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Desert

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DESERT CALENDAR

- Oct. 31—Nevada Day, parade, evening celebration, Carson City, Nevada.
- Nov. 1—All Saints Day, dances, Taos Pueblo, New Mexico.
- Nov. 1—Opening of first Wickenburg golf course, Wickenburg, Arizona.
- Nov. 4-13 — Arizona State fair, Phoenix.
- Nov. 6—United Miners National conference, Reno, Nevada.
- Nov. 8-9 — Arizona State Bankers convention, Phoenix.
- Nov. 10-11-12 — American Women's Medical association convention, Tucson, Arizona.
- Nov. 10-21—Open season on deer and wild turkey in most sections of New Mexico.
- Nov. 11-12—State-wide square dance festival, Globe, Arizona.
- Nov. 11-12-13—Clark County Gem Collectors Mineral and Gem show, U. S. Naval Reserve armory, Las Vegas, Nevada.
- Nov. 12—Harvest dance at Jemez Indian pueblo, 45 miles north of Albuquerque, New Mexico.
- Nov. 12—Fiesta at Tesuque pueblo, Indian village seven miles north of Santa Fe, New Mexico.
- Nov. 12—Arizona Engineering convention, Phoenix.
- Nov. 12-13 — Old Tucson days, in Tucson Mountain park, sponsored by Junior chamber of commerce. Includes reenactment of early-day life in Tucson, Arizona.
- Nov. 12-16—Ogden Livestock show, Ogden, Utah.
- Nov. 22—Season opens for hunting bear in New Mexico, with or without dogs. Season ends December 10.
- Nov. 24—First of weekly rodeos staged by Desert Sun ranches, Wickenburg, Arizona.
- Nov. 28 - 29 — Twenty-ninth annual convention of New Mexico Farm and Livestock association, Albuquerque, New Mexico.
- November—Navajo dances after the first frost, in various communities at unspecified dates. Arizona and New Mexico.
- November—Winter guest ranch and resort season in Arizona desert opens.

DATE OF DEATH VALLEY CENTENNIAL IS CHANGED . . .

Because of conflict with other southern California events, date of the Death Valley Centennial pageant to be presented in Desolation canyon of the Funeral range has been changed from November 19 to December 3—a two-week postponement.

Officials announced the shift in dates following a meeting of directors of Death Valley '49ers, Inc., sponsoring organization. The pageant will depict dramatic incidents in the journey of the Manly-Jayhawker parties through California's Death Valley just 100 years ago.



Volume 13	November, 1949	Number 1
COVER	DEATH VALLEY MEMORIES, by Don Mohr Los Angeles, California	
CALENDAR	November events on the desert	3
TRAVEL	New Gateway to Death Valley By PAT and GEORGE STURTEVANT	4
WILDLIFE	Lure for Wildlife By ROBERT M. RIDDELL	9
QUIZ	Test your desert knowledge	12
FIELD TRIP	Grey Jewels of Bagdad By HAROLD O. WEIGHT	13
EXPLORATION	19 Days on Utah Trails By RANDALL HENDERSON	19
POETRY	Calico, and other poems	26
PHOTOGRAPHY	Contest winners in September	27
MINING	Current news of desert mines	28
LETTERS	Comment by Desert readers	29
TRAGEDY	He Conquered the River— and Died in an Airplane	31
HUMOR	Hard Rock Shorty of Death Valley	32
CLOSE-UPS	About those who write for Desert	32
NEWS	From here and there on the desert	33
HOBBY	Gems and Minerals	41
LAPIDARY	Amateur Gem Cutter, by LELANDE QUICK	45
COMMENT	Just Between You and Me, by the Editor	46
BOOKS	Reviews of Southwest literature	47

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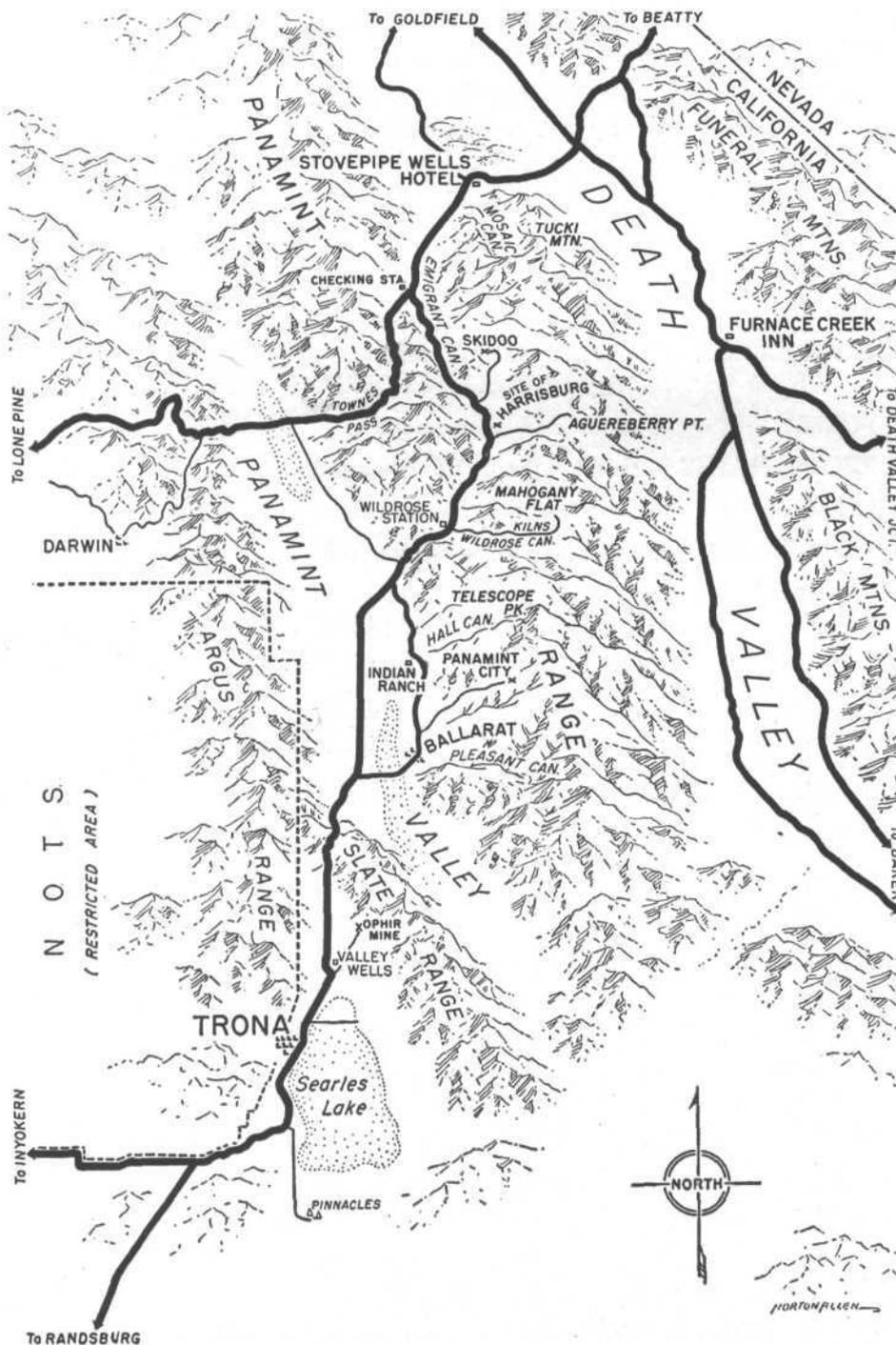
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New Gateway to Death Valley

Those who enter the Death Valley National Monument from the south this season will have the option of taking a new and more direct route over a recently completed highway from Trona through Wildrose canyon. The new road offers easier access to many of the old ghost towns and historical landmarks in Panamint valley and the Panamint range—and it is for the purpose of making Desert Magazine readers better acquainted with the area traversed by this highway that Pat and George Sturtevant of the Trona Argonaut have prepared this story.

By PAT AND GEORGE STURTEVANT



ONE HUNDRED YEARS ago this month a tattered caravan of ox-drawn wagons carrying men, women and children from east of the Rocky mountains trudged across the floor of Death Valley with the California gold fields as their destination.

The story of the hardship, and the ultimate survival of most of the members of this courageous little band of emigrants, was written by Lewis Manly, who played a heroic role in the Death Valley journey. Manly's book, *Death Valley in '49*, has long been out of print, but it remains one of the classics of western literature.

This month, on the 100th anniversary of the original episode, the story is to be reenacted in pageantry in a great amphitheater-like canyon in the Funeral range in the Death Valley Monument. Sponsored by a non-profit organization, the Death Valley 49ers, a group of writers, players and costume designers have been engaged for months preparing for the presentation of this great outdoor drama, scheduled for December 3.

Since many thousands of those who will witness the spectacle will enter Death Valley from Southern California, the completion of a new all-weather highway into the Monument is of much more than passing interest. Known as the Trona-Death Valley road, the new highway will reduce the driving distance from Southern California coastal areas by 50 miles.

As residents of Trona, we seldom ventured out on the old road across Panamint valley. It was rocky and tortuous. But the new highway following approximately the same route has a fine hard surface and no grade exceeding six percent.

For those impatient to reach Death Valley the new route will save considerable time. But for the leisurely motorist like ourselves, it offers many opportunities for side-trips of great interest to those who like to delve into the relics of the past.

Last summer, as full-fledged members of the 49ers, we began devoting our weekends to the exploration of the old ghost towns which may be reached from the new highway. One of the most interesting of the places to be visited in this area is Trona itself.

The desert, full of beauty and wealth for those who understand her, held tightly to the hidden treasure of Searles lake for centuries before man unlocked its secret and developed a unique process for extracting useful chemicals and salts from the lake

brine. The American Potash & Chemical corporation, which operates the great plant now engaged in reclaiming the wealth of Searles lake, makes provision for visitors but it is well to make advance inquiry to ascertain the time when guide service will be available for a tour of the plant. It is a fascinating and educational experience.

Approaching Trona, the Pinnacles, conspicuous tufa crags rising to a height of 100 feet or more, may be seen at the south end of the lake—to the right of the county road leading into town. We took a ragged dirt path to more closely examine these impressive crags that scientists say were probably formed from lime underneath the lake that once flooded Searles valley.

Hot tips for rockhounds were given us by collectors Roy Bailey, M. L. Leonardi, and Newell Merrill, who disclosed that halite, mirabilite, thenardite, trona borax, hanksite, northupite, pirssonite, gaylussite, sulphohalite and tychite are found frequently out on the lake. Gypsum, anhydrite, glauberite and searlesite have been discovered in lesser quantities.

Happiest hunting ground in Searles basin is one mile east on a dirt road leading to the lake from the county road north out of Trona. Most of the material dug from the depths of the dry lake and examined by the researchers is dumped at the only fork of this road.

One of the oldest lead and zinc mines in the valley was next on our itinerary. A mile and a half past the entrance to Valley Wells—a cool oasis five miles north of Trona—a sign, "Engr. Ophir Mines", caught our attention. Two and a half miles to the east is the mine, one of the best locations in the country for hydrozincite and red phosphorous calcite, if you're interested in collector's items.

Back to the highway again, this time choosing the road left of Valley Wells, we approached Slate Range crossing, anticipating the Panamint valley panorama we were soon to see. More than 60 miles long and five or six miles wide for the greater part of its length, Panamint stretched below us, a comparatively deep, narrow basin, the abrupt rock wall of the east contrasting with the broad alluvial slopes reaching the valley from the west.

Gem and mineral collectors, if they can draw themselves away from an incomparable view, will find lavish amounts of hyalite opal "most anywhere on the Slate Range crossing," according to our friend Bailey. Most of the hyalite may be found east and north of the summit on the old road into Panamint valley.



Death Valley from Aguerberry Point.

One of the most accessible ghost towns is Panamint—and the only one that can boast a part-time resident—is Ballarat, which was established about 1897 as a supply point for miners who were working in the adjacent mountains. To visit Ballarat we turned to the right at the foot of Slate range and drove six miles over a fair dirt road until we spotted remnants of the old supply town, huddled on the floor of the valley against the base of the eastern Panamint range, near the mouth of Pleasant canyon.

Ballarat, namesake for a famous Australian mining camp, sprang up overnight when gold was discovered in Pleasant canyon in 1895. From then

until the end of World War I brief gold flurries kept the town active and, at times, booming.

Exploring the site, we found it hard to believe that 2000 persons had lived here at one time, helping to support seven saloons, a stage depot (Ballarat was also the junction for the stage and freight lines leading into the Panamints), postoffice, meat market and general store, in addition to what was considered an elegant two-story hotel. Building material was mostly adobe, although some lumber was brought into the town from Johannesburg.

During the fall, winter and spring seasons, Seldom Seen Slim welcomes visitors to Ballarat, showing them the



Air view of Trona—taken 10 years ago. Photo copyrighted by Spence Air Photos.

old graveyard with its wooden markers, the jailhouse, and what remains of many adobe buildings. His sign, "Free Parking," framed by a backdrop of vast desert, typifies the sly humor of oldtime prospectors.

Panamint City—one of the wildest mining camps despite its two-year life span—was our next goal. Situated 10 miles northeast of Ballarat, up Surprise canyon, it offers a fine opportunity for a pack or hiking trip. Otherwise, only those with jeeps or trucks should attempt the journey beyond Chris

Wicht's place, which you'll come to six miles past the turnoff from Ballarat.

Wicht, who died in 1944, was another of those desert personalities who make city dwellers pallid by contrast. Born in the Bowery, he came west to make his fortune and established one of the Ballarat saloons. Tree-shaded, with a large swimming pool and drinking water available, Wicht's home serves as a good camping ground for overnight travelers, or as an excellent place to park the car before taking the hike to view Panamint City.

And it is a hike—make no mistake. The incline increases by 1000 feet a mile. However, there is water all along the canyon road for refreshing stops.

The Panamint City ore any rockhound may now freely gather was first discovered by fugitives from Nevada mining camps, although it was Nevada Senators Robert Stewart and John Jones who largely developed the mines and promoted the city. Illustrating the rugged nature of the city during its heydays of 1874 and 1875, we were told that even Wells Fargo officials had declined to send their express service into Panamint City, in view of that town's large number of desperadoes. Senators Stewart and Jones were up to that challenge, however, and had the silver bullion cast into cannonballs weighing nearly a quarter of a ton each. This move thwarted would-be highwaymen to such an extent that the bullion was shipped to the mint in unguarded open wagons.

In present-day Panamint City, tall brick smokestacks and the old smelting vats are all that remain of the gigantic 20-stamp mill erected in June, 1875, which turned out silver bullion worth \$30,000 a ton. An exceedingly narrow town about a mile in length, Panamint City has many smaller canyons which branch out from the main street, and of these several were designated for special purposes. Sourdough canyon, for instance, has a cemetery that came into being when two men fatally wounded each other in a fight. A few of the canyon street signs still stand.

Although there was much to see, Indian ranch beckoned, seven miles north of Ballarat on the road we had turned from to make our way to Panamint City. Here, too, at the mouth of

Crumbling walls today mark the site of the once booming mining camp at Ballarat.



Hall canyon is an excellent place to camp overnight. Now deserted, Indian ranch was the former home of the Indian boy (later named Indian George) who saw the Jayhawker party as it moved into the valley in '49. Indian George was the head of a large family of Indians for whom the government set aside this grant. A limited amount of farming was done here until recently.

The site of Indian ranch is marked with a large group of cottonwood trees. A ditch and quadrangle are landmarks where much of the farming of corn, figs and berries was carried on. Refreshingly cool falls and a very attractive meadow can be seen a short distance up Hall canyon.

