possess two seasons: seven and one half months of extremely pleasant winter weather, with warm sunny days and cool to cold crisp nights; four and one half months of notably unpleasant summer weather, with very hot days and nights, insects, thunder showers, and dust storms.

About the middle of May, winter breaks into summer. Approximately the end of September, or early in Getober, summer changes somewhat less abruptly into early winter.

Travol

During the National Park Service travel year of 1935, 27,095 persons visited the monument and were conducted through portions of the ruins, the museum, or both. Approximately 5,000 additional persons used other facilities of the monument——picnic area, comfort station, etc. This latter group requires only moderate attention from the Custodian and Ranger but does consume a considerable portion of the maintenance time of the janitor.

Casa Grande's 27,000 visitors in 1935 were distributed scasonally as follows:

June1,559							
July1,198							
August1,376	V.L.	LEY SFAS	50N				
September1,691							
October1,825	Sub-total,	7,449;	Average	about	1,500	per	month
	_						
Movember2,389	PLR	reau sea	ASON				
December2,463							
January2,327	Sub-total,	7,179;	Average	about	2,400	por	menth

February....2,923
March-----3,335
PRAK SEASON

1 350

April......3,766

Way......2,443 Substatal, 12,467; Average about 3,100 per conth
SOUTHWESTERN MONUMENTS 60 SUPPLEMENT FOR JANUARY, 1936

Although division lines between the above seasons are arbitrarily drawn, they will serve to illustrate periods of activity at the monument and their relative importance.

Note that Casa Grande essentially is a "year-around" monument. There is experienced no such dessation of visitor contact work during any season as is the case in certain parks and monuments which are almost completely unvisited during the winter or inclement weather. The three travel measons arrange themselves in the ration 1:1.6:2. Yet this ratio does not mean guide work is cut 50 per cent in summer and 20 per cent in autumn-as a metter of fact, there is little decrease. Number of groups remains almost the same, and guides rake almost the same number of talks, but parties are composed of fewer people, Moreover, summer work is complicated by uncomfortably het weather.

Mental Attitude of Visitors

Visitors to Casa Grando are usually in a hurry; they display to a marked degree the same tendency to rush through the monument's attractions that they display in other monuments and parks, according to statements. I have heard in conversations with other Park Service men. I believe this tendency is more acute at Casa Grande than at any other unit in the Southwest, because of the following factors: (1) the monument is so accessible that people feel no spirit of accomplishment at having made the trip; (2) the monument's position about halfway between the two largest cities in Arizona leads many groups to say "On our way to Tucson (or Phoenix) we'll drop off at the Ruins for a few minutes and show them to our guest/" (3) the pleasing entrance gate and the view of the protective roof over the Casa Grande attract many idly curious people who have no idea what they are going to see, and do not have the time to see anything.

The most common type of group which visits the monument is composed of two or three Arizona residents who have seen the ruins several times themselves but are bringing a guest to see the sights also. This usually does not make for a long stay. The next most common group is the bona fide tourist who usually is interested in the monument even before he gets here. This is the best brand of visitor. The third most common group is the family of cotton pickers, or itinerant farm workers—— ignorant, dirty, eager to tell the guide all about Indians and the arrowhead their father found on the farm in Cklahomaor Texas. This class forms the majority of visitors during the summer season, and arrives in such numbers the guides are kept fairly busy.

What the Visitor Sees

Casa Grande's 127 prehistoric mounds are scattered irregularly over 472 acres of flattish desert covered fairly well with mesquite, creosote, and salt bush. The six major domiciliary "mounds" have been named the first six letters of the alphabet, and have been excavated partially.

Compound A, which contains the Casa Grarde, or Great House, has been about two-thirds excavated, and is the largest compound on the monument. The Casa Grande itself, a four-story watchtower-apartment house, is protected by a large sheltsring roof, but other excavated wells have no protection whatsoever save an ineffective coating of concrete on a small proportion, which was experimentally applied several years ago.

Following is a listing of the attractions of the monument in the order of their present importance to visitors (1) Casa Grande, Compound A and middens, (2) Museum, (3) Compound B, Compound E ("Clan" House), Compound F. Further excavation and stabilization will bring the "ball court," and Compounds C and D into prominence, and also other smaller structures or exhibits in the vicinity of the Administration Area.

Personnel

Present personnel consists of a Custodian and a Ranger, both Civil Service appointees. An intermittent janitor-laborer spends approximately half of his time on Casa Grande affairs, the other half on Headquarters matters.

There are no temporary ranger or ranger naturalist positions provided for peak travel seasons.

This 2^1_2 -wan personnel, although not sufficient, places Casa Grande in an enviable position far above that of most other Southwestern Monuments. Ample protection is provided, and presence of a laborer to perform maintenance releases the Custodian and Ranger for almost uninterrupted visitor contact work. It is true that the Custodian is forced to spend a small proportion of his time on such affairs as maintaining fuel supplies, overseeing repair of light and sewage systems, etc., but such duties require less time and are less arduous than in several other monuments with less personnel.

Present Visitor Contact Procedure

From time clock figures which have been kept since July, 1934, it can be said that the average group of visitors spends 55 minutes on its guided trip--32 minutes in the Casa Grande and Compound A, 23 minutes in the museum.