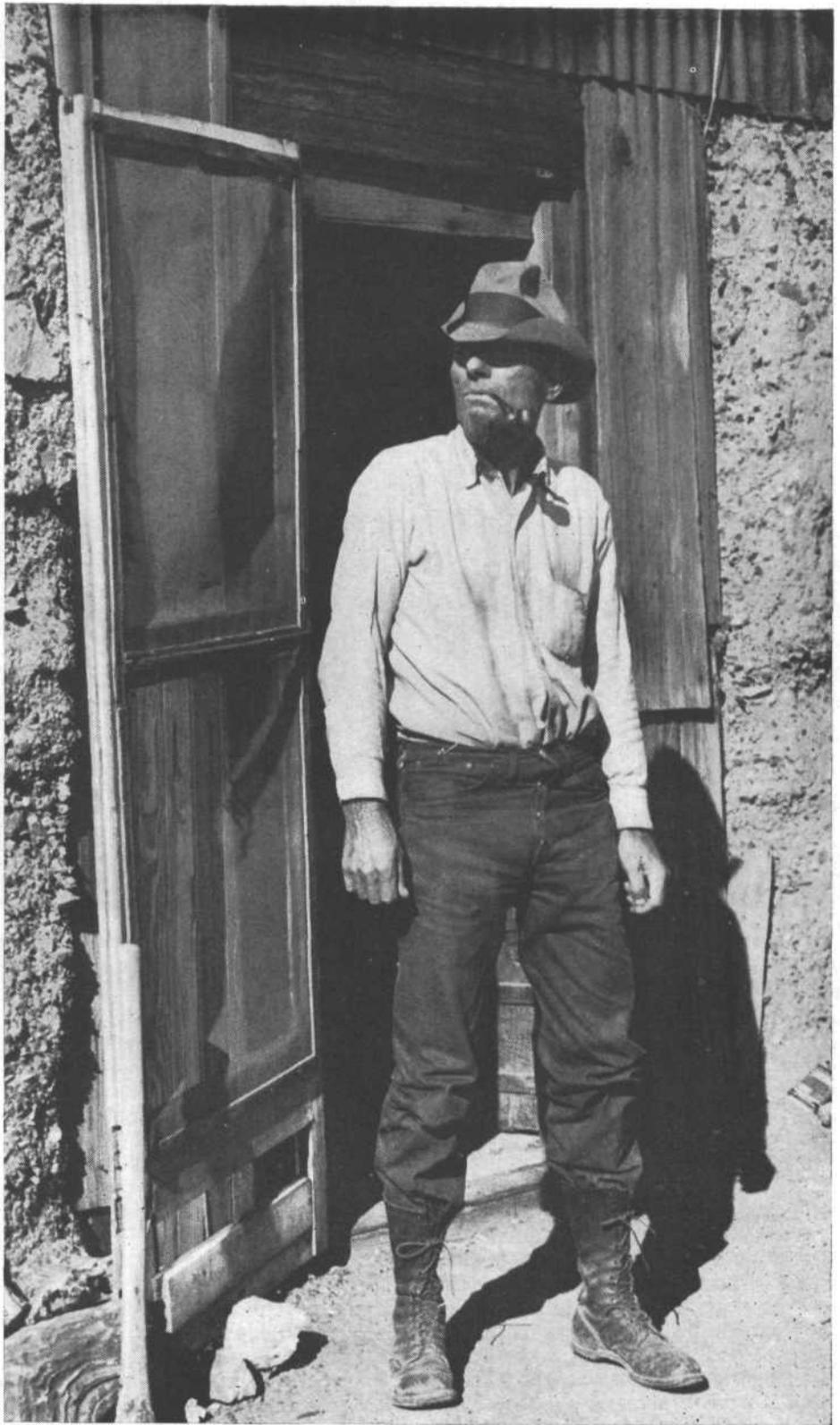
Then we drove 12 miles to Wildrose canyon and our overnight stop at Wildrose station, graciously hosted by Anne and George Pipkin. Both know the country well, and upon request will arrange an all-day jeep tour to Panamint City and other spots of interest not easily reached by touring car. Anne has assembled a unique collection of desert rocks and gems and she has a fund of knowledge about locations of mineral deposits, such as the stibnite mines up in Wildrose canyon.

During the coming winter and spring seasons, we were cautioned to make advance reservations for overnight stops and meals at Wildrose as well as the hotels in Death Valley. For those who rely on the hospitality of Mother Nature, water and good camping sites are nearby in the canyon and the Pipkins will be happy to point them out.

Two miles above the station there is a fork in the road. A left turn here leads into Death Valley, but we decided to make one of the most interesting side trips of our entire tour by following the road straight ahead. We passed through the summer headquarters of the National Park Service and continued on to the charcoal kilns, big bee-hive shaped ovens built by Indian labor in 1870. Charcoal, produced from pinyon and juniper in the kilns, was used to reduce silver mined in the area. An interesting problem for photographers is presented by the kilns. Made of native rock and lime, they blend in so well with the landscape that it is entirely possible to miss them altogether.

An ideal camping site is Mahogany Flat, with a beautiful view of Death Valley, two miles further up the road. Here is a dense growth of pinyon pine alternating with cleared level ground. We stopped at the summer home of Mr. and Mrs. John Thorndyke for a fresh supply of water a mile before reaching the crest.

Leading south from Mahogany Flat



Seldom Seen Slim, lone resident of the old ghost town of Ballarat, who provides "free parking" for visitors. Photo by L. H. Bales.

is a six-mile leg-stretching trail to Telescope peak, highest point in the Panamints at 11,045 feet. Regular trips to the summit are scheduled by the National Park Service, we learned.

Retracing our trip to the fork in the

road, we turned right (facing Wildrose station) across a high plateau toward Emigrant canyon. At a point 10.5 miles from the junction there is a well-marked dirt road leading to the right, past the site of some old mine work-



Anne Pipkin sings Stan Jones' "Riders in the Sky" for summer guests at Wildrose station on new highway.

ings that once supported the town of Harrisburg.

Harrisburg sprang up overnight following a rich strike in that area on July 5, 1906, by Pete Aguerberry and Shorty Harris. Ambrose Aguerberry, Pete's nephew, makes a fascinating guide through the mine, when he is at home in the adjoining cabin.

It was Pete who with pick and shovel built the way to Aguerberry Point, a narrow twisting canyon path just car-wide that took us to one of the most inspiring scenic experiences we ever had. The Point poses a real challenge to the photographer since it affords a vista of more than 180 degrees, much of which is so starkly majestic that our first reaction was to unload and set up our three cameras.

But our first flush of enthusiasm was tempered by our sudden realization that here was a panorama of mountain ranges and ragged canyons and desert sink that defied snapshot photography. We had to be patient, to wait until late afternoon for shadow pattern, because when the sun is high there is no detail or contrast to help convey the awesome beauty to film.

Because of the distances and depths—Nevada can be seen 80 miles to the east—blue haze was a major problem and infra-red film became a must. Even so, only small segments of the landscape can be taken at a time, and a truly comprehensive photo of the view from Aguerberry Point awaits someone with the imagination, equipment, skill and patience to create a vast montage.

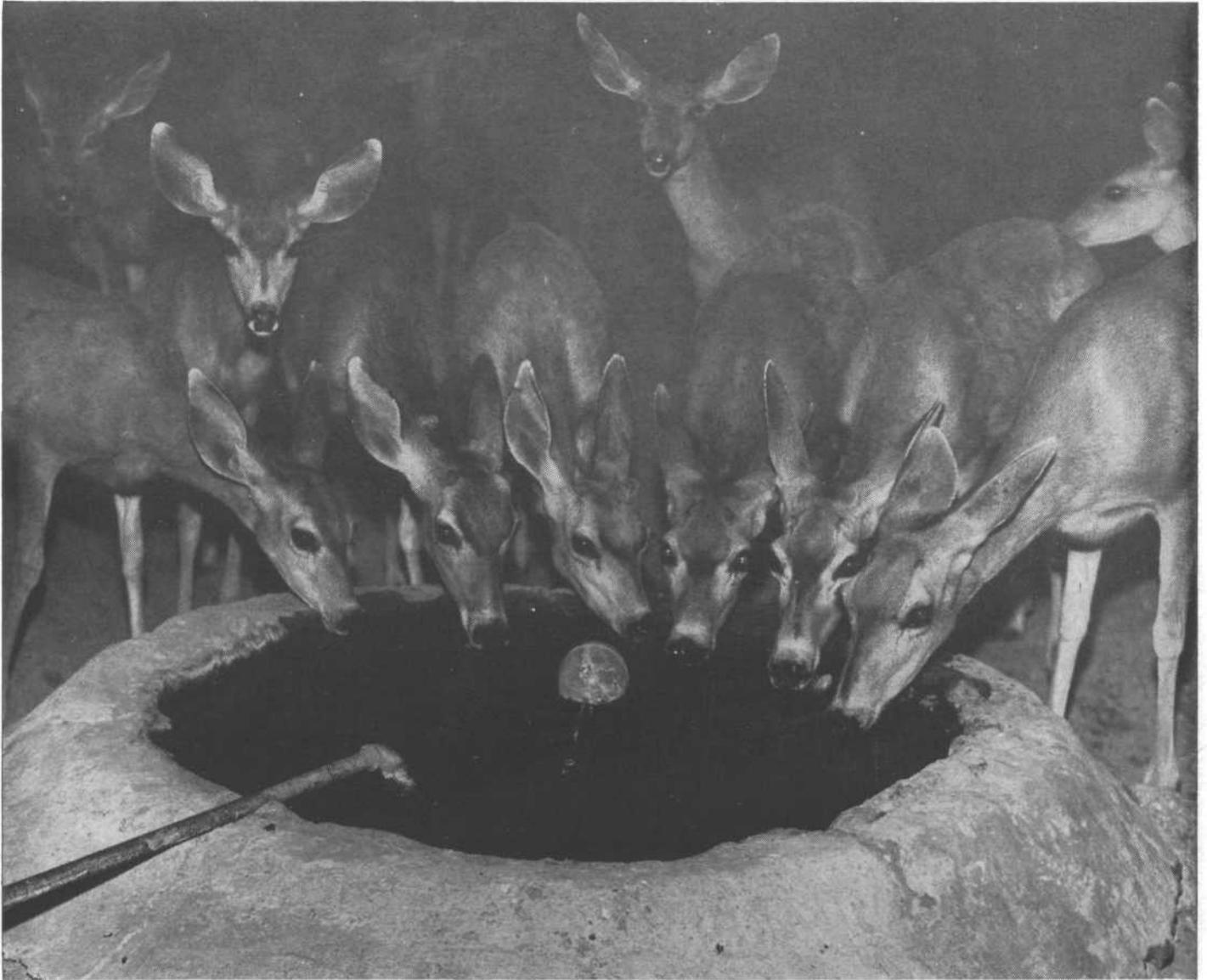
Once again past the site of old Harrisburg, red-gold in the light of sunset, and on the highway we had turned from, we drove a few miles north until we reached a dirt road to the right. Here, five miles to Skidoo, we came upon the remnants of the mining town famous for the lynching of Joe "Hootch" Simpson in 1908. Enterprising citizens of that town hastily resurrected Hootch's body a day later to reenact the scene of the hanging when out-of-town reporters arrived.

With a last look at the frame buildings and interesting signs of Skidoo, we headed on the last lap of our trip along the highway leading into Death Valley by way of Emigrant pass, past the National Monument checking sta-

tion, and from there eight miles away, to Stovepipe Wells hotel. But before we pulled in at Stovepipe, the lure of a dirt road tempted us, and we turned right to Mosaic canyon, a delightfully narrow canyon carved out of solid cream and chocolate marble. It provides an entertaining hike and a double surprise awaits the seasoned hiker, for two miles beyond the exit from the first canyon we came across a replica of Mosaic canyon—every bit as individualistic and beautiful.

Death Valley is rich in historical drama. Since that winter 100 years ago when the Jayhawkers and the Bennett-Arcane party, of which Lewis Manly was a member, came this way, the Death Valley region has been the scene of many rich strikes. Boom towns have sprung up almost overnight and then disappeared.

Perhaps there is still hidden wealth in the hills that rim the Valley, but most of those who visit this region today are lured there by good roads, mild winter climate, the color and majesty of the desert landscape, and the historical landmarks scattered over the region.



This picture was taken by flash exposure at eight o'clock in the evening. If you look closely you can find eleven deer drinking, or waiting to drink. There were a total of twenty-five deer in this group that came to water. They are all does but three in the center of the picture. These are bucks, but too young to realize their importance.

Lure for Wildlife . . .

By ROBERT M. RIDDELL

Photographs by Land Martin

DAY WAS DAWNING. A thrasher suddenly broke the stillness with its lively "Bobwhite" call. The saguaro, or giant cacti, slowly loomed out of the grey dawn like a silent army, while the pale moon gradually withdrew toward the rugged mountain peaks in the distance. A family of fox scurried down a beaten path. They were heading for some secluded group

of rocks which served as their desert home. Overhead, a flock of white-wings swished by. In a few seconds they would be atop a saguaro cactus, where they would coo back and forth to each other.

Wild animals of the Arizona desert have learned that they may drink without being molested in the little cement pond built by Bob Riddell on his homestead west of Tucson — and so when the summers are dry and the usual waterholes empty they come — deer, lion, javelina and wildcat, and scores of smaller animals and birds. And here are some of the interesting observations made by the writer as he watches this daily wildlife parade.

This is a typical beginning of a day in summer on the Arizona desert. I have a vivid and first-hand chance to watch desert life pass in review because I live on a homestead that nestles in the hills a few miles west of Tucson.



After much patient waiting on the part of the photographer this close-up picture of two does, a fawn, and a buck was finally taken. The deer got close to the camera, then would leap away. But the call of thirst was so great that they finally gave in to the photographer. This picture was taken at six o'clock in the evening.

Here a few miles from the busy city I live in an entirely different world, and can observe and study Nature's wildlife from morning until night.

Because water is scarce at times on the desert during the hot summer months when rainfall is long overdue, I found out that game could be attracted to my front yard when I constructed a large cement water basin. At first I kept the basin filled with water by using a bucket, but there were so many visitors daily that before long it was necessary to run a length of pipe to the cement drinking hole. At the end of the pipe I attached a float-valve which controls the amount of water, and automatically keeps the pond filled with water.

Game will travel long distances for water, and nearly every summer there is a period of drouth on the desert.

Occasionally the newspapers will print reports that deer are making pests of themselves on one of the local golf courses, where they come to drink from the lake. Deer come from several miles around to drink from my private pond.

Wild animals seem to have definite times for drinking. The coyote will trot up to the water before sunup. After taking a quick but careful view of the situation, he will take several laps of water, then disappear as quickly and silently as he came. From my experience the coyote is a hard animal to photograph. I could never get him to come close enough to the pond for a clear picture. He seems to sense the camera. Of course there have been many pictures taken of them in other locations! But it wasn't my luck.

Deer come to water anytime from

dawn until around ten o'clock in the morning. If the summer is unusually dry and hot a few may stray back during the day. Otherwise they return again in the evening just before sunset, and they keep coming in groups of from two to 20 and 30 until after ten o'clock at night.

These deer are quiet, shy, and speedy. The type of deer at my homestead are the Blacktail, or the Desert Mule deer. The latter implies that they get to be quite large in stature. Their color blends with the desert floor, the vegetation. They seem to appear from nowhere one moment, and are drinking water the next. The Mule Deer is rather curious. He will often linger around the water hole behind trees to study unusual noises, and people around the house.

I have counted 150 deer that have



An unusual close-up shot of three young bucks drinking together. A young doe stands in the background waiting impatiently to get her chance to water. She knows by the law of Nature that she has last call for water. This picture was snapped at seven o'clock in the morning.

come to water from dawn until nine o'clock in the evening. Toward the end of July the does bring their fawns down into the lower country when they are but a few days old. Thus the number of deer coming to water is greatly increased.

It seems that each doe takes particular pride in showing off her offspring to me. Very often they will drink together, but when a buck is in the vicinity, the does will stand to one side on guard. As is the case with most wild game the male is king at all times. Most of the time no doe or fawn will ever try to stop a buck from taking a drink. Nor will they come up to water with him. At times a thirsty fawn will refuse to relinquish its place at the pond. Then the buck will rear back on his hind legs and pounce forward upon the back of the fawn, or any doe not quick enough to get out of the way. I have seen fawns crippled when they

were too thirsty to acknowledge the presence of a buck, perhaps their own father.

One may make pets out of deer, especially the fawns. My method is to place a bucket of water on the path that leads to the pond. The mother eyes me constantly. When she is satisfied that I will not harm her young she allows the fawn to approach the bucket. The fawn moves slowly, its large brown eyes trained on me. That look is so serious, and yet so gentle and wistful I have almost laughed aloud. The slightest move on my part would start the fawn bouncing off in quick, long leaps, and would bring a noisy snort from the doe. The Black-tail is very patient. The fawn may take five minutes before reaching the bucket.

When one is taken into their confidence the fawn can become a nuisance. They love salt. They love to travel their

velvet-like tongues over my bare arms for the salt on my skin. At times they follow like dogs until I give in and stop to allow them to lick.

It is interesting to see how the mother instinct operates in the protection of her young. Once an ant stung me while the fawn was licking my arm. Naturally I raised my voice. This brought the doe in a few quick leaps between the fawn and me. She brushed me lightly, then pushed the fawn away. The two then were gone from my side and sight like magic.