When the visitor parks his car and steps on the porch of the Administration Building, he is greated by the Custodian or Ranger and asked to sign the registration book. The party is then accompanied into Compound A where the guide attempts to give a short background talk telling who the people were, what type of life they led, and a brief history of the Casa Grande insofar as dates are known. Visitors at this point always are easer to go into the building itself, and very little groundwork can be laid.

Then the guide leads the way through the various rooms of the Casa Grande, following a narrative sequence which through experience has proven satisfactory. Much fectual detail concerning the building is given.

After Compound A, visitors are sometimes (according to degree of interest) led to the top of the large East Midden where a view can be had of the relationship of Compound B. E. and A. as well as providing a fitting place for some popular discussion of stratigraphy and dating.

Then the group is taken into the museum where the other 23 minutes are spent in discussion of material culture and mortuary customs. A few heterogeneous baskets and pickled reptiles are placed in the Custodian's office, which is the last room entered. There is little chronological or subjective arrangement of the present museum; exhibits are almost totally non-graphic; the whole impression is one of a crowded collection rather than an illustrative or interpretative museum.

Pressure of visitor traffic rarely permits time for guides to accompany especially interested parties to compounds other than A.

How does this method function?

Briefly, I think the scheme a failure and uncorkable. Perhaps the following facts will be self-explanatory;

Under the present system visitors are accompanied during every minute of their stay, because (1) the ruins must be protected from vandalism as well as interpreted, and (2) the museum must also be protected as well as explained, inasmuch as it is completely non-self-guiding.

Only two men, supposedly, are available for guiding, yet frequently four, five, or more groups will be on the ground. They will not have come in a bunch, ——they will have dribbled in at moments when joining to another party is inconvenient.

When a party starts for the ruins, and another car drives up within five minutes, it is very feasible to join the latter group to the former. They miss some of the important background lecture, but usually are informed by the tactful guide before the ruins trip is over. If, however, the second perty comes after a five minute interval, "join-ons" are ankward, for they have missed so much of the early talk they ask questions which have been covered previously, and thus cause repetition which is boring to the first party which must listen to it again. Since the first group realizes it is being taken through as a unit, it rather resents interruptions caused by later groups. When the guide has completed the ruins talk for the first group, he knows he has several other groups which have not heard the whole story, and yet he cannot give this information except in abridged form because he must take the whole group to the museum—the other guide having some to the ruins with a group in the meantime.

Joinings are easily made at the beginning of the ruins trip or at the beginning of the museum talk. Later joinings are very aukuard. The normal answer, obviously, is to have groups wait tuenty or less minutes for the next ruins or museum trip to start, so that they can be joined easily.

This, unfortunately, is impossible. Several experimental attempts have been made to induce people to wait. It does not work. There is no comfortable or interesting place to rest. The Administration porch is cold in winter, hot in summer. If visitors are turned into the museum to browse around, they stay as average of 17 minutes per party, gain little interest or information because the museum is not arranged properly, does not contain graphic exhibits, and is not labeled. They look around at the most interesting exhibits for a while, spend some time in front of the pickled snakes, and then come out on the porch and wonder around, peaking into the office windows, sneaking out the back door and heading for the ruins unaccompanied, or go out to the gate and wait impatiently for the guide to take them to the rains. Am intelligent group which might have spent a pleasant hour in the museum with a guide, or three quarters of an hour in a self-guiding museum, stays about a quarter of an hour in the present museum, and then does not wish to go in again after their ruins trip, because the old hurry complex commences to operate.

In the past, headquarters personnel sided in handling heavy traffic. Actual figures as to the participation of headquarters personnel in guiding activities at Casa Grande have not been worked out, but it is sufficient to say that a large amount of time was taken from general work to solve the problem at one monument. Happily, this situation is now corrected; with the exception of a day off a week for each Casa Grande man, guiding by headquarters staffman is compensated for by aid from the monument in certain other activities.

UNIVER CLALITY

The present scheme produces a very uneven quality of service. Service is excellent for parties which happen to arrive on the ground when no other visitors are present; it deteriorates rapidly for each succeeding party which arrives while others are on the grounds. If it were possible to assign a guide to each party, guide service theoretically would be perfect, but, of course, this is impossible. It would result in an inordinate number of guides, busy only a relatively small proportion of their time, and with nothing to do the rest of the time.

MIXED GROUPS

"INDEPENDENT" PERSONS

It has been noticed that a certain small proportion of visitors desires freedom even to the extent of failing to gain the usual amount of information. This type of person feels "herded" when he or she must be accompanied by a guide. They wish to look around at a pace dictated by their own wishes; they want to gain their own individual impressions father than to have information neatly laid before them by the guide's lecture. This group is perhaps more numerous than the average ranger suspects, because most of them are courteous and will submit, although secretly unwilling, to the accepted routine. There is no provision made for this type of person in the present scheme.

VISUALLY-MINDED PERSONS

Under the present system of guiding at Casa Grands, the person who most readily gains perceptions by means of his auditory senses is favored. The visually minded person is slighted, somewhat, particularly in the museum. It is true he sees "what", but the "zhy" is transmitted vocally, and he is handicapped in learning in this fashion. Psychologists say that visually-minded persons out-number all others.

DEAF PERSONS

Many visitors, if not deaf, possess some hearing defect which reduces their enjoyment of a spoken lecture to a great extent. These unfortunate persons might gain a lot of enjoyment in a museum, but find little in the Casa Grande museum to engross them.

Effect on Guiding Personnel

The man who guides steadily at a small but heavily visited monument like Casa Grande possesses one of the most fatiguing, monotonous jobs in the National Park Service, I am sure.

It is well known that a speaker who gives two or three speeches a day has done a full day's work. Casa Grande men must guide at least six hours——talking almost every minute——per day in the winter season and almost that much during other seasons. They have to handle groups of all sizes and descriptions. They are on a mental strain every minute to be in readiness for questions pertaining to everything under the sun. Yet it is not the unusual party or question which causes the fatigue——it is the interminable repetition of the same primary questions which brings monotony.

Due to existing circumstances, guides at Casa Grande must travel the same old merry-go-round: From the porch to the Casa Grande, back through the museum. He gives the same old talk, keeping abreast of modern developments, of course, but inevitably falls into a set routine, varying it only through the desperation of borodom. When the Casa Grande guide has given SOUTHWESTERN MONUMENTS 65 SUPPLEMENT FOR JANUARY, 1936

his talk four to six times a day, six days a neek, for six months, he has run the gamut of possible variations. He is stale. It takes a rare question to snap him to awareness of the intriguing aspects of his subject.

It is physically impossible to maintain a high degree of service throughout the day. The guide holds the visitors spellbound on the first morning trip; he does almost as well the second trip. If the third trip follows closely, he is temporarily tired of his subject, and his talk certainly shows it, try as he will. Lunch hour provides a respite, and the fourth talk is not so bad. He consumes quantities of cough drops during the afternoon, and practically all his sparkle is gone——he hasn't the energy or enthusiasm to hold or interest his visitors as he should.

In many parks it is the custom to allow an afternoon off for the man who is to make the campfire lecture that night. He talks only for an hour or a little more. The Casa Grande guide has no preparation work to do, but on busy days his parties often average 20 persons, sometimes reaching 40. He gives six identical "campfire lectures" a day and knows that the next day will be the same---and the next week---and the next month. And he realizes there are many things he can do to improve his monument and the service given therein, yet he does not have the time. Almost every guide develops at some time or another that peculiar irritation which public contact produces. This does not make for energetic guides or good service.

SUGGESTIONS FOR IMPROVEMENT

Divorcement From Headquarters

Casa Grande's present setup is that of a \mathbb{S}_3^1 -man monument. It is my firm opinion that it should be treated as such. In all fairness to other monuments in the Southwest, to headquarters, and to the monument itself, Casa Grande should be accorded no privileges not shared by other monuments.

Protection against vandalism of Casa Grande's rains is amply taken care of by the present setup. The monument is small; there is no patrol work necessary, and no fire hazard. The only question, therefore, is how well or ill the visitors are handled. Heavy travel makes Casa Grande an acute problem, but this same problem is found at other monuments not close to headquarters——Bandelier, Aztec, White Sands, Montezuma Castle, Walnut Canyon, Tumacacori. A visitor at Casa Grande is no more important than a visitor at any other monument.

The burden of helping out at Casa Grande rush periods has fallen chiefly to the Naturalist Division in the past. Why should the Park Naturalist spend a day guiding 50 visitors through the Casa Grande, when that very same day 50 visitors wandered around Sunset Crater, saw no interpretative exhibit whatscever, and went away wondering why the government set aside that small crater? Perhaps the Naturalist could SOUTHWESTERN MOMEMENTS 55 SUPPLEMENT FOR JARLARY, 1955

have spent the day more profitably devising a trailside exhibit for Sunset which for years would have helped portray to thousands of visitors Sunset's exceedingly interesting place in the Southwestern scheme. Such illustrations could be maltiplied a hundredfold.

As mentioned above, this phase is no longer a problem, because Casa Grande and headquarters are now well separated in function. I stress the point only to emphasize its not-to-be-forgotten importance in possible future arrangements.

Possibilities for improvement in interpretative methods in the South-western Monuments are illimitable. Spending full time on their problem, the Naturalists would and will be far behind for many years. Theoretically, they should allot only four percent of their time to each monument; actually, they must adapt their work to a ratio dictated by the acuteness of each monument's needs. Casa Grande was over-emphasized for a short time, ---not through the fault of any person, but because of circumstance.

PROPOSED VISITOR CONTACT PROCEDURE

Busy Days

When the first party shows up in the morning, one man should greet them in the usual manner and take them to the ruins as usual. The other man remains at the museum to greet newcomers and act as museum attendant.

The ruins guide gives the little "background talk" outside the building, and then goes through the building, following a set sequence as to rooms entered. As the museum attendant sends more parties to join him, he greets them thusly: "How do you do? If you care to join this party you are welcome to do so. We have already seen part of the building, but you will be taken trough that part just as soon as this trip is finished." If the visitors do not care to join, he politely tells them they must do so, or not enter the building. This is nocessary because of the constant vandalism problem. The ruins guide keeps going through the building in the same routine, and keeps track of where each party joined him. As each perty finishes its circuit, he suggests that they might be interested in the museum, if they have not already soon it.