When the summer is exceptionally dry, my water hole is visited occasionally by animals which normally shun the scent of human beings. The bobcat, the mountain lion have at one time or another been to my pond. It is fascinating to watch the lion, long, tawny and slim, creep up carefully to the water, ears back, its long tail quiet and stretched close to the ground. It drinks

just as any other type of cat. It is with much regret that I found myself without a camera on the late afternoon the large cat paid me a visit.

It is fascinating to watch the wildcat stroll nonchalantly to the pond, drink slowly and even with daintiness and deliberation, then stretch under a nearby tree, bathe quickly, and saunter off.

The javelina, or wild pig, for many months was seen near the water. But of late, bands of five, ten and fifteen come to drink in the evenings and early mornings. I have been told by authorities that as a rule javelina receive sufficient moisture from the roots of cactus and shrubbery, thereby not requiring as much water as other game. No doubt unusually dry weather accounts for their visits to my ranch.

A few years ago several large picnic areas were established by the county in the Tucson mountains. Even with this additional space for human beings to roam, laugh and talk, the wild life has not retreated. On Sundays and holidays when people visit the open spaces the deer sneak quietly around in search of food. They have a sense of smell that is overwhelming and a bearing of confidence. Since 1931 the entire area known as Tucson Mountain park has been closed to hunting and the deer seem to sense the fact that they are protected.

Deer will take fondling and petting as long as there is food for reward. When the food is gone, the deer moves on to another area of new people, more food.

There are still a great many people who live in and around Tucson, or who are winter visitors, who are still unaware that just a few miles from the city there are vast spaces of desert filled with beautiful vegetations and an abundance of wildlife.

A short time ago the state wildlife officials placed some antelope in the Tucson Mountain park. This adds one more type of game to the large list. These fast and graceful animals were brought down from the higher, colder part of northern Arizona. In the near future it is the hope of the officials that there will be several herds of antelope roaming the desert with the rest of the wild game.

Just as fast and silent as the dawn appears, so does the dusk and the spell of the night. Off in the distance, atop a hill, the sharp bark of a coyote breaks the evening's stillness. From atop another hill the cry is answered by the long, mournful howl of its mate. The scream of the mountain lion echoes farther up in the hills. These are familiar calls on my desert homestead. They tell me that night has fallen on the Arizona desert.

Desert Quiz

Here are 20 quiz questions for those who like to test their knowledge of the Southwest—or who perhaps would like to add to their fund of knowledge. This is not an easy list. It includes geography, history, Indian lore, botany, mineralogy—and you'll have to mix some common sense with other ingredients to get a high score. Twelve correct answers is a fair score, 13 to 15 is good, 16 to 18 excellent, and 19 or 20 very exceptional. The answers are on page 40.

- 1—California's Salton Sea was formed in 1905-6-7 by waters from:
Cloudbursts in the adjacent mountains..... Flood waters from the Colorado river..... Overflow from the Gulf of California..... Changes in subterranean channels caused by earthquake shocks.....
- 2—Borrego State Park is located in: Nevada..... Arizona..... New Mexico..... California.....
- 3—White Mountain Indian reservation in Arizona belongs to the: Apaches..... Navajos..... Maricopas..... Hualapai.....
- 4—Joshua tree is a: Yucca..... Agave..... Palm..... Nolina.....
- 5—First wagon train was brought across the Southwest Desert by: Butterfield..... Mormon Battalion..... Lieut. Beale..... De Anza.....
- 6—The famous Paiute Indian chief for whom a town in Nevada is named, was: Winemucca..... Winnemucca..... Winemucca..... Winnemucca.....
- 7—Scottsdale, Arizona, is famed for its: Copper mines..... Indian ruins..... Arts and Crafts colony..... Hot mineral springs.....
- 8—Prehistoric Indians who occupied the Salt river valley of Arizona are known as: Hohokam..... Cliff Dwellers..... Cave Dwellers..... Leguarie.....
- 9—Director of the National Park Service is: William E. Warne..... Frank Albright..... John Collier..... Newton Drury.....
- 10—The legendary home of the Hopi Katchinas is: Grand Canyon..... Petrified Forest..... San Francisco peaks..... Navajo mountain
- 11—Phillip Bailey's book *Golden Mirages* is written about: Lost mines of the Southwest..... Comstock lode..... Seven Cities of Cibola
- 12—If you wanted to climb the Sandia mountains you would go to: New Mexico..... California..... Arizona..... Utah.....
- 13—Turquoise derives its blue-green coloring from: Iron..... Copper
- 14—Phantom ranch is located in: Death Valley..... Zion Canyon..... Grand Canyon..... Canyon de Chelly.....
- 15—The name Moqui used by early writers, referred to the Indian tribe now known as: Zuni..... Acoma..... Hopi..... Paiute.....
- 16—If you wanted to get a glimpse of the peccaries which still run wild in the Southwest you would go to: Kaibab forest..... Painted desert..... Mojave desert..... Southern Arizona.....
- 17—Heard Museum is located in: Phoenix..... Flagstaff..... Tucson
- 18—The name Herbert Bolton is best known to Southwesterners through his: Books..... Mining activities..... Exploration of the Grand Canyon country..... Archeological discoveries.....
- 19—To see the prehistoric cliff dwellings known as the White House ruins you would go to: Bandelier National Monuments..... Navajo National Monument..... Chiracahua National Monument..... Canyon de Chelly National Monument.....
- 20—The blossom of the agave or wild century plant is: Blue..... Red..... Snow White..... Yellow.....



Rough obsidian nodule or "tear" from the Bagdad field and a cabochon cut from the material.

Grey Jewels of Bagdad

By HAROLD O. WEIGHT
Photographs by the Author

MANY ROCKHOUNDS acquainted with Yermo, California, before World War II will remember Bertha Frisby and the little rock stand she operated south of Highway 91 and nearly opposite Calico dry lake. When the big military depots were established in that area, the government purchased her property and she moved southwest, beyond Hodge, and out of the rock business I believe.

In those days she had a varied array of cutting rocks and mineral specimens on display, and I liked to hunt among them for prizes. Some she obtained through trade, but most of them were the result of her own desert delving.

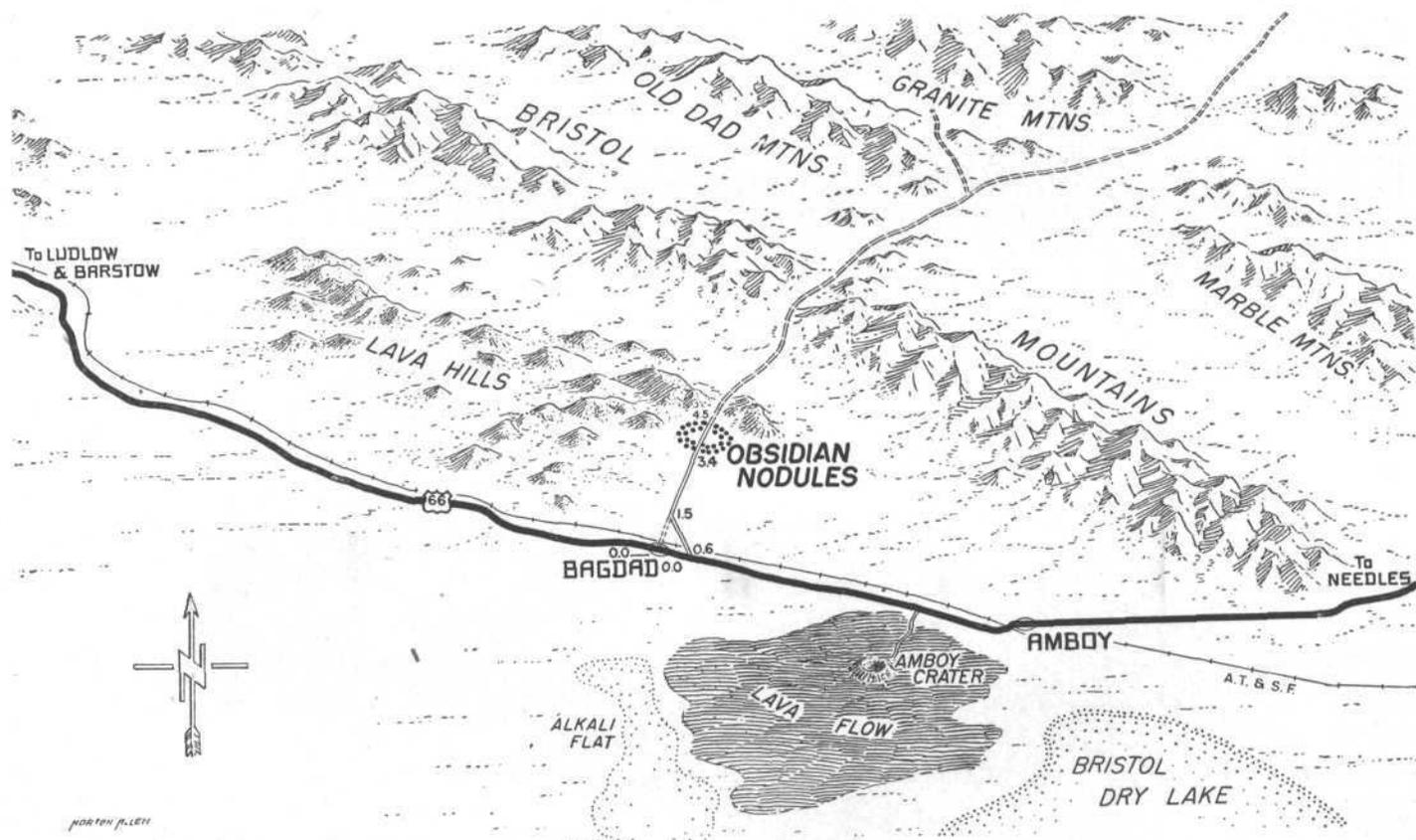
She had no car of her own at that

In Arizona they are called Apache tears, and in other places they are labelled "black diamonds." Harold Weight suggests that "volcanic tears" would be a more romantic name for the little obsidianites which are found near Bagdad on California's arid Mojave desert, and in other places. Here is the data for an interesting field trip—and some informative notes on the geology of an area where several volcanic craters are found.

time. But she knew many collecting areas and in return for the privilege of bringing back material for her stock—

and sometimes for the pure pleasure of rockhunting—she would guide collectors to these fields. These circumstances led to several interesting expeditions—and not a little exercise—for me. Mrs. Frisby was not a young woman, but when she took to the desert hills with a pick and collecting sack many a healthy young man was hard-put to keep up with her, both in digging and hauling.

On my first trip with her we drove from Lavic to Bagdad, and at Mrs. Frisby's direction I turned north on a little used mining road. About two miles from the highway Mrs. Frisby suggested that we stop the car and hunt for "black diamonds" in the gravels of the wash we had just crossed. Despite the heat of the afternoon, we needed no urging. Dad and I hopped from the car and started an eager criss-cross search. Soon I spied what



appeared to be a small black pebble in the gravel.

As soon as I picked it up and held it against the sun, I knew that it was a chunk of obsidian or volcanic glass. Then it dawned upon me that obsidian nodules and black diamonds must be one and the same thing. Later I learned the name is used in a number of localities in describing the little stones.

I wasn't indignant about it, nor did I feel cheated. After all, I really hadn't expected to find black diamonds—or any other color—broadcast on the Mojave desert. And these little obsidianites do cut into beautiful limpid cabochons, while obsidian itself is a mighty interesting rock and one of my favorites.

The encyclopedia probably will tell you that the invention of glass is credited to the ancient Egyptians—but that's just Man bragging. Mother Nature has been manufacturing glass at least since the first volcano blew its top and that was eons before she embarked on the doubtful experiment called *Homo sapiens*. And we human beings have been using her glass since the first savage cut his finger on a piece and grasped the significance of what it could do to an enemy's hide.

The Indians of our hemisphere have worked it into their religions and legends. It was known and used by them from the west coast to the east, from Alaska to Chile. In California

alone they are known to have worked 24 major obsidian quarries. They chipped and flaked and fashioned it, making knives and arrowpoints and spearheads, mirrors, ornaments and ceremonial swords.

In some places—such as the Obsidian Cliff of Yellowstone National park—the quarries were neutral ground where any tribe could seek munitions. In others, the Sugar Hill deposit in northeastern California, for example, wars were fought over disputed ownership. Peoples unfortunate enough to live far from any volcanic area have traded and journeyed across half a continent to obtain the beautiful stone which flaked so easily and formed such viciously sharp weapons. In Mexico the Aztecs, who used enormous amounts, even had a special obsidian cult and goddess (*Desert*, July, 1945).

No, I wasn't in the least disappointed over having been shown a field of almost transparent, cutting quality volcanic glass. But I did feel—and do today—that a stone as rich in history and pretty in its own right as obsidian should not be forced to masquerade under a misleading name. In Arizona these little hunks of volcanic glass are known as Apache tears, with a charming legend attached (*Desert*, August, 1939) but that necessarily is local in its application. Perhaps "volcanic tears" could be used by those who want a more romantic term than ob-

sidian. After all, they were formed by liquid rock expelled from vents, and perhaps even volcanoes feel like crying sometimes.

On that first trip the car was hot, the road rough and we had a long drive ahead. So we contented ourselves with gathering a few obsidianites, and made no attempt to see how far the field extended. I planned to return that winter and explore those lava hills and the slopes between them and the highway. But world events that winter changed my plans.

In the years that passed the obsidian field near Bagdad slipped completely from my mind until, quite recently, the sight of some beautiful grey-toned stones my father had cut and polished from those tears recalled it. Then I remembered it was located on the valley slopes above Amboy crater. That combination—a collecting spot for volcanic gems and a striking example of recent vulcanism—seemed to hold possibilities for a field trip for *Desert Magazine* readers who are interested in the geological side of the desert.

The question was: Could I relocate that field? I had taken no mileages on the trip. All I remembered about the turnoff was that it was near Bagdad and within sight of Amboy crater. Also, I thought I recollected a sagging wooden sign beside the road which indicated in a dispirited sort of way that a mine called the Orange Blossom



The little nodules or "volcanic tears" which cut into transparent greyish cabochons are found in desert paving such as this. Amboy crater left center.

was — or had been — in operation somewhere out yonder.

On the mid-July day we arrived at Bagdad to attempt relocation of the obsidian area, Amboy, a few miles farther east and a little lower, reported a top temperature of 120 in the shade. But such temperatures are not unbearable in the dry Mojave. And we had timed the trip to arrive at the turnoff late in the afternoon, stopping during the hottest part of the day at Daggett to visit Mary Beal and Dix Van Dyke. Mary was at home in her little cottage under the shade trees, and reported enthusiastically on the results of her early summer botanizing in the Providence mountains above Mitchell's caverns. Dix was out somewhere in a jeep, following forgotten pioneer trails.

When we reached Bagdad, I found that the war had made changes, even there. A whole new set of sidings bulged out from the main railroad line and the road we had followed toward the hills seemed to have vanished. I couldn't even locate the remains of the wooden sign I remembered. But a courteous Mexican employe of the railroad explained that if I followed those tracks I would come onto the old road which once had led to the now-idle Orange Blossom.

We drove back out to Highway 66 and followed it .6 of a mile eastward

from Bagdad to a point just beyond highway bridge 148.85. There we turned north on a dirt road and crossed the tracks of the Santa Fe. Even after we were over the tracks and heading on a poor road toward the Lava hills, I was not certain this was the same pair of ruts I had followed eight years before when Mrs. Frisby led us to the "black diamonds." No single thing about the area looked familiar.

Sometimes when I tell city friends tales of lost mines, they raise a collective eyebrow and ask: "How is it possible to lose something as obvious and substantial as a mine or ledge?" But should I take these same people onto the little-traveled desert by-ways to look for that mine, the question changes.

LOG

- 0.0 U. S. 66 at Bagdad. Head east.
- 0.6 Turn north on dirt road, after crossing highway bridge 148.85.
- 0.8 Cross Santa Fe Railroad track, continue west of north.
- 1.5 Join old Orange Blossom mine road. Head slightly east of north.
- 2.1 Soft road for .1 mile.
- 3.4 Enter edge of obsidian area.
- 4.5 Pass marking far edge of obsidian area.

"How in blazes did they find the fool thing in the first place?" they demand.

That was what I was beginning to wonder as we made hurried investigations of the washes in the gathering dusk. We found bits of chalcedony roses and jasper, but not a trace of obsidian. About 1.5 miles from Bagdad, the track we were following joined what obviously was a much older road which seemed to be aiming for the southeastern tip of the Lava hills. That was more nearly the direction I remembered from my earlier trip, but we still were unable to find any volcanic tears as we jounced up the bajada.

The sun was behind the mountains and the afterlight was dimming when we neared the pass through the tip of the hills. Knowing that I had not gone that far before, we decided to camp for the night and give up the hunt until morning. At this point, 4.5 miles from Bagdad, several almost level *mesitas* offered ideal campsites, at least in summer. In winter the lack of nearby firewood and vegetation to give shelter from the wind might make them a little cold.

It was dark before we had camp established, and we ate by lanternlight. Afterwards, as our flashlight beams flickered over the rocky mesa, we

made a discovery. Literally underfoot and scattered thinly through the desert paving we saw small, black rather shiny pebbles. I picked one up and held it over the flashlight bulb. As the light filtered through it the stone looked greyish-tan. Yes, these were the obsidian nodules we had been seeking.

A strange sort of rockhunt followed as we criss-crossed the mesa, bent double and peering along the probing flashlight beam. In summer, night collecting had one distinct advantage—the volcanic tears were cool enough to pick up. And a flashlight proved a handy gadget to check whether or not the specimens we found were transparent enough to cut. Some black stones which looked like the obsidianites externally proved to be perfectly opaque.

The hunt continued until we began

to worry about the condition of the flashlight batteries. Although the day temperatures had been scorching, the evening—perhaps by comparison—seemed pleasant. And when a soft wind drifted up the valley it became a perfect night to sleep under the desert moon and stars. That moon was long past full and only a thin segment remained. But when it rose the amount of illumination it gave was surprising. It and the vast concourse of distant suns and whirling nebulae so lighted the night that the jagged scraps of mountains, the sweeping bajadas and the white sinks which characterize the the Mojave were visible to the horizon's rim. And below us Amboy crater and its surrounding flows were pure ebony under the ethereal light.

There seemed to be an amazing number of lights at Bagdad, considering the size of the town. Once, when

the Bagdad-Chase mines were operating and when the Orange Blossom, across the Bristol mountains, was hauling supplies in and ore and concentrates out, Bagdad, their railroad shipping point, was quite a place. Reportedly much of the settlement was destroyed by fire in 1918, and the number of buildings we had seen that day could not account for the long strings of light. We concluded it must be an emergency landing field, possibly placed there because of Bagdad's climatic reputation.

Although Bagdad may be small, it has made its mark in the meteorological world. Throughout the whole Mojave desert region during a 20-year period, only the bottom of Death Valley had a lower mean annual rainfall than this siding on the Santa Fe. The average was 2.3 inches, but in four out of the 20 years, when no rain fell, it was dryer than Death Valley. And

Camp at the base of the Lava hills. Obsidian nodules are found on the black flat, left center and center, and on similar mesas and in the washes which cut them.





Amboy crater from the west, showing vent where the western wall has broken down. Obsidian nodules which cut and polish beautifully are found on flats and in washes above and beyond the crater.

once, for a period of 32 months there was not a drop of moisture from the sky.

Bagdad also has the somewhat doubtful honor of having the next to highest mean annual temperature during the same 20 years, Death Valley near Furnace Creek leading again. This spot is credited with one of the

longest frost-free seasons in California, averaging 345 days annually.

We did not find the volcanic tears in great quantity anywhere, but they were scattered over a wide area, and most of them were of a grade of obsidian which would cut. The greatest concentration seemed to occur on the mesas which lay to the east of the

sandy trail we had followed, and which stretched in long dark fingers from the isolated buttes at the end of the ridge down toward the highway. Rockhounds who visit this field will have to do some hiking, but those who are willing to walk should be able to find enough tears to cut all the cabochons and drops they desire.

Inside the crater of Amboy cinder cone, showing the small inner cone. Designs on the white flats are made by visitors who feel they have to leave their initials behind.



While prospecting to the Lava hills, we found bits of jasper—mostly red and yellow, but some fine moss. The nodules appeared to be non-existent in the hills themselves. In the washes were a few chalcedony roses and one or two broken geodes. The jasper seemed to be scattered more thickly on the rocky slopes to the west of our camp and where the nodules were few in number. It is possible that collectors who come in cooler seasons and are able to hunt farther from base without heat discomfort will find jasper which will cut into beautiful stones.

As to why the obsidian nodules do not occur in the hills or down in the Amboy basalt flows, I have no explanation, but so far I have not found them in either place.

I have yet to hear an explanation for the little obsidian nodules which applies satisfactorily to all the varied conditions under which they seem to occur. Obviously they are not float from great flows or masses of obsidian, or it would be possible to trace them to that source. They have an oddly sculptured surface which makes them rather easy to identify after you are accustomed to it, and which makes it appear that they were formed in very nearly the same shape and size in which they are found. In some cases they have been traced to a matrix of pumice or volcanic ash.

The stone most closely resembling these nodules, for which geologists have offered an explanation, is the so-called "Pele's Hair," formed when drops from the lava lake of Kilauea volcano in Hawaii splatter upward and are blown to threads by the wind. These threads are blown ashore, hardened into glass. In the case of the volcanic tears, it seems possible they might be blobs of lava thrown into the air and cooled swiftly into glass without being blown by the wind. Or perhaps they fell into pumice, volcanic ash, sand or mud and hardened there. The generally accepted theory of obsidian itself is that it is a molten rock which hardened too swiftly to form crystals, or that it was too viscous to form crystals as it hardened. Had some types of volcanic glass hardened more slowly, they would have formed granite or even pegmatite.

Looking down into the Amboy trough from the vantage of the obsidian field, nearly 800 feet above the bed of Bristol dry lake, the crater and its surrounding flows, like some vast ink blot, dominate the scene. It is almost frightening, so savagely harsh in appearance, so obviously an intruder in the valley floor where it has burst through the grey-green-brown of the desert. And it looks so recent that

you cannot help picturing what might happen today if such an eruption blasted its way upward from the supposedly trustworthy earth through one of our modern cities.

Probably there is little chance of that. Volcanoes seem to follow what geologists consider their proper mode of occurrence. There are a number of remnants of them in this section of the Mojave. One of the most reasonable explanations for their appearance in this region is that they have come up from molten magmas along fault lines, somewhat like the series of explosion cones known as the Mono craters.

Faults are weak areas or fractures in the outer crust of the earth along which vertical and horizontal movement takes place when pressure elsewhere becomes too severe. We know that such movements cause our most devastating earthquakes, but not many persons are acquainted with the part they have played in designing our western landscape. The precipice of San Jacinto is a fault scarp and so is the sheer eastern face of the Sierra Nevada and the western face of Utah's Wasatch mountains. The Colorado desert and Imperial Valley are believed to have been formed when the block between two faults either dropped lower or remained as it was while the land on the outer sides of the faults was thrust upward.

Cadiz and Newberry faults have been suggested as those responsible for the Mojave volcanoes, and Amboy crater has been mapped by H. T. Hill in a survey of Southern California geology as almost on the Cadiz fault. These two faults have a northwest-southeast trend and are about 30 miles apart. The line of valleys between them, culminating in Amboy trough, are believed to have been caused by down-sags of the fault block between the two.

Amboy itself is a cinder cone, and a Johnny-come-lately to the geological scene. Some observers estimate its eruption as recent as 500 years ago. One of the principal reasons for this belief is that the twisting black lava flows from the crater followed approximately the present drainage lines of the valley.

A cinder cone is composed entirely of fragments blasted out during volcanic explosions. Sometimes it is formed during the closing stages of a volcanic eruption, when gases gather and explode through lava which already has hardened over a vent. Cinder cones—Amboy is 200 feet high—usually are very symmetrical and have circular craters. And they are difficult to climb because they are made

of layers of loose material piled as steeply as is possible without sliding.

Amboy is the most approachable volcano I know and its comparative newness only adds to its interest since, so far as appearances goes, it would seem that the flows had just congealed. In fact, if we can judge by the heat we felt when we visited it that mid-July day, it is possible that they are still cooling. The auto-trail cuts south from Highway 66 a shade less than five miles east of Bagdad and 1.9 miles west of the town of Amboy. This track is an irritating combination of soft sand and sharp lava, but shortly after taking it we entered a strange world of black and white and blue—basalt, sand and sky. It is a fascinating wilderness of jagged, twisted rock to explore in pleasant weather, and a good driver can go within about half a mile of the base of the cinder cone.

We had intended to climb Amboy. I had been inside the crater previously, and found it an interesting spot, with a smaller cone within—apparently the result of the volcano's final burp—and a great break through the western wall. There is a trail up the outside of Amboy and over the rim which can be negotiated without too much back-sliding.

But when we stopped for lunch, the rocks burned our feet through thick soles, the light reflecting from white sand stung our eyes, and perspiration left salt caked on our faces. We decided that if we must climb mountains, some of the cooler, higher desert ones would be more appropriate to that time of year.

In the winter months, however, the climate among Amboy's lava flows can be delightful. No one who wishes to know the desert in all its phases should fail to make a trip to Amboy's rim. And perhaps if you pause there a moment you will experience the strange sensation that I did. It looked so new—so somehow unfinished. You feel that—although you have missed the opening of the show—if you hang around too long the curtain will go up for the third act, and perhaps you will go up with it.

• • •

Airport for Monument? . . .

MONUMENT VALLEY — Legislation to permit construction of an airport in Monument valley in southeastern Utah, near the Harry Goulding trading post, is being prepared by Utah's Senator Thomas. The state is supporting the proposal. The landing field would be of value in reaching northern section of the reservation in case of an emergency such as last winter's record snow.



Just inside the entrance of an almost inaccessible cave the riders found this grotesque life-size figure painted in blue and white and red—obviously put there by prehistoric artists.



The National Park service restored the ancient ladders to these ancient cliff dwellings, located in Bridges National Monument, so visitors could climb up and explore the ruins.

19 Days on Utah Trails . . .

For 19 days, Ross Musselman of the 4M ranch of Monticello, Utah, led a pack train with 12 riders along remote trails through the colorful sandstone country of southeastern Utah. The party explored little known canyons, visited prehistoric Indian dwellings, and camped each night at springs and waterholes along the trail. Randall Henderson's story of this wilderness adventure was told in part last month, and is concluded in this issue of *Desert Magazine*.

By RANDALL HENDERSON

Eighth Day

AFTER CAMPING three nights on the slick rock at Squaw spring, we were eager to be riding off into the unknown country that lay ahead. In a region so vast and so varied there is no monotony. We had adjusted ourselves to the routine of camp chores, and found increased enjoyment in the ever-changing landscape as the days-passed.

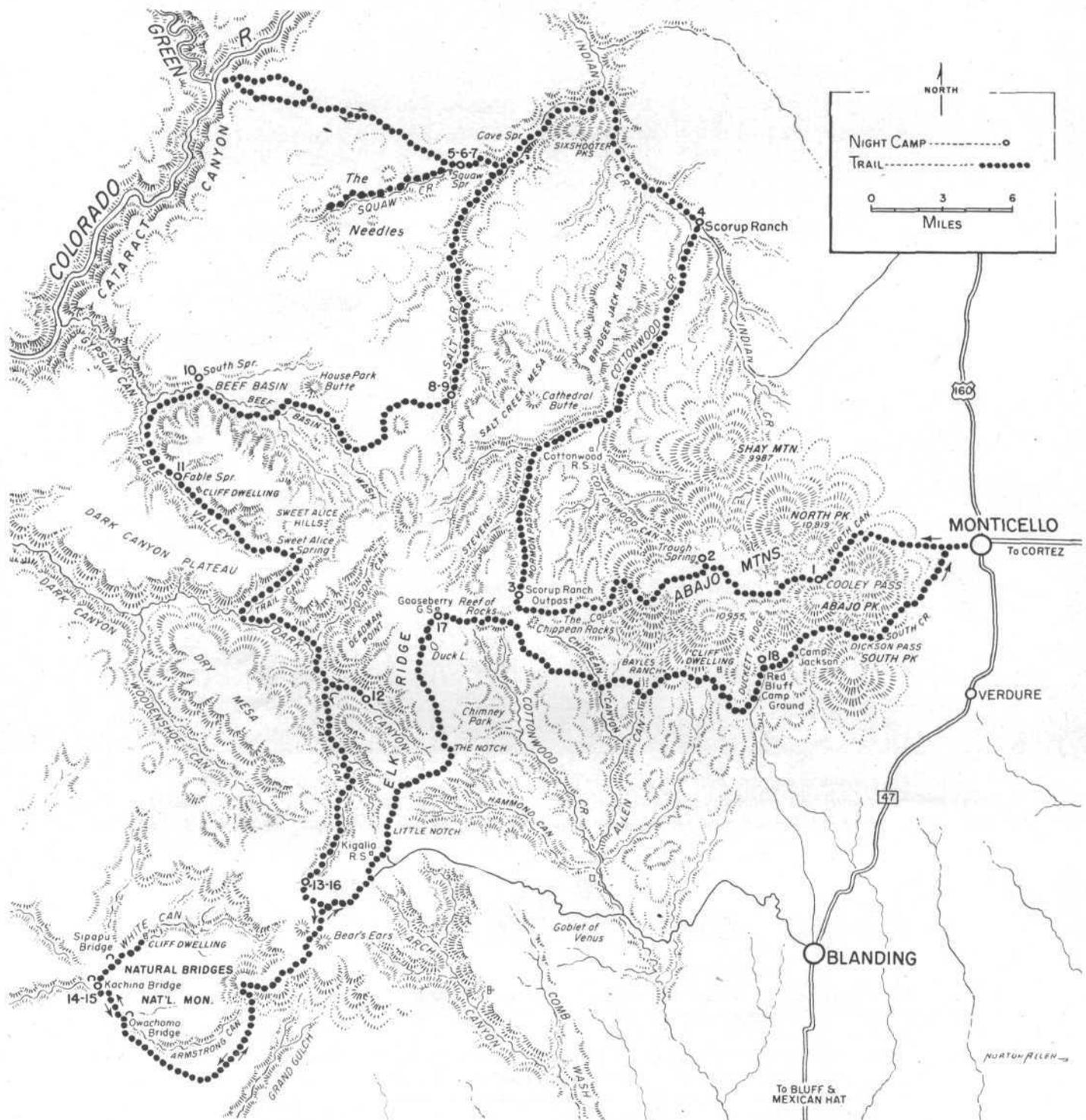
We were up at daybreak this morning, and while the packers were out

rounding up the animals, sleeping bags were rolled and breakfast prepared. We departed at 8:45.

For three miles we back-tracked along the trail by which we had come to Squaw spring, and then spent the rest of the day following the upstream course of Salt creek. I do not know the origin of its name. There were some salt cedars on the bars along the first mile or two, but the channel was dry. Further up we found water—but it carried no taint of salt.

Once when the creek made a great loop the trail took a shortcut over a ridge. There was a natural archway through the sandstone dike at the top of the ridge, and the walls were covered with Indian pictographs in white and red paint. One unusual feature of these picture writings—something I had never seen before—was the presence of numerous imprints of a human hand, as if the primitive artist had dipped his hand in a vessel of paint and then pressed it on the wall. He had well-shaped hands, and the imprint was sharp and clear. Marvin found a beautiful arrowhead at the base of the wall.

Our noon stop was at a spring that gushed from the sandy bank of the creek. Ross told us he had never heard a name for this spring—but it has one now. To members of our



Showing the route of the 19-day trek. The numbers along the heavy dotted line indicate the consecutive night camps—18 of them.

party it will always be Yellow-Jacket spring.

We tied our horses in a thicket of oak and went to fill our canteens. A moment later the horses started pawing and snorting. Obviously something was wrong. We rushed back to the animals and found ourselves in a swarm of angry yellow-jackets. Several of us were stung before we could move the stock to safer ground. For the information of those who have not been stung by a yellow-jacket, it is like

being punctured with a red-hot darning needle. The swelling in my ear did not go down for three days.

The canyon narrowed as we climbed higher, and the sandstone walls became more precipitous. Once Ross took us off the trail a short distance to an overhung sidewall where were painted four larger-than-life-size heads in brown and white pigment. The faces had distinctly oriental features, and were so skilfully done I was unwilling to believe until I made a care-

ful examination that they had been put there by primitive savages. I have examined thousands of petroglyphs (incised in the rock) and pictographs (painted on the rock) in my years in the Southwest, but never before had seen anything approaching the artistry with which these heads were sketched. Ross said they were there, just about as we saw them, 20 years ago when he first came this way.

Occasionally, far up on the sidewalls, we could glimpse the ruins of

ancient cliff dwellings. We had no time to climb up to them, even when they were accessible. Some of them appeared to have no way of approach.