When the ruins guide's vocal chords fail him, or he needs a drink of water badly, or is completely "fed up" or fatigued, he excuses himself for a moment, and exchanges stations with the museum attendant.

When, as sometimes happens, the ruins guide finishes with his group and has no more visitors in the ruins, he is at liberty to stay there, or even better, return to the museum and rest until the next party arrives, when the process is repeated. The two men can keep approximately tab on the amount of ruins and museum time they each spend, and can even up their work by alternating days or half days.

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The museum attendant, in the meantime, has been on duty in the museum and groeting visitors. He is ever ready to answer questions, which are invariably forthcoming, and usually lead to a completely guided trip. Yet visitors feel a cortain freedom, and know they can look around undisturbed if they so wish.

As each new group comes on the porch, he greets them, asks them to sign the register book, stemps the time clock records. He then sends them to the ruins. However, a good museum attendant will quickly size up his groups, and will remember the type of visitors then in the ruins. If, for instance, the level of intelligence and interest seems to be fairly high among visitors he has sent to the ruins, and low grade party shows up, the museum attendant will turn the latter into the museum and thus keep the type of visitors in the ruins trips as homogeneous as possible. When the low grade party has finished its museum trip it goes to the ruins, but the guide there has had an additional 23 minutes of uninterrupted trip with his good group. This system is not perfect, but is better than the one now used.

Trail Trips

It will be noted that the above system rarely gives any opportunity for guided trips to exhibits or compounds other than Compound A.

This deficiency should be corrected by a system of self-guiding trails:

- (1) Short trip including Ball Court, Compound B, and Compound E.
- (2) Longer trip including the above-mentioned and also F.

When a group appears particularly interested after their trip, through Compound A, the possibility of seeing some of the other ruins should be suggested by the museum attendant or ruins guide, and many visitors will gladly take the self-guided trips and gain a great deal of additional pleasure from the monument.

These trails involve no trail building, for already existing paths can be used. But vegetation and points of interest in the ruins themselves should be labeled, and the labels should correspond with a guide leaflet, containing ground plans and full explanations. This leaflet can be worked up very easily by headquarters naturalists cooperating with Casa Grande personnel, and can be mimeographed cheaply.

As Mr. Pinkley has suggested, the starting points of these trails should be "blind," else they will be over-run by picnickers and irresponsible persons. The visitor should be unaware of the existence of the trail until the ranger points out an inconspicuous marker some 200 feet away in the brush, and tells the visitor to walk to the marker where the trail begins.

Self-Guiding Museum

One of the most important steps to be taken immediately is to make the museum capable of acting as a self-guided unit in emergency. Personnel is so limited in projection to visitor totals, that emergencies at Casa Grande are rather the rule than the exception.

I feel that the museum should be a very flexible and varied unit. It should be completely graphic, interpretative, delineative, and labeled sufficiently so that independent or deaf persons can go through it unaccompanied and yet have a clear idea of the exhibits and their place in the scheme. The hurried visitor should be able to rush through and see just as much as he wants or as little. Labels on exhibits should be curt and concise—expanded labels and descriptive matter can be included in a museum handbook, for the deaf or the thorough—minded. The museum should be arranged so that nothing interferes with a guided trip, for these, when executed well, produce the ultimate in visitor service.

By no means should the museum be without an attendant or docent. Always should a guide be available to persons who want one, and the guide should be keenly on the lookout for persons who are too timid to ask for one. I do not want the attendant to be seated at a typewriter when visitors are present; he should be obviously available.

To make a museum of this type at Casa Grande or any other monument is a work of years. Yet the Casa Grande museum should be rearranged so far as is possible with the present available space, so that, upon emergency, it will give greater service than at present.

Urgent is the need for more space. Construction of a new wing of the building would provide exhibit room for Casa Grande's large collection, and, more important, free the Lobby so that it could be used as a gathering place, and a comfortable spot to rost in.

Days (ff

For the good of the service and of the men, each man should have one day off each week. (therise, fatigue and monotony will seriously impoir a man's effectiveness.

Days off should be taken in the early part of the week when traffic is lightest. When one man is off duty, the only solution is for the other to make trips at scheduled intervals of at least an hour. Visitors will have to wait, or else see just the museum. When in the ruins, a sign on the registry book should read Wisitors will please register, and join the guide in the ruins."

It seems a pity that persons should receive poor service in order to give a man a day off, but such a system must be used until additional personnel solves the problem. Moreover, at other monuments visitors often SOUTHWESTERN MONUMENTS 69 SUPPLEMENT FOR JANUARY, 1936

must go partially unsatisfied occasionally; why is one monument more important than another in this respect?

Headquarters staffmen can aid a little by directing visitors to the ruins or into the museum on such days, but when the rights of all monuments are considered, should spend very little time at this. The door to the Headquarters Office (leading off of the entry porch) should be painted or exchanged for one of translucent glass, so that visitors will not feel erroneously that they are getting poor service while there are many men available. The present lettering on the door should be retained. It explains that the offices are Headquarters and not Monument offices.