In a cliff that faced a little meadow far up toward the headwaters of the creek Ross detoured to a wide vertical crevice in the sidewall, and back in the semi-darkness of the cavern we could see the mud and stone of ancient walls. By careful hand and toe climbing some of us were able to gain entrance, and there on the wall just inside the crevice was the life-size painting of a fat Indian with a feather in his headband. The pictograph was done in blue and white and brown, and while the figure was grotesque, it was well preserved.

It was almost dusk when we reached our night camp at the edge of a meadow fringed with oaks. Our water came from a spring in the clay bank of the creek, and we had to cut steps to get down to it. The water was icy cold.

Today our supply of fresh bread was gone, and Ross got out the dutch ovens and gave Marvin his first lesson in the art of making camp biscuits. As in most other camp cooking, the regulation of the fire is the all-important factor in making good biscuits, especially in these days when prepared biscuit mix can be bought in boxes. Ross, however, clings to the good old flour and water and baking powder recipe, with a spoonful of grease and a pinch of salt and sugar. They were good biscuits.

Today we rode 24 miles.

Ninth Day

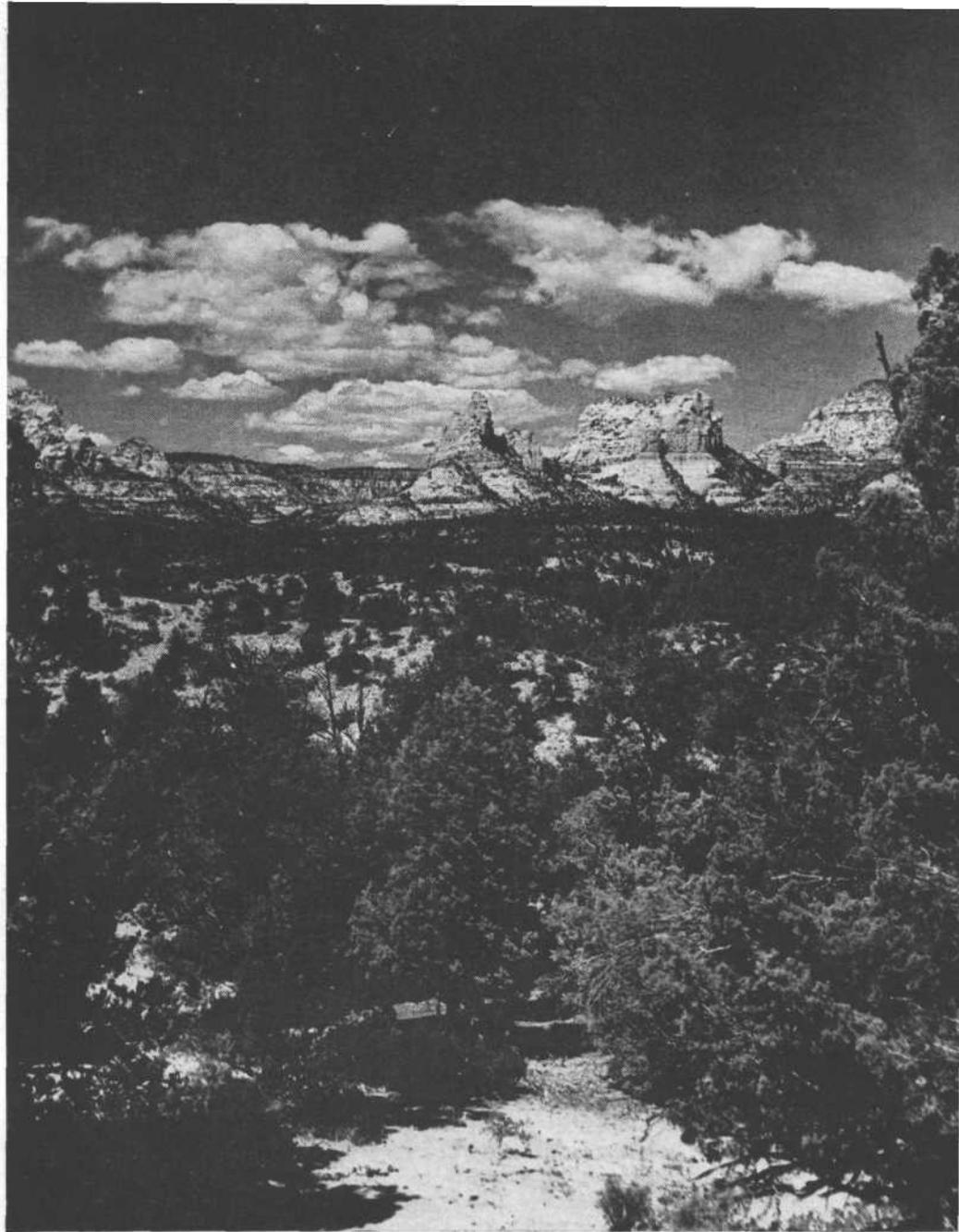
There was good pasture at this upper Salt Creek camp, and we let the horses graze while we spent the day exploring old Indian ruins in the vicinity. Some of us hiked two miles and climbed to a great natural arch which was discovered by Ross and his daughter, Nancy, in August 1940. Rough measurements indicated that arch had a span of 175 feet and a height about the same.

From beneath the arch we could see in the distance another that appeared to be equally large. The arches and bridges so common in this region, are the work of erosion through many ages.

Around our oak wood fire tonight we ate pinto beans, tamales, cheese, biscuits and jelly, with coffee. There were two nights on the trip when it was too warm to crawl inside the sleeping bags when we first went to bed—but we were always in them before morning.

Tenth Day

We left our upper Salt creek camp



Sandstone buttes and palisades in a setting of pinyon and juniper—this picture is typical of much of the area through which the trail led.

at 8:00 a. m. after a breakfast of oatmeal and raisins, and hotcakes with honey syrup.

We followed the creek two miles and then climbed a steep ridge and had rough going up and down grade through pinyon forests until mid-day when the trail led down into Beef Basin, a great meadowland of tumbleweeds.

Once we made a short detour to the site of an old Indian pueblo where the ground was covered with broken pottery. Ross told us that prehistoric pueblo sites are scattered over much of this area. Whether or not these mud and stone dwellings were built by cliff dwellers, or represent an earlier or later culture I do not know. Many of them have never been excavated by archeologists. There is nothing left except the foundations, and in some instances these are covered with sand.

The sites can be identified by potshards and loose stones.

Our night camp was at South spring where we spread our bedrolls on smooth sandstone ledges. A trickle of good water seeped from a crevice and our engineering department took an old tin can and made a serviceable faucet.

We have been out ten days, and have had at least a sprinkle of rain during seven of them. But today the sky was cloudless and Beef Basin was hot. It is good country for cattle, but lacks the scenic horizons to which we had become accustomed. But we had a clean campsite and a cooling breeze came up during the evening. Marvin's biscuits, cooked over a pinyon fire, were extra good tonight.

Today we rode 23 miles.

Eleventh Day

Beef Basin creek tumbles over a



The riders pause for a rest in a little cove surrounded by red and white sandstone buttes.

75-foot waterfall just below our South spring campsite, and from that point to its junction with the Colorado river is known as Gypsum canyon. We left camp at 8:30 this morning and climbed a precipitous trail to a pinyon-covered mesa from which we could look down on the colorful Gypsum canyon gorge. It is a Grand Canyon in miniature, in both color and form.

From the mesa we led our horses down a rocky trail into Fable valley where the cattlemen bring their stock for winter pasture. Here, as in many other valleys in this highly eroded land, flood waters are gouging deep gullies across the bottom pasture lands—and carrying the rich soil down to the Colorado and thence to Lake Mead. Before Hoover dam was built this area contributed millions of tons of silt to the building of Palo Verde and Yuma and Imperial valleys on the lower Colorado. As these gullies eat their way across the pasture lands the erosion takes place vertically—that is the banks cave off to form vertical walls 10 or 20 or 30 feet high. Ross told us that during the 20 years he has been following these trails a tremendous amount of rich soil has been washed away.

We camped tonight beside a little grove of Gambel oaks, and carried our water from a fine spring pouring into the creek a hundred yards away. Across a 30-foot-deep gully in the pasture, on the opposite skyline of the canyon, was a high butte with the ruins of what appeared to be an Indian watch tower at the top and the remains of a mud and stone fortress-like structure on a ledge half way up. These ancient ruins are inaccessible today, but several arrowheads were picked up by members of our party at the base of the cliff.

Many theories have been advanced as to why the prehistoric savages in this region abandoned their homes hundreds of years ago. They left long before the white man moved in. They may have been forced to leave by prolonged drouth, by epidemic or by the depredations of warring tribesmen. None of us can be sure of the answer. Ross Musselman has a theory of his own—that these Indians may have been carried off as slave laborers by raiding Aztecs at the time when Montezuma was building his great temples in central Mexico. Many archeologists probably would argue this point.

Generally we left camp ahead of the pack animals in the morning, but Don and Val with their train usually caught up with us before night. They arrived this evening without Ol' Jim. Jim was a big white horse, the veteran of the pack train. Soon after leaving camp in the morning he appeared suddenly to go loco, and raced off the trail with his load. When the packers tried to head him back he ran into bad rocks, fell off a huge boulder and broke a leg. In accordance with the unwritten law of the range, they ended his misery with a bullet. His pack saddle and load were shifted to the other animals.

Today we rode 12 miles.

Twelfth Day

We left camp at 9:15 this morning, heading up Fable valley. We saw a well-preserved cliff dwelling beneath an overhang high up on the sandstone wall. Marvin climbed up to it, but reported no artifacts were to be found.

Then we ascended a steep trail to the top of Dark Canyon mesa, contoured around the buttes known as Sweet Alice Hills, and took a well-worn cattle trail down Trail canyon

to its junction with Dark canyon. Trail canyon is used by the cowboys to take their herds out of Dark canyon for winter pasture. It is a drop so precipitous we did not even try to lead the horses. We let them pick their way down over the rocks for a 1500-foot descent, while we were doing the same. Horses accustomed to the trails in this country follow well. Most of the time the smart rider will let them have a free head.

As far as I am concerned Dark canyon is the daddy of all the gorges in this region. I spent a week in 1946 packing down this creek to its junction with the Colorado river (*Desert Magazine*, Dec. '46.) It is an immense chasm bordered by serrated ridges in cream and tan and red sandstone. When the late afternoon sun strikes the sidewalls it brings out a hundred variations of exquisite shading. Against these brilliant walls the deep green of the pine trees which grow on the ledges and in cavities which pock the precipice provides the contrast for a picture beyond description.

It was 7:45 when we reached a log cabin near the head of the canyon, and here we camped by a noisy little waterfall, with a cool spring close by.

Today we rode 25 miles.

Thirteenth Day

For breakfast this morning we had oatmeal with raisins and creamed chipped beef with hotcakes. Ross uses dried milk for everything except coffee, and canned milk for that. For cereals and cooking the dried milk was very satisfactory.

There was an easy ride ahead today, and we did not leave camp until 9:50. Then we rode down Dark canyon to its junction with Peavine canyon, and up Peavine nearly to the top of Elk ridge where the cattlemen had piped water from a good spring.

Nancy Musselman met us here with the jeep, loaded with provisions for our commissary and grain for the horses. For nine days we had been living out of the packs carried by the horses, but Ross Musselman is an old hand at this business and we suffered from no shortages.

We were again above 8000 feet—in the land of aspens and big pines, columbines and Mariposa tulips. The Forestry service maintains a ranger station at Kigalia on Elk ridge, and a good road leads down to Blanding. Deer are plentiful in this area. In fact nearly all of San Juan county is deer country. We saw literally hundreds of antlers along the trails—the relics of the annual shedding period.

Both Nancy and Don Thomas play

the guitar, and she brought the instruments with her. Val Leavitt sings all the western songs. Thanks to Nancy and the wranglers we had a campfire program of music that was one of the highlights of the trip.

The sky was overcast when we went to bed, and we trenched our sleeping bags for a shower—but it did not come.

Today we rode 14 miles.

Fourteenth Day

Fresh eggs and fresh bread for breakfast this morning.

We left camp at 9:00 a. m. and an hour later reached the saddle between the Bear's Ears where our trail connected with the road that goes from Blanding to the Natural Bridges National Monument.

The Bear's Ears are two well known landmarks which rise several hundred feet above Elk ridge. They are shaped like volcanic craters with one side of each cone broken away. Actually they are sandstone buttes formed by some strange freak of erosion. They are covered with aspen and spruce trees.

From the saddle between them we could look far out across the pinyon flat which lay between us and the Natural Bridges Monument, which was our goal that day.

Part way down the grade we stopped at Maverick spring and then until late afternoon jogged along the road which motorists take into the Monument. Riding a smooth road became a little monotonous after the exciting trails of previous days.

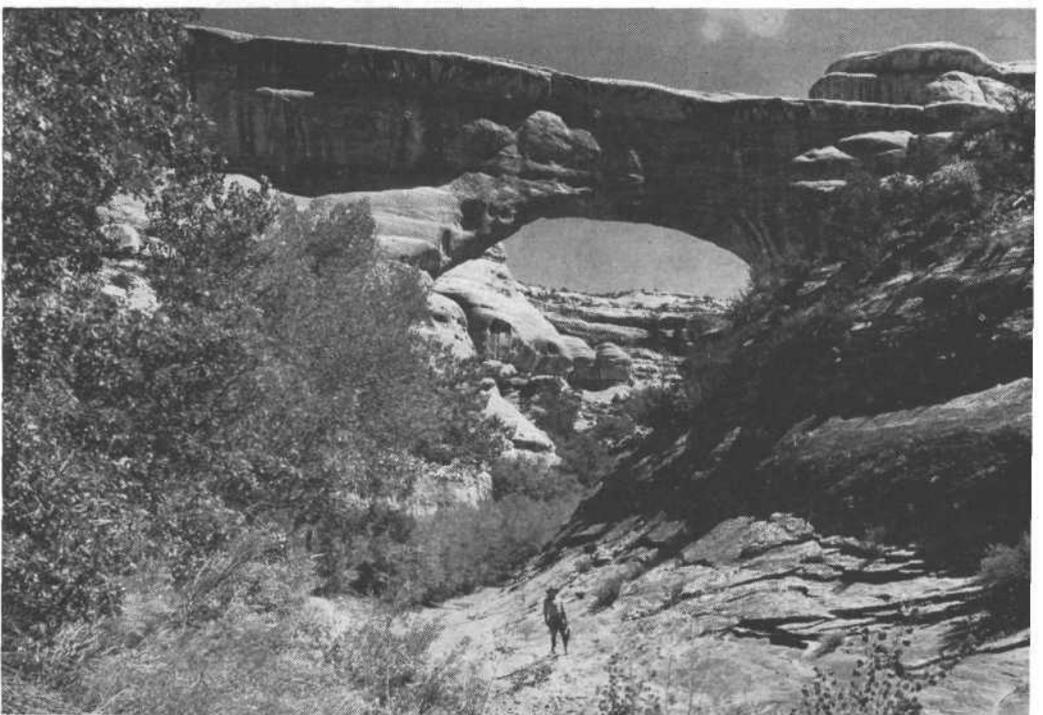
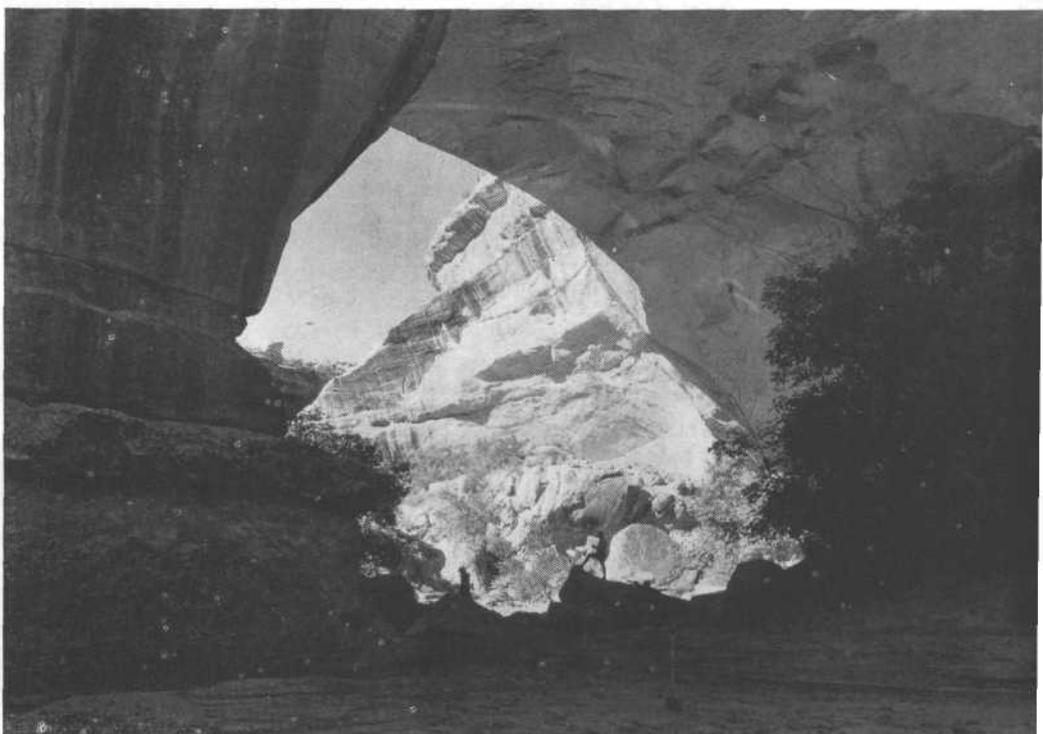
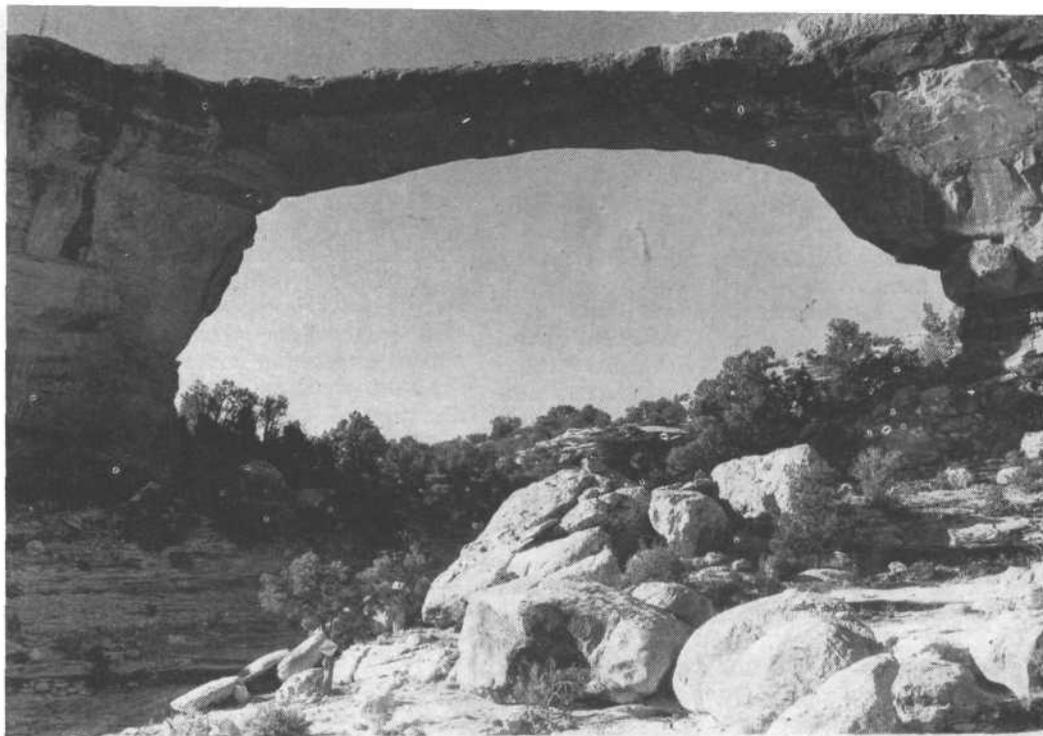
Mile after mile we rode along an almost level lane bordered by juniper and pinyon. We saw two Navajo hogans, used during the pinyon harvest when many of the Indians come north to gather nuts.

Late in the afternoon we reached the Monument headquarters where J. Wyley Redd, the custodian, and his wife live in a tent house and haul water from Maverick spring. Wyley has been custodian here for eight years. Al Scorup and his cowboy associates are credited with the original

Top—Owachomo bridge in the Natural Bridges National Monument in Southeastern Utah.

Center—Katchina bridge, under which the riders camped two nights.

Bottom—Sipapu bridge, reached only by a foot trail.



discovery of these bridges. Later through the efforts of Zeke Johnson, they were set aside as a National Monument.

Owachomo bridge, formerly called Edwin, is in Armstrong canyon opposite Monument headquarters. This bridge may be seen by motorists at the end of the road. Katchina bridge (formerly Caroline) is three miles away at the junction of Armstrong and White canyons, and may be reached only by foot trail. It is another three miles up White canyon to Sipapu bridge (formerly Augusta).

Mrs. Redd told us Wyley was out searching for some Indian ruins, and we met him later along the trail. She served us ice water from the kerosene-burning Serval, and we took the trail for Katchina bridge where we were to camp for the night.

It was a rugged three-mile ride down the canyon, and we arrived at our campsite on a sandbar beneath the massive arch of Katchina just at dusk. There were no springs here, but we found drinkable water in holes along the creekbed.

White canyon would delight the heart of a rockhound. There were fine specimens of jasper in many colors, and chunks of what appeared to be black petrified wood. Ross told us this wood came down from Woodenshoe mountain where there are logs of it on the slopes.

There were old Indian ruins under an overhang near the bridge and many grinding holes in the rocks.

Today we rode 24 miles.

Fifteenth Day

During the night the horses wandered far up the canyon, and it was nearly noon when Don had rounded them up for the day's ride.

At 1:30 we took the trail for Sip-

apu bridge. We arrived there 45 minutes later, and then continued up the canyon to cliff dwellings reached by a 50-foot ladder the park service has maintained for visitors. No effort has been made to restore these dwellings, but the stick-in-the-mud granaries far back in the cave were well-preserved and of interesting composition, differing from the usual mud and rock construction of the cliff people.

White canyon is good hunting grounds for botanists as well as rock collectors and photographers. I saw squaw tea (ephedra) as high as my head. Indian paint brush was the predominant flower, and I counted 43 flower stalks on one root system. The trees included the usual pinyon and juniper plus maple, cottonwood, oak and boxelder.

Today we rode eight miles.

Sixteenth Day

Pete Spang and I left camp at 6:30 to hike up the canyon ahead of the others to take some pictures of petroglyphs we had seen on an overhead ledge previously. At eight o'clock the others caught up with us and we arrived back at Monument headquarters at 8:40.

Today we merely back-tracked over the road that brought us in to the Natural Bridges, and arrived at our previous camp in Peavine canyon in mid-afternoon.

Today we rode 24 miles.

Seventeenth Day

It rained intermittently during the night but we were well waterproofed. After one has lived much of his life on the desert it is a novel and pleasant sensation to lie out on the ground in a snug bag and hear the rain pattering on the tarpaulin that covers you.

After breakfast we headed out along the road past Kigalia ranger station to-

ward a saddle at the head of Dark canyon known as The Notch.

Along the road we met Julian Thomas, forest ranger at this station. He told us they had been experimenting with aerial reseeding of the range. They had found the "pellet" method, seeding 1½ pounds to the acre, much less effective than the distribution from the air of 10 pounds of untreated seed. In places where cattle can be kept off the range for a period of two or three years, the aerial reseeding is bringing back a fine stand of grass and edible shrubs.

We passed over many sections of the range on this trip which obviously have been over-grazed. The main destruction caused by excessive feeding is not in the current loss of the grass, but in the destruction of flowers and seeds which would enable the range to reseed itself. Permanent damage is done by erosion which immediately starts when the grass dies. Our trail led along mile after mile where practically the only surviving plants were sage and tumbleweed. In the higher levels of Elk ridge snowberry replaced the usual sage.

I had seen the tiny plants of the Oregon grape, with leaves resembling mountain holly, many times along the trail, and finally discovered one with fruit. It grows a delicious looking purple berry—which is very very bitter.

In mid-afternoon we arrived at Gooseberry ranger station where we found a comfortable camp with a fine spring for ourselves, and good pasture for the horses.

Today we rode 22 miles.

Eighteenth Day

Gooseberry station was well named. Great patches of wild gooseberries grow here, and the fruit was ripe at this season. They are more palatable in pies than eaten raw, and we picked only a few of them.

Deer were grazing in the pasture when we awakened at five in the morning. The packers rounded up the horses and we were away at 8:30.

Our trail today was an endless succession of ups and downs. We were crossing the great canyon systems of San Juan county at right angles. One hour we would be following a trail among the pines at the top of a ridge, and the next we would be crossing a creek hundreds of feet below. I often walked on the downgrades, partly to make it easy on my horse, and partly for the exercise. I wore hiking shoes, rather than riding boots, for that purpose.

In mid-afternoon we rode across the

Invitation To Desert Visitors . . .

Palm Desert Art Gallery in the foyer of the Desert Magazine on Highway 111 between Indio and Palm Springs was opened for the season October 15.

The Gallery, exhibiting the work of 40 of the top-ranking painters of the desert scene, is open to visitors seven days a week from eight until five.

When visiting the Desert Magazine pueblo there is also the opportunity to browse in the book and crafts shop and inspect the publishing plant. We extend a cordial welcome to Desert's readers and their friends.

Desert Magazine Staff

Bayles ranch, where several hundred acres of grain were watered from a stream that comes down from the Abajo mountains. This was the second cultivated ranch we had seen in 18 days.

Near the ranch we passed thickets of choke-berries just ripening. It is luscious appearing fruit, but mostly seed, and not very appetizing. In the Abajo mountains we had seen wild strawberry and raspberry but they were not in fruit at this time.

On one of the ridges today we saw more Indian sites, and above the Bayles ranch was a great outcropping of chalcedony in many shades.

Just before dark we reached our night stop in the Red Bluff forestry camp on the side of Abajo mountain. The 4-H clubs of San Juan and Grants counties were having a camping field trip here, and 160 young people and their leaders were having a grand time. The noise of so many voices was in strange contrast with the stillness of the wilderness through which we had been riding. About the only sounds we had heard along the trail were the calls of the canyon wren and the pin-yon jay, the swish of the wind in the trees, and the occasional jingle jangle of the pans and buckets tied on top of Kewpie's pack. Kewpie was such a little mule she had to trot to keep up with the long legged horses, and we always knew when the pack train was approaching by the rhythmic rattle of Kewpie's load.

We camped tonight on the edge of a little meadow of wild iris, now in seed, and cooked our biscuits on dry oak wood. This was our last night in camp.

Today we rode 28 miles.

Nineteenth Day

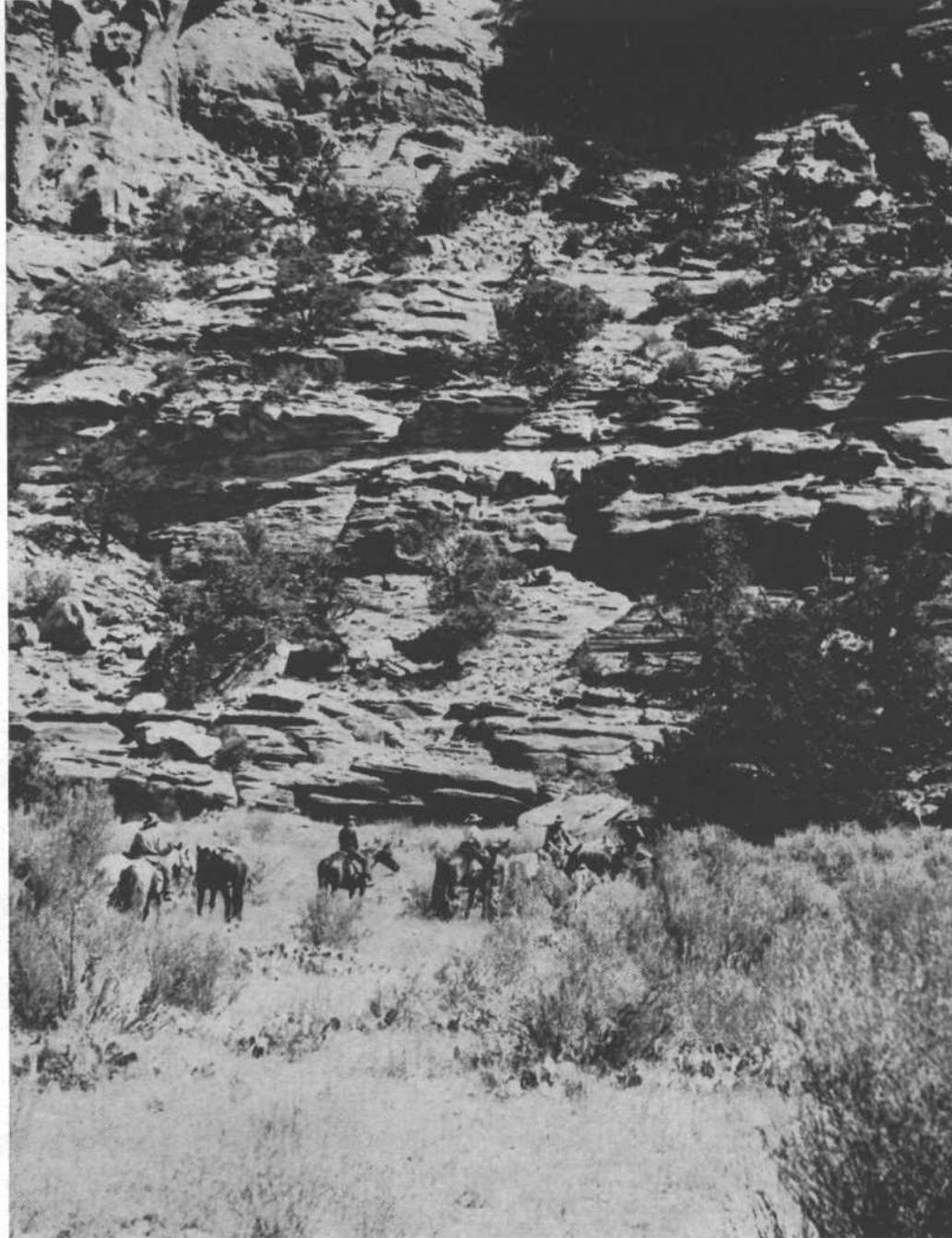
We were up at daybreak this morning, for we were rather glad after 18 days to be heading back to the land of milk shakes and hot baths.

We followed the Abajo mountain road two miles and then took off through a forest of aspen trees for the steep climb to Dickson pass, between Abajo peak and South peak.

From the summit we could look down again on the sage plain where Monticello stands. There were old mines near the summit—mines that never had produced much gold—and a good trail led down past them along South creek to the floor of the plateau below.

It was 18 miles to Monticello and there we completed our circuit, rode the last eight miles back to the ranch in cars that were waiting for us.

One of the members of the party



In the shadow of the overhang at the top of the picture is one of the many cliff dwellings seen on the 19-day trek.

expressed what I believe were the feelings of all of us: "I wouldn't do it again for a thousand dollars, and I wouldn't take ten thousand dollars for the experience."