Lunch Hours

One man's lunch hour should be from 11:30 to 12:30; the other from 12 to 1:00. From 12 to 12:30 a sign on the registry desk should state, "Ruins and museum closed from 12 to 12:30. Next trip, 12:30 p.m."

On days off, ruins and museum should be closed from 12 to 1:00 for the man's lunch hour, and an explanatory sign should state this.

Annual Leaves

Relief during these periods will be given, as in the case of other monuments, by the traveling Junior Naturalist.

Sick Leaves

These shall, when necessary, be taken care of by the same method used for other monuments-w-relief by the traveling naturalist, or substitution of a cheaper method, when available.

Work Schedule

CUSTODIAN: Experience has proven that a Custodian needs the equivalent of four days a month for general maintenance duties: overseeing repair and maintenance on quarters, machines, sewage, water and light systems, and attending to the thousand and one odd jobs that spring up when a man is in charge of a small hamlet of 25 persons, their quarters, and almost a square mile of fenced ruins.

In addition, the Custodian needs the equivalent of two days' time for correspondence and reports. In addition to his governmental reports, he has to answer many letters of inquiry concerning the Monument.

Mcreover, the Custodian should be allowed about four days a month for improvements to his monument: construction of new museum exhibits, installation and improvements of self-guiding trails; care of ruins, planting of flora, etc.

The Ranger needs one day for assembling travel and weather reports and aiding in preparing the monthly report. He also should be allowed SOUTHWESTERN MONUMENTS 70 SUPPLEMENT FOR JANUARY, 1956

the equivalent of four days a month to spend on improvements.

It seems a trifle peculiar to ask for eight man days per month for improvements, yet the ponument would benefit greatly if such a system could be instituted. It would give better service to visitors, and would prove infinitely beneficial in the long run. Of course, such work will lessen eventually but it will be a never-ending problem.

Need for More Ranger Service

Discussion of time for improvements as utterly out of question with present personnel. It is almost impossible to maintain the status quo. A pressing need is manifest for an additional man during the months of November through May, inclusive. Such a man would equalize the brand of service given at the Monument, would clear up relief problems on days off, lunch hours, etc., during the peak travel period.

There is little need for an extra man at the monument during the summer months. Therefore, the appointment should be Ranger-archeologist to the Southwestern Monuments, detailed to Casa Grande for the mentioned period, and to any one of several critical monuments in the northern part of the area during the summer. Such a flexible arrangement would be highly beneficial.

If not allowed a full time permanent man, a request for a temporary from November through May, inclusive, should be pressed urgently. The monument should have an extra guide at that period by all means.

Business Hours

For efficiency purposes, eight hours of guiding are all that can reasonably be expected from a man, yet during apring and summer months visitors keep coming until dark, semetimes necessitating the turning on of lights to show the museum.

Last summer, for the first time, the entrance gates were closed at five p.m., a guide finishing with whatever parties were on the ground at that time.

Insofar as I know, this move was almost perfectly successful. Visitors demurred occasionally, but at no time did their feeling approach resentment. Occasionally a car opened the gates and came on in. If they were really interested, someone always took them through.

I hope this custom will be continued. I should like to see it improved by placing a sign on the gates when closed "Ruins and museum closed at 5:00 p.m. Picnic grounds always open." A sign at the picnic grounds forbidding visitors to walk to the ruin would just about complete solution of the late visitor problem.

It has been proved by time clock records that during summer months, better efficiency can be gained by having one man on from 8 a.m. to 5 p.m., and the other from 9 a.m. to 6 p.m. One man can handle all parties between eight and nine, yet a man is needed after five to finish with groups already on the ground when the gates are closed. The staggered reporting hour, then, handles this situation nicely. It should be used, however, only from March through September.

SUMMARY AND CONCLUSIONS

- 1. Casa Grande is located on a main highway, halfway between Arizona's two largest cities, in a winter tourist district.
- 2. Climate is very pleasant for seven and one half months a year; very not and disagreeable for four and a half months.
- 3. Casa Grande receives about 27,000 or more visitors per year, the peak being from February through May, inclusive. November through January are the next busiest months, but June through October produces much travel also. Therefore, men at the monument experience no dessation from guide activities.
- 4. Winter visitors are of high quality in distinct contrast to summer visitors who mostly are itinerast cotton workers.
- 5. About six major ruled villages and more than 100 trash mounds occur on the 472 acres of the monument. Visitors usually see only one village and the museum, but much further development is possible to provide other attractions.
- 6. A Custodian, a Ranger, and a half-time maintenance man compose a force which is inadequate during winter months, (yet places Case Grande above most other monuments in the Southwest).
- 7. Visitors are all personally conducted through the ruins (32 minute average) and the museum (23 minute average). It is usually impossible for the small force to accompany visitors to other ruins on the monument. The museum is not arranged to function as a self-operating unit in emergencies or busy periods. There are few graphic or pictorial exhibits.
- 8. Visitors come at irregular times and joing them to an already-started party is awkward under the present system. There is no comfortable interesting place where visitors can be induced to wait for the next guided trip. Consequently each group has to be taken when it arrives, and in the past much aid has been given by headquarters personnel.
- 9. Under the present "20 mar", service is very uneven in quality. Some visitors receive very good service, while a party that happens to arrive an an inconvenient or busy hour receives poor service. It will always be impossible to have enough guides to assign one to each arriving party,

because such a procedure would lead to an enormous ranger force, busy only a small proportion of its time.

Visitors have little chance to sit down and relax under the present system and are fatigued at the and of an hour or less.

There is no chance to group parties according to quality; most information has to be gleaned by the auditory sense; independent persons resent "herding"; deaf persons miss much valuable information.

- 10. Guiding duties are very strenuous. Hangers must talk about six hours a day in busy seasons, and heat makes fatigue just as pronounced in the lesser traveled season. Monotony and fatigue produce uneven quality of service.
- il. In fairness to the monuments, Casa Grande is and should remain on exactly the same footing as other Monuments insofar as headquarters help is concerned. Headquarters should relieve only at annual leave periods, times of sickness.
- 12. To best handle visitors with the present personnel, one guide should be stationed in the ruins, one in the museum. The museum attendant answers questions and greets all visitors, sending them to the ruins or holding them in the museum, which gives him a chance to make up perties according to community of interest. The men trade off when the ruins guide becomes fatigued. The ruins talk is given in a set sequence, and visitors receive a full trip shenever they join on.
- 13. Solf-guiding trail trips to other ruins should be introduced. Guide leaflets should be propered.
- 14. The museum should be made self-guiding so that it will function in time of emergency, and will be of interest to deaf and independent visitors. Exhibits should be made graphic. A lobby and more exhibit space is needed urgently.
- 15. When one man is off duty, the other should make trips at hour intervals.
- 16. Staggered lunch hours will be satisfactory if the ruins and museum are closed for a half hour from mean to 12:30 p.m.
- 17. The Custodian should be allowed the equivalent of four days time a month on administrative work; four days on improvements; two days for correspondence and reports. The Ranger should be allowed four days for improvements; one day for his reports. This would necessitate additional personnel.
- 18. A ranger-ercheologist should be appointed to Southwestern Monuments

Headquarters, and should be detailed to Casa Grande from November through May, inclusive. This man can be used to great advantage in northern monuments in the other months.

19. The present system of closing the gates at five o'clock in the ovening during summer months should be maintained, but certain portable signs should be used to explain to visitors that rulns and museum are closed but the pionic area is open.

BANDELIER BIRDS

By Botty Jackson

The traps are really getting results this month. I've banded 40 birds in all, belonging to 9 species. They are as follows:

Grey headed Juncos										16
Red backed Juncos				•					,	4
Shufeldt Juncos .	•			٠	٠	٠	٠	٠	•	2
Pink sided Juncos.		٠	٠	•	•		•	•	٠	ì
Pygmy Nuthatch	٠		٠	•		•		٠	٠	12
Rocky Mt. Nuthatch	٠	-	-	٠	٠			•		1
Rocky Mt. Creeper.	•	•	٠	•	•		•	•	•	2
Rocky Mt. Hairy Moo	dj	000	ķε	Ţ		٠	•		•	1
Woodhouse Jay	•			•	٠		•	•		1

The Juncos are still interested in the fine chick feed I'm using, whereas all the others came for sust, in the Potter and Woodpecker traps.

I haven't much to report or birds seen around the canyon. They are few and far between, except the Juncos. Those, by the way, feed on gramm grass in the canyon and on the maca.

There are some ribins on the Detached Section, and of course the Solitaires. There are a few of these also in the canyon. The ravens have increased to 22 by the last count. There has been difficulty in keeping the garbage pit covered, because birds, probably these ravens and buzzards, are industrious scavengers.

There are a lot of Rocky Mountain Rairy Woodpeckers on the monumont, well scattered, however. I saw a large flock of Chestnut-backed Bluebirds, with what I am quite sure were a few Mountain Bluebirds.

The Canyon Wrens are still here, whistling on the sunmy side of the canyon all day. One of them hides in the restored room right below the glass-covered wall painting.

I tried to get a picture of the turkoys Earl mentioned, but the film has not been developed as yet. It will probably turn out to be SOUTHVESTERM MONUMENTS 74 SUPPLEMENT FOR JANUARY, 1936

BANDELIER BIRDS NOTES (CONT.)

one grand blur. He was flying by the time I snapped the picture. Other more common birds I will have pictures of soon, Nuthatches and such.

CONTACT STATISTICS

By Robert Rose

Opposite Page 494 in the December 1935 Monthly Report is found a tabulation of educational contacts among Southwestern Monuments for the Travel Year ending September 30, 1935. The occasion for compiling this information was the preparation of the Annual Report on Educational Contacts which is called for each year by the Washington Office. The recent Memorandum No. 92, together with Forms 16, were prepared and distributed to custodians for the purpose of getting a more accurate check on educational contacts at the monuments. For the want of even approximate records in the past, the tabulations are certain to be weak in spots. However, it is believed that as a whole they indicate the status of affairs in general for 1935.