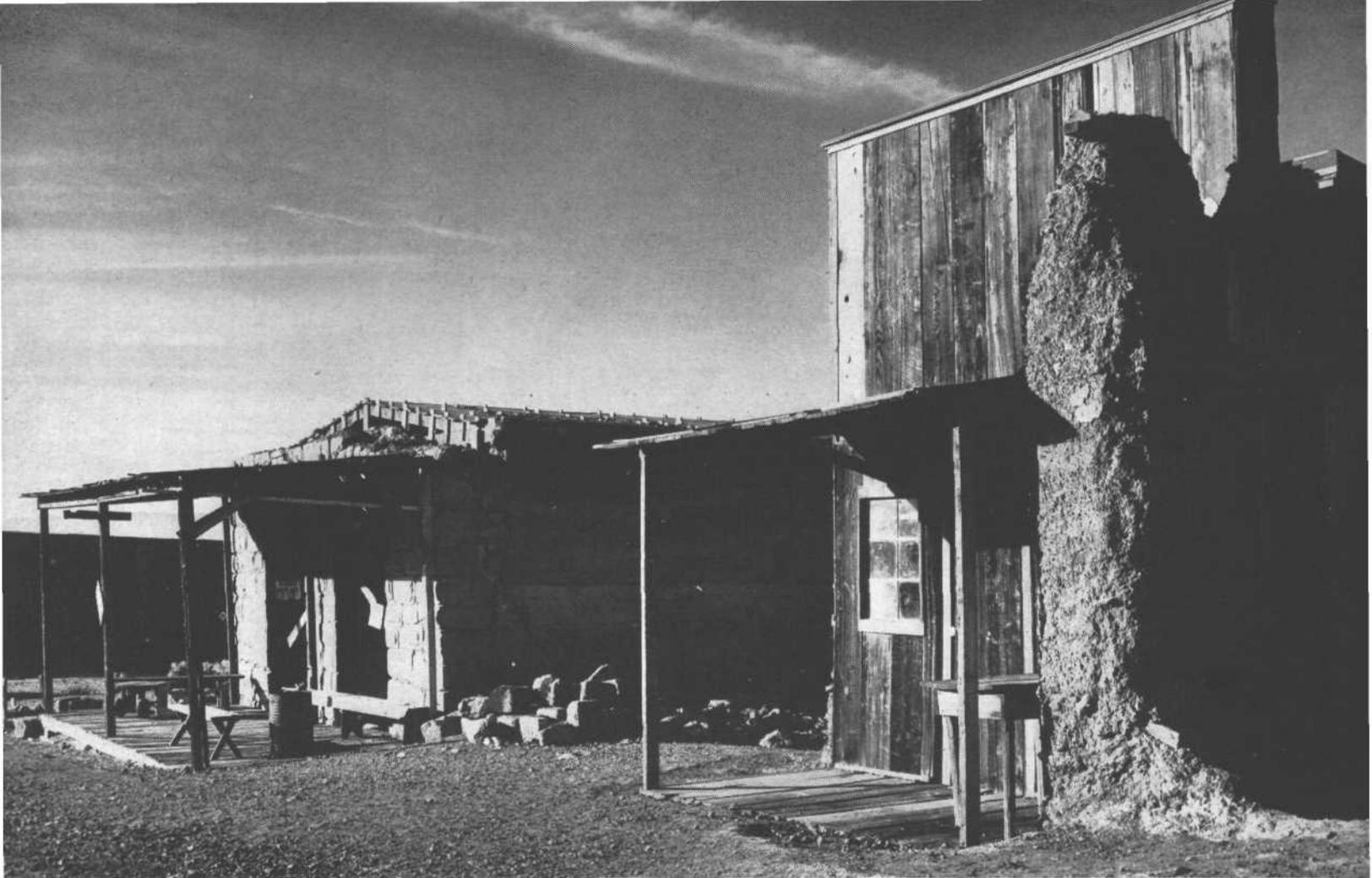
For it was rugged. It was especially hard for folks who are not accustomed to riding regularly. Ross Musselman is one of those who believe that our civilization is having a softening effect on the human species. His trips are planned to make the riders hard and fit.

We rode on two meals a day. Generally breakfast was served before seven in the morning, and on two occasions it was nine in the evening before dinner was ready. Each rider cared for his own horse, except that the women's mounts were saddled for them. All of us lost weight on the

trip—but that was good for most of us.

Ross told me that not all his trips are as strenuous as this one. This fall his headquarters will be moved to another ranch near Moab, Utah, and next season he plans eight or ten-day pack trips with shorter rides for those who do not fancy the gruelling 19-day schedule.

San Juan county is a gorgeous country. It is comparatively poor in mineral and agricultural resources. But no region in the United States is richer in the intangible values of beauty and natural history. Its limited economic resources and sparse population may become an asset as more and more Americans seek the relaxation to be found only in the great silent spaces of the desert wilderness.



Photograph of Calico's main street by Don Ollis.

CALL of the DESERT

By EILEEN L. ALDER
Azusa, California

Desert painted rainbow hues;
Poppy yellows, lupin blues,
Yucca's white against the sky.
Purple mountains reach on high.

Brilliant, twinkling stars at night
Vie with moon glow's cold, clear light.
Sagebrush dots a gold-brown hill.
Stand saguaros stately still.

Date palms toss aloft their heads.
Torrents carve broad river beds.
Breezes ripple dunes of sand
Formed by nature's magic hand.

Gifts the desert has for all.
Who sees beauty heeds her call.

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LET ME CALL HER MOTHER

By HARRIET MARKHAM GILL
Washougal, Washington

Let me call the desert mother,
And know her mystic ways.
Let me revel in her colors,
In reds, and browns and grays.

Let me know her every secret,
Know her moods of light and shade;
Let me linger in the vastness
Until my spirit is new-made.

Let me call the desert mother,
Let her clean winds sweep away —
All the dust my soul has gathered,
Then on the desert let me stay.

Calico

By MYRTLE M. PEPPER
Los Angeles, California

The sun of Calico beats down
On hills of varied reds and brown
On crumbling walls now in decay—
The homes of the men of yesterday.

Careless winds toss bits of sand
Across the now deserted land;
Over a strangely quiet town
That once knew fortune and renown.

One little narrow, dusty street,
Teeming with men and the static beat
Of horses hoofs and wagon wheels,
Womanly chatter and childish squeals.

Today heart-beats echo on canyon
walls,
Where dusk and moonlight softly
falls
Across the ravaged and wrinkled face
Of this historic mining place.

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AT THE MISSION

By MABEL LUCE YORK

The shriveled old potter turns his wheel
Upon the desert clay;
His bony old fingers form and seal
Vessels of yesterday:
Pots and kettles and flasks.

Some perfect, some broken, all in a heap.
"Is it not like life?" he asks,
"Some to throw out and some to keep,
We are pots and kettles and flasks."

WHISPERING WIND OF MEMORY

By MARY PERDEW
Santa Ana, California

Last night a little desert wind came
rustling by,
It carried haunting memories of its
earth and sky.
It whispered low of silence and
of space,
Of peace and healing in a quiet place.
It told of brilliant skies and vivid
bloom,
Of jagged peaks and canyons
where deep shadows loom,
The radiant glory of its stars and moon;
The soft night winds that sigh a
wistful tune.
With scenes both glad and sad,
the little wind was fraught,
And my heart lives again
the memories it brought.

Justice

By TANYA SOUTH

Give all you have, and ask for no
reward.
You will be paid, and amply,
by the Lord.
So just are Life's Decrees, so straight
a course
Is run from cause unto effect, that
force
Is never needed in repayment just.
We earn each crust!
And what we earn we get without
reserve,
As we deserve.



PICTURES OF THE MONTH . . .

Mojave . . .

First prize in Desert's September photograph contest was won by Jim Hervey of Palm Springs, California, with the above picture taken in the Joshua tree region of the Mojave desert. The picture was photographed with a Crown Graphic camera, $\frac{1}{2}$ second at f.22 at 3:00 p. m. with an "A" filter, 6-inch Ektar lens.

Abstract in Shadows . . .

John R. Hamilton of Los Angeles, California, was the winner of second place in the September contest with his dune picture taken in Death Valley. Photograph was made with a 4x5 Graphic, $\frac{1}{25}$ second at f.32 with Super XX film.



MINES AND MINING . . .

Rand District, California . . .

A veteran prospector whose gold, silver and platinum finds in the Mojave desert are said to have been worth millions, believes he has discovered a southern extension of the silver vein that made the California Rand mine the state's biggest silver producer.

He is P. J. "Pete" Osdick, and the new Osdick find is—for a change—on Pete's own property, located on the outskirts of the little desert community of Red Mountain. Osdick operated the pioneer stamp mill in the Rand district which long bore his name. Now he says he is convinced he has found the mother silver vein which was lost a mile north, believes there may be "a real live silver camp in the county again."—*Barstow Printer-Review*.

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Winnemucca, Nevada . . .

A rich gold ledge has been developed in a virgin section of the noted Alabama property of El Dorado Mines, according to Frank G. Smith, supervising engineer for the company. As development work advances, the vein is said to be showing consistent strength and value with assays varying from \$60 to \$70 a ton. Prospects are bright for a highly productive ore body, mine officials believe.—*Los Angeles Times*.

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Lovelock, Nevada . . .

Four Battle Mountain men who a few months ago leased the once great De Sota mine 12 miles south of Mill City report their venture will pay off. In a new section of the old producer rich silver ore has been found, some of the ore assayed up to 160 ounces silver per ton. Some old workings have been rehabilitated, equipment installed and early production is anticipated. The four men are W. S. Coulter, Marion Fisher, John Gish and C. McCay.—*Los Angeles Times*.

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Goldfield, Nevada . . .

Placer holdings discovered by accident in 1936 in the Sylvania mining district of Esmeralda county may be fully developed by the Dodge Construction company if there is a sufficient water supply. The company has taken a 10-year lease on extensive placer holdings of Joe Andre and Tex Rodgers, who discovered the gold bearing gravel in 1936 while exploring a high grade lead streak. The claims are known as the Gold Queen group. An advantage is that there is no overburden to be removed.

Coachella Valley, California . . .

Pegleg Smith's legendary lode still lures.

The lost source of the famed black gold nuggets, said to be somewhere in the desert between Santa Rosa mountains and the Gulf of Lower California, is once again the object of intensive and serious search, this time by two men who claim to be making a "scientific" hunt for the treasure.

Ray Hetherington, proprietor of the rock and book shop in the Ghost Town at Knott's Berry Farm, Buena Park, and an unnamed companion believe that at last they have the right information to find the horde of rich ore. But Hetherington says the famous lost mine has nothing to do with Pegleg Smith, whom he described as a wandering yarn spinner who crossed the Colorado desert years ago. The gold actually was found and kept secret by Indians, Hetherington claims.—*Indio Date Palm*.

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Goldfield, Nevada . . .

Three Californians have taken an option on the Rattlesnake mine, consisting of seven patented claims on southeastern slope of Gold mountain near Bonnie Clair, which was a good producer of gold ore prior to the first World War. It is credited with an output of more than a million dollars. Protracted litigation kept the mine idle for years, it was purchased two years ago by W. E. Patton. Hope is to put the mine back into large-scale operation. It has three stopes, all in ore.—*Goldfield News*.

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Monticello, Utah . . .

Utilizing a new process for extracting vanadium and uranium from carnotite ore, a converted and reconditioned mill has resumed operation in Monticello after being closed several years. The mill is expected to process 100 tons of ore per day. It is expected that operation of the mill—located in the center of the richest uranium district of the nation—will add impetus to the mining industry in this region.—*San Juan Record*.

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Winnemucca, Nevada . . .

Deep drilling of potential oil acreage in Newark valley, near Ely, was scheduled to follow delivery of a rotary rig to the Hunt and Frandsen ranch at north end of Newark valley. According to Joe McCarthy, president of McCarthy Gas and Oil, "the geology is right."—*Humboldt Star*.

Carson City, Nevada . . .

Specifically reversing a decision of the district court, the Nevada supreme court has ruled that mine tailings in Nevada are personal property and are not subject to location as part of a mining claim.

The ruling will have an important influence on mining operations in the state, as there are tailing ponds scattered over much of Nevada where mills operated many years ago. Mine tailings, the court ruled, are personal property and not part of the real estate. Hence, although ownership or control of the ground may change, prior owner of the tailings has the right to enter on the premises and remove the tailings.—*California Mining Journal*.

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Beatty, Nevada . . .

With moderation of weather in Death Valley, work on a broader scale is being resumed at the McCrea-Townsend lead-gold property four miles north of Townsend pass. The Gold Hill Dredging company of San Francisco has renewed its lease on the property. Located at an elevation of 5700 feet, the mine can be reached only by pack animals. A road to the mine is one of the first fall projects.—*Beatty Bulletin*.

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Quartzsite, Arizona . . .

The famous old John Ramsey mine near Quartzsite will be in operation again soon if plans of John Marley and associates are carried out. The men purchased the John Ramsey mine and also the Abe Lincoln mine near Constellation.—*Wickenburg Sun*.

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Esmeralda County, Nevada . . .

Diamond drilling at the Klondyke mining property in Esmeralda county was scheduled to start following incorporation of the operation under the name of the Gold King Mining company. The mine is owned by Walter Keilhofer, drilling is to be done by Gene Craft, Bishop, California.—*Goldfield News*.

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A fluorspar vein located in 1941 in the Berlin area of Nye county by Roy C. Ames, Ione, Nevada, is being opened up by Ames who reports he now has a showing of considerable size. Quality of the spar, he says, is excellent, he has already shipped some ore to Fallon and has additional tonnage available.

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A free market for gold would result in an over-night price increase to \$60 an ounce, in the opinion of Senator Pat McCarran of Nevada.

LETTERS . . .

About Ghost Towns . . .

Sullivan, Ohio

Desert:

I have read several Desert Magazines given me by a friend and when I read about the ghost towns with deserted buildings I wonder why someone doesn't arrange for rheumatic victims who cannot afford expensive quarters to live in these quarters at moderate rent?

C. M. JONES

The ghost towns you have read about in Desert Magazine generally are without water, electricity, sewerage or even accessible roads. Such buildings as remain seldom are in a state of repair to keep out rain and cold. Neither their location nor their state of repair would make them habitable for a person not in excellent health.—R.H.

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Cabin of an Old Prospector . . .

Azusa, California

Desert:

Having enjoyed Desert for many years I am asking its many readers to help me locate the homestead cabinsite of a pioneer relative, John Powers. All the information I have is that it was located near Victorville, California, and the only landmark was an "arrow of widely scattered rocks." The rocks were so widely spaced that only a desert rat or an amateur archeologist would note the design.

Perhaps it was not a regular homestead, but there was a cabin where Powers stopped occasionally while on prospecting trips. Any information will be appreciated, and should be sent to Box 108, Azusa.

PERRY G. POWERS

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Chemist's Report on Yucca . . .

Tustin, California

Desert:

The "Desert" article "Yucca Gun May Create an Industry" by Dorothy Pillsbury interested me. I'm inclined to believe that Miss Pillsbury collected her data from the wrong sources.

During the first World War, the demand for ships to transport war material necessitated the transfer of ships from the Pacific to the Atlantic. This transfer of shipping resulted in a cordage fibre shortage. At that time, several government agencies, in cooperation with the cordage industry, began a study of domestic fibre production.

Yucca fibre was thoroughly investigated. After World War I, the project was abandoned, and Yucca fibre was declared not suitable for fibre production for two reasons: (1) The cost of production was prohibitive, and (2) the fibre was not suitable for manufacture into cordage.

Several years before we entered World War II, the government realized that a war in the Pacific would create a disastrous shortage of the cordage fibres which were produced in the Philippines and the Dutch East Indies. As a safeguard, the government imported huge stockpiles of Abaca fibre. They also began an extensive study of possible substitutes for Abaca and Sisal. Several governmental agencies were involved, and the cordage industry cooperated. Many fibres were studied—among them, Yucca. The project with Yucca was eventually abandoned for two reasons: (1) The cost of production was prohibitive, and (2) the fibre was not suitable for manufacture into cordage. The most practical substitute found at that time was American hemp (*Canabis Americana*), and many tons were produced and consumed.

In spite of the voluminous reports, articles, papers, and opinions that were written covering the research on substitute fibres during the years 1936-1944, Yucca fibre enthusiasts still crop up. When you explain to the Yucca fibre advocate that the Yucca is not suitable cordage fibre because: (1) It is too short for long frame machinery, (2) it is brittle, (3) it lacks strength, and (4) it has a natural resistance to spinning, he immediately informs you that the Indians made rope of it. So what—the Indians didn't have to manufacture 50 million pounds of rope for a competitive market, and they didn't manufacture their rope by machinery.

If we should sometime be faced with a third World War, no doubt the government and the cordage industry will again investigate Yucca. Fortunately the picture is somewhat brighter because, in a very few years, new and better synthetic fibres will largely replace the need for imported fibre.

PHILIP H. SANTMYER

• • •

Indian Art Upside Down . . .

Lynnwood, Washington

Desert:

Your pictographs—lower photo on page 11 of the October issue—were very interesting indeed, especially if you will turn the picture upside down and view the faces from that angle. Try it.

MRS. LORING T. THOMPSON

Along Camino del Diablo . . .

Prineville, Oregon

Desert:

With reference to Harold Weight's article, "Gems on the Devil's Highway" in the September issue of your magazine:

I was stationed at Yuma, Arizona, from 1941 to 1944, in charge of the U. S. Fish and Wildlife Refuge in the Kofa and Cabeza Prieta mountains for desert bighorn mountain sheep, and in the Imperial refuge on the Colorado river for sheep and migratory waterfowl.

I have driven over the Devil's Highway many times and the "rock circle" at that time had one long row of rocks in the center pointing in a direct line to the location of Tinajas Altas tanks. So the figure of a man, mentioned by Mr. Weight must have been placed there at a later date, probably by soldiers.