Accompanying this discussion will be found a chart entitled "STATISTICAL SUMMARY OF 1935 EDUCATIONAL ACTIVITIES." Summarizations are made by individual monuments. Do not expect letter perfect accuracy in this chart for again it must be noted that the data are based on many monuments upon estimates. However, if there are appreciable discrepancies between the data on the chart and the actual conditions as you know them, write mo about them and proper acknowledgement and revisions will be made in subsequent monthly reports.

At first glance the chart looks rather formidable but as it is tested for a few items it becomes quite simple. The following interesting observations seem to be worthy of note:

- 1. For Bandelier, Montezuma Castle, Tumacacori and Wupatki, field trip contacts are shown as exceeding the total travel listed for these monuments. Field trip contacts under existing conditions at these monuments do not, and cannot, exceed the travel count. This discrepancy is due to the travel figures submitted by custodians at the close of September 30, 1935, not being the same as travel figures totaled from the monthly reports month by month. Fortunately these discrepancies are not large and do not appreciably change the percentages on the form.
- 2. Custodian Tom Charles has submitted a number of sample forms 16 for different days at Thite Sands. Data he has submitted proves we have greatly underestimated contacts for White Sands. Contacts at White Sands will probably top 10,000. At any rate, records kept there in as much dedail as it practicable for a part—time custodian on a full—time job, are going to bring the facts out into the open.

- 3. Accurate records at Bandelier, Canyon de Chelly, Montezuma, Casa Orande, Tumacacori, Rupatki and other monuments will doubtless reveal field trip contacts as something less than 100% of total travel. While it is desired that the records shall show this difference, it will not radically change relationships as worked out on the chart.
- 4. Gustodian Carroll Miller's October, November, and December, 1935, figures indicate museum attandance as semething less than field trip contacts. This will be brought out in the report for the current travel year.
 - 5. Note the following details of interest:

Casa Grande:

Shows 200% contacted.

- * about 1/4 the total contacts for Southwestern Monuments
- nearly 2/5 of all the museum contacts in the system
- about 1/6 of the total 3. W. Monumenta travel.

White Sands:

Shows about 1/6 of total travel.

Shows that if there were full time help and a museum the total contacts could be approximately 70,000 at that monument alone. Without this help and without these facilities, the very best possible is being done. This 70,000 would be the equivalent of about 1/2 the present total museum contacts in Southwestern Monuments and about 1/4 the present field trip contacts.

- 6. There is a great difference in time required for making group contacts among various monuments. At Casa Grande and Aztec, groups will average between 3C and 50 minutes while at Bandelier, De Chelly, Navajo, and others groups of the same size will require from an hour up to perhaps a half day or more. Hence in considering this chart on Statistical Summary, don't fail to take this into account. As this system is further developed a method of working in this time element will be perfected.
- 7. Note that museum contacts at Casa Grands and Aztec Total approximately 38,000 which is nearly 50% of the total museum contacts in the system. These are the only monuments at present having structures built specifically for museum purposes. There are 18 monuments listed as having no museum facilities whatever for visitors.

		Statistical S	STANGER OF	935 APHORMANA	ı	00%000000000000000000000000000000000000		
			1 20 0	TOTAL PERCENT	l 🗠	PERCT.	نسز ا	. =
MONUMERT	THANT	EDUC. CONTACTS	FIELD AND	CONTACTE	• 5		OF TOTAL FILLD	OF TOTAL MUS.
			MUSEUM		TRAVEL	TOTAL	CONTACTS	
ARCHES	330		20 JW	%C 02	3.2%	5.23%	ં જુ	0.0%
AZTEC	10,738	10,738-Field 10,738-Museum	100	2.0.0%	5.4%	10.8%	8.5%	14.8%
BANDET TER		55	30.001	100.0%	5.2%	5.5%	10.5%	0.0%
DF CHELLY	968	<u> </u>		100.0%	O.8%	96.0	0.8%	0.0
CAPILIN	П	4.910-Field	20.0%	50:0%	35.4%	2.4%	4 C%	0.0%
CASA GRAN.	27,345	27,095-Field 27,095-Museum	880 000 000	200.0%	13.8%	27.2%	22.2%	37.3%
CEIAGO		6,235-11eld 6,235-11eld	ර්ති රිති	190.0%	3.4%	6.2%	4.9%	8.6%
CHRICAHIA	11	4,000-Field	62.3%	65.35	3.3%	80.0	35.5	0.0%
GIIA CLIFF	100	000	000	200	15	≪C;	0.0	0.0%
HOMONIESP	200		0.0	0.0	.1%	0.0%	0.0%	%0.0
MONTEZUMA	14,919	15,110-Field 15,110-Museum	100.0%	200.6%	3.B%	15.2%	11.9%	20.8%
 GRAN_GUIVIHA	4	4,519-Field 4,519-Museum	000 000 000 000 000	195.0%	2.35	4.6%	3.6%	6.28
NOTE BRIDGE		487-Field	69-6%	50 ec	-4%	5,5%	4%	90.0
MAVAIO	446	460-Field	100.0%	100.03	255	%2	.45	30.0
PIPE SPCS	4.896	1,686-Field	54.4%	54.43	2.5%	38	1.38	0.0%
POSITIVE I	430	.00	0.0	0.0	.2%	0.0	0.0	%O.O
SEGUERO	300	2.420-11014	24.4	24.40	5°C%	1.26	9.6	0.0%
STORES OF	2000	000-010-00 000-010-010		1.5%	2,3%		0.13	0.0%
TONTO	5,350	5,305-Field 5,398-Euseum	100 001	151.0%	2.75	4-4%	2.6%	7.495
TURAC/CORI	13,081	13,976-1161d 3,425-10seum	100 C	124.45	6.6%	8.7%	11.0%	4-7%
WALNIE	11,326	8,350-11eld	74.CS	74.0%	5.7%	4.8%	6.6%	0.0
THILL SAIDS	33,912	5,965-Field	17,3%	17.3%	17.1%	80° 50°	4.7%	%0.0
WEING TWI	1.369	1,505-71eld	1.00.001	100.0%	0,7%	0.83	1.25	ુ ં 0.0
YJCCA H.	300	000	0.0	000	265	0.03	0.0	0.0.7
CHROM TS	2,475	1,827-Field	_	74.0%	1.3%	0.9%	1.4%	0.0%
TOTELS	199,478	199,342 (126,	26,822~Field) 72,520-Mus.	•	100.6%	100.2%	* 101.1% *	99.8%