During the winter of 1943-44 and the summer of 1944 my only way of patrolling was by airplane furnished by the army, since there was only one day a week when the soldiers were not having aerial gunnery practice over this area, and it was impossible to get in and out of the region by car in one day. Mountain sheep were very hard to see from the air, but water in the various natural tanks along *Camino del Diablo* could be seen quite readily.

GENO A. AMUNDSON

• • •

Long Beach, California

Desert:

Referring to the story of the Mexican family which perished of thirst along *Camino del Diablo*:

You will find in Eldredge's *Beginnings of San Francisco* on page 58 a picture of the stone circle—the same one photographed by Harold Weight for *Desert Magazine*—with the black butte in the background.

This picture was taken some time prior to 1912 and shows the rocks in the center arranged in a cross, with the longer section of the design pointing in an easterly direction.

A. E. WILKINSON

• • •

Method of Aging Wood . . .

Eau Claire, Wisconsin

Desert:

Regarding Mrs. Elizabeth White's query as to the method of securing "desert finish" on wood, the park ranger at Bandelier National Monument in New Mexico told me the formula they use to give wood a weathered appearance.

They apply successive coats of boiled linseed oil, white lead and lamp black, in the order named. Apply

with brush and wipe off with rag while the coating is still fresh. The result is the silver gray of aged wood. A coat of dull varnish may be applied to preserve the finish, otherwise it will have to be renewed each year.

Will you please tell me the correct pronunciation of Coachella? Is it koa-chee-ya?

LOIS L. WILLIAMS

While there is some difference of opinion as to the origin of the name Coachella, it is widely believed to have been a corruption of the Spanish word Conchilla, meaning little shells. The pronunciation generally used is ko-chel-a, with the accent on the second syllable.—R. H.

• • •

Santa Fe, New Mexico

Desert:

I just noted the inquiry in Desert Magazine two months ago regarding the method of aging wood furniture.

Different craftsmen use different formulas, but one of the most effective

when small wood items are involved is to take them outdoors, coat the article in gasoline and then touch a match to it. After the fire has burned a few seconds—long enough to char the wood slightly, smother out the flames and then work the wood over with a wire brush. Finish with white lead in linseed oil, brushing in enough to get the effect desired.

If the burning process is not used, then use a wire brush on the wood, preferably a soft wood, and then brush in successive coats of white lead and lamp black in oil to get the gray effect desired.

OCTAVIO MENDEZ

• • •

Wild Burro vs. Mountain Sheep . . .

Death Valley, California

Desert:

May I correct the information contained in your editorial in the last number of *Desert Magazine* regarding the wild burro.

In the first place, it is not the deer that the National Park Service is so concerned about as in those areas where deer prevail they seem to be pretty well able to take care of themselves against the burro. Furthermore, there is no danger of extinction, as far as we can see at present, of the Desert Mule Deer. He is a pretty tough customer and is able to take care of himself and in some areas as you know, it has been necessary to remove or reduce the deer population due to the policy in some states of reducing predators.

The rare animal whose life is in danger is the Desert Mountain Sheep. This animal does not like to even have burros around and will seldom drink at any spring where a burro has preceded him and furthermore, a large number of burros reduce the scarce forage on which the sheep lives. Very frequently too, a sheep is faced with starvation as he does not seem to be able to live off a diet of tin cans, loose papers and any trash that may be around, where the burro seems to thrive on this diet.

The public's excitement over the control of the burro seems to have centered on Death Valley for some reason. The decision by the National Park Service to attempt to hold the number of burros to a point where they would not threaten the sheep is far from being a new angle. Grand Canyon had to face it a number of years ago and carried on a very quiet campaign with the permission of all Humane Societies and Wildlife experts

and while I do not have the number of burros that were actually done away with, I know it ran into considerable figures. Lake Mead is faced with the same problem at this time.

In Death Valley, prior to the National Park Service, the burro problem was held down by the fox farms who purchased them in the thousands from burro hunters and the carcasses were used for fox farm food. When Death Valley was made a National Monument, we could not permit any outside influence to kill and remove any wildlife and it was astonishing the terrific multiplication of burros within a few years. Sheep were threatened with actual extinction. A census made about 1935 showed less than 300 sheep in the entire Death Valley Area. On the advice of eminent Wildlife technicians all over the country and permission of the Humane Society, an attempt was quietly made to hold the burro population to a reasonable figure. The results were quite astonishing as in the last census of sheep made just prior to the war, their number had increased to over 600. During the war, we were unable to obtain ammunition and short of ranger help and the burro again increased and the sheep decreased. Since the war, we have attempted merely to exterminate burros in such areas where they would compete with the sheep.

Last summer, a band of 15 or 20 burros roamed around Wildrose Canyon all summer and we made no attempt to bother them as long as they stayed down from the high country and the same situation prevails through the Monument.

This Service, the Writer and the Ranger Force are in sympathy with burros being around where the public can see this interesting animal and relic of the mining days and it is our duty and aim to reduce the burros only in such areas as are frequented by the sheep or where we observe, as in the spring, that they are moving from the low country to the high country.

Most of the opposition which took place and even reached important radio commentators was not due to activities by this Service, but from outsiders who came in unknown to us and captured truck loads of burros and were seen trucking the animals out of the area. This caused strong resentment through Trona, and Owens Valley and even to Lancaster Valley where the burros were seen on their way to slaughter and this Service had to take the blame as it was spread around generally that we were attempting to dispose of the burros.

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He Conquered the River--and Died in an Airplane

NORMAN NEVILLS, whose successful expeditions through Grand Canyon, the San Juan and Green river canyons have been reported in many issues of *Desert Magazine*, and his wife, Doris, met death September 19 when the plane in which they were taking off the desert runway near their home at Mexican Hat, Utah, crashed and burned.

Only witness of the tragedy was Sandra Nevills, 8-year-old daughter, who had walked to the landing field a mile from her home to see her parents take off. The little girl, who had flown a great deal with her father, said the motor seemed to sputter and she saw her "daddy turn back."

The plane disappeared over a low hill and crashed head-on into the sandstone wall of a 20-foot arroyo. The crash was followed by a fire which destroyed the plane.

Doris had received word the previous evening that an uncle had died in California, and she and Norman were flying to the nearest telephone at Blanding to send word they would go to California by plane to be present at the funeral.

When the plane crashed Sandra rushed back to tell her grandmother, Mrs. Mae Nevills, who owns the Mexican Hat lodge. Norman's mother immediately drove to Blanding to send a telephone message to Mr. and Mrs. Walter Walker, old friends at Grand Junction, Colorado. Preston Walker, who accompanied Norman as boatman on many river expeditions, and Sid McCullough, CAA official, immediately flew to the scene of the crash. They found only the burned skeleton of the plane. The impact of the collision had killed the Nevills instantly, they reported.

The bodies were taken to Grand Junction by Preston Walker, and funeral services held there Thursday, September 22. It was announced that Preston Walker would scatter the ashes over the river canyons where both Norman and Doris lived since their marriage in 1933.

Norman was 41 at the time of his death. He was born in Chico, California, in 1908 and came to Mexican Hat in the early '20s when his father was prospecting that area for oil. In 1933 he made his first boat trip down



Norman Nevills—for 16 years the foremost white water navigator of the continent.

the San Juan river. He liked the river and began designing boats which would navigate the worst rapids in the San Juan and Colorado. Rated as the world's foremost white water boatman at the time of his death, Norman is the only person to have made seven trips through the Grand Canyon from Lee's Ferry to Lake Mead.

Doris Nevills was born in Portland, Oregon, in March, 1914. She met Norman in Monticello and they were married in 1933. Since then she has made many river trips with her husband, and arranged commissaries and many of the other business details in connection with his river expeditions. They left two daughters. Joan, 11, is in school at Mt. Pleasant, Utah.

Norman had designed and built his own boats. The best testimony to their seaworthiness, and the skill with which they were handled by Norman and the boatmen he trained, is evidenced by the fact that during all his years on the river no boatman or passenger was lost.

Following his Canyon trip last summer, Norman announced that his flagship, the *Wen*, named for his father, William E. Nevills, would be retired from service and placed in the South Rim museum at Grand Canyon. Another boat, *Mexican Hat II*, has gone to Carlisle, Pennsylvania, and a third, the *Joan*, was scheduled to be placed in the Utah State museum.

In recent years Norman had taken a commercial pilot's training, and acquired his own plane which he kept at Mexican Hat.

During his years on the river Norman has piloted many scientific and photographic expeditions into the heart of the southern Utah canyon country, both by boat and by plane. Having conquered the worst rapids in North

America he has often remarked that he would like to try the treacherous Brahmaputra cascades in India, and had interested some of his friends in plans for such an expedition.

In his long career as a boatman in canyon waters, Norman became intimately acquainted with the moods of the river. He knew the power of waves that could dash a boat to splinters on the rocks, the treachery of the eddies and submerged boulders, and the dangers that lurked in whirlpools.

On shore he was daring and sometimes even reckless in his quest for adventure. But on the river, when there were rapids ahead and he had the responsibility for passengers and boats, he became a cautious, conservative navigator.

He knew that one of the greatest dangers on the river lay in over-confidence on the part of the boatmen, and he never relaxed, nor did he permit his boatmen to let down. Every rapid was a new and fearsome obstacle that must be overcome by careful strategy and skilled operation.

While Nevills did not originate the idea of running boats through the rapids stern first, he early learned the advantages of this method of navigation, and perfected the stern-first technique. He carried the idea a step further by coaching his boatmen day after day: "Always face your danger." This simple rule, observed under every condition, is a clue to the amazing success with which he rode the worst rapids.

Norman and Doris Nevills are gone, and the Southwest has lost two stalwart trail-blazers, but they have left behind a worthy tradition for the men and women of the canyon rivers who will come after them.

Hard Rock Shorty of Death Valley



"How do we keep cool out here in the summertime?"

Hard Rock Shorty fumbled with his pipe as he repeated the question asked by one of the winter tourists who had stopped to buy supplies at the Inferno store.

"Well, it ain't no problem these days when yuh can make ice with gas hauled here in steel bottles, and hang them excelsior boxes on the winders. But it wan't always thataway. In the ol' days Pisgah Bill nearly blowed himself to kingdom come with a contraction he rigged up to keep him cool.

"One day Bill discovered a spring up in the hills flowin' ammonia. Bill knew enough about engineerin' to realize that if he could get that ammonia water piped down to his cabin it could be used fer coolin' purposes. But pipe cost too much money so Bill finally built a little cabin by the spring.

"He got the thing workin'

pretty well, and Bill's cabin wuz the coolest place in Death Valley. He was mighty proud of his invention.

"That was the year Bill tried growin' popcorn in the little meadow below the spring over on Eight Ball crick. Raised a good crop o' popcorn, but one day it turned hot and th' corn began poppin' right off the ears. Bill heard the noise an' got us all over there helpin' him harvest the corn before it all popped away.

"But the stuff kept on poppin' while we wuz pickin' the ears. Then Bill got another idea. 'We'll take 'er down to the cabin, boys,' he yelled, 'and cool 'er off.'

"Well, by evenin' we had the cabin half full o' popcorn. It quit poppin' as soon as we got it in the door.

"Worked all right fer a day or two, and Bill was waitin' till the weather cooled so he could haul the corn out to market. But one day the temperature went up to 144 degrees, and jes when it was the hottest a cloudburst came roarin' down the wash and buried that ammonia spring and cut off the supply to Bill's cabin. Inside an hour the room got so hot the corn started poppin' again—and it exploded so fast it blew Bill through the roof and if the ground there hadn't been padded with freshly popped corn Bill'd probably been killed when he landed."

THE *Desert* MAGAZINE CLOSE-UPS

While Pat and George Sturtevant have their by-line in Desert Magazine this month for the first time, as the authors of the story about the new gateway road to Death Valley, both of them are journalists of several years' experience.

Pat studied journalism in Los Angeles City college and at the University of Southern California. Later she did publicity work for the Red Cross, edited a community newspaper in Los Angeles and was associated with one of the advertising agencies. She has written for national magazines.

George is the editor of a desert newspaper—the Argonaut at Trona, California. He has been a newspaperman for 17 years, has published several short stories. His hobby is snakes and birds.

• • •

Lelande Quick, editor of Desert's lapidary department, took up gem cutting and polishing originally as a hobby—and eventually it became his profession. He edits and publishes the Lapidary Journal, and between editions finds time to lecture on the subject. As evidence of his high standing in lapidary craft, during September and October he spoke before the American Museum of Natural History in New York, the National Museum in Washington, the Case Institute in Cleveland, the Cranbrook Institute in Detroit and the Academy of Natural Sciences in Chicago.

• • •

Jay Ellis Ransom, who has written two articles for Desert Magazine readers in recent months on the discovery of uranium ores, will have another story on the actual mining of carnotite ore in an early issue.

• • •

Jim Hervey, winner of Desert's photo contest this month, is publicity chairman for the chamber of commerce at Palm Springs, California. "Believe it or not," he wrote the photo editor, "after seven years of taking pictures this is the first time one of my shots has been awarded a prize in a contest."

• • •

Tonopah, Nevada . . .

If Nevada continues to record discoveries of uranium ore, the Atomic Energy Commission will doubtless establish a buying agency or stockpile in the state, according to Senator Pat McCarran of Nevada.



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HERE AND THERE . . . on the Desert

ARIZONA

Petrified Forest Populated . . .

HOLBROOK—That the Petrified Forest National Monument, now extremely arid, once supported a large population of agricultural people, is the conclusion of Fred Wendorf of Harvard, director of an archeological expedition in the Monument during the past summer. The sites of many ancient houses were excavated on the Flattops, highest and driest part of the area. They are believed to have been built about 1500 years ago.—*Gallup Independent*.

Buffalo Range Dispute Unsettled . . .

JACOB LAKE—Since passage of the Taylor grazing act of 1934, a dispute has been raging over the 44,000-acre Houserock Valley buffalo range, a dispute which involves sportsmen, stockmen and state and federal agencies. Sportsmen have agreed to a reduction of the buffalo tract, but would not accept the 16,000 acres offered, claiming it was the poorest land and would not support the buffalo population. The conflict is a result of the fact that stockmen have been issued permits to run cattle on the land, originally set aside by an executive order of President Hoover.—*Coconino Sun*.

YUMA—Right in town, at the corner of Eighth street and Avenue B, a bobcat was killed by a car recently in this Arizona city. It is unusual for wildcats to venture into populated areas, food must have been scarce and the cat was probably on the prowl for chickens.—*Yuma Daily Sun*.

An Apache Indian, native of San Carlos, has been ordained a minister of the Independent church. He is Walker Tonto, pastor of the San Carlos church. After graduation from theological school he founded a church in 1942 and with the aid of Apache converts built a tufa stone building. He organized the church and built the meeting house without backing of any denomination or mission board.—*Arizona Record*.

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Visits Scene of Family Feud . . .

TOMBSTONE—A sister-in-law of the Clanton men who were killed on October 22, 1882, in the famous Earp-Clanton gun battle at the OK corral, has finally returned to Tombstone for a visit. She is Mrs. Elmer Clanton, who had refused for years to visit Tombstone because of the resentment she felt over the Clanton deaths at the hands of the Earps and Doc Holliday. The Clanton side of the gun fight was told in the book "Gunsmoke", by Sarah Grace Bakarich.—*Tombstone Epitaph*.

Further Control of River . . .

YUMA—To further control the obstreperous Colorado river, a stream which man has been trying to conquer for the past century, the International Boundary commission of the United States and Mexico is planning two new projects. First move will be to dredge and straighten the river channel from Morelos dam — eight miles below Yuma—to the Gulf of Lower California, to keep the stream from overflowing its banks onto cultivated lands in times of flood. Second project is to increase by three or four feet the height of the 40 miles of levees protecting the Yuma irrigated area from Gila river floods.—*Yuma Daily Sun*.

Arizona Cotton Crop Large . . .

PHOENIX—The biggest cotton crop in Arizona's history was harvested this year, according to E. S. McSweeney, executive secretary of the Arizona Cooperative Cotton Growers association. Gross value to farmers was expected to reach \$70,000,000, of which about \$16,000,000 would go to pickers. Total acreage in cotton was about 377,000, compared to 282,000 acres last year.—*San Pedro Valley News*.

Guy E. Hazen, Kingman paleontologist who is also an enthusiastic rockhound, visited this summer at the White Cliff ranch of Moulton B. Smith in Verde Valley. Hazen is the man who discovered a phytosaur near St. Johns. The phytosaur, a crocodile-like reptile which lived