*Check totals

RUMINATION

By The Boss

And again comes the stencil cutter's monthly cry: "Boss, it's time to ruminate!" By this we know that January is past history and we are here setting up a landmark to show how far we have come and which way we are headed.

Chief, the boys have put together another good Supplement. It has become a sort of habit with them.

We are lifting Tov's report on Tumacacori and are going to run it as a separate booklet in a new series of Southwestern Monuments Special Reports, of which this will be Rumber 1. I think it is a very definite contribution to the growing body of Tumacacori literature and should not as last in the files. As it happens, the Second Special Report will probably deal with Tumacacori, as we expect it to be Paul Beaubien's report of the excavations last year. Other Special Reports are in the background and will come up in due time.

Fred Gibson, of the Boyce Thompson Arboretum, comes to our aid with some Peyote notes for which we thank him. I don't know whether or not you know it but Fred is a sort of a relative of the National Park Service, being a brother-in-law of Herb Maier, so we don't hesitate to go over and bother him a good bit with our problems.

Farl's method of handling the tree ring problem is good. We are waiting for some of the other own to cole in with additions and variations and will probably have something more for next month. The need for this explanation is great because so many of our visitors have only a heavy idea of what it is all about and when they see that terrifying word, dendro-chronology, on a chart, they are willing to give up.

We were certainly pleased to get that nice letter from Dot and John Keur and are glad to share it with everybody on the mailing list because it shows you what our visitors think of our Monuments. I don't say that all visitors get as much pleasure out of their visit as these two do, the remain for this being that those two bring so much in the way of enthusiasm, energy and knowledge along with them. I have noticed that they always leave the man on the job pepped up when they make one of their all-too-infrequent visits.

Dale King, in his "Comments" gives a pretty good cross-section of some of our trails and tribulations at one of our twenty-five Monuments, and I trust you will find it interesting reading. We around headquarters have held several interesting Taurian sessions on this particular copy as it was coming through the mill, and there are still some differences of opinion among us as to the value of some of the suggestions here offered, though we have agreed to give them a trial and see how they work out. I wouldn't be surprised if we had some further reports on this a little later on.

RUMINATIONS (CONT.)

Betty the Birdbander comes in with a nice article on her work the past month in which you get the idea that she is having a pretty good time trying to take pictures of wild turkeys, etc., and you are not wrong in assuming it, either.

As another evidence that we are visitor conscious, in addition to Dale's studies mentioned above, you will note that Bob Rose comes in with a flock of figures dealing with educational contacts. On the face of them we are bound to admit that figures never look as very inviting, but these will repay a little study. It certainly startled me to find, according to this tabular matter, that Casa Grande and Montezuma Castle have 55% of the total museum contacts and 42% of all contacts among the 199,342 contacts made in our twenty-five monuments. Granting that there must be some errors in this table, the above facts stand out so plainly that they cannot be questioned. It rather puts a point on the fact that these two are our best monuments to use for studying visitor reactions in both museums and ruins.

I might report to you here, since you don't get a copy of it, that the Broadcast seems to be doing pretty effective work along its own special line. It is an inside circular for our own aggregation and only goes outside upon written request, and I believe it is helping to bridge the miles down in this corner of the country and keep us all better acquanited. It is the fourth of our informational outlets and the four of them are going to cover our field pretty well. They are the Monthly Report; the Monthly Report; the Monthly Report Supplement; the Special Reports; and the Broadcast. Each has a definite job to perform and if we can do about half as much as we hope to do with them the job will be well done.

Incidentally, we were rather thunderstruck when a big eastern library wrote us that one page in their copy of last month's report was blank and would we please send them a fair copy. Does that mean those fellows read our stuff that closely? And here is one of the Big Shots in the archaeological field who takes time out to sit down and write us that the December Report is our all time high; that we are doing good work and to keep it up. Does such a letter make us feel good? We are perfectly willing to admit that it does!

Cordinally,

The Boss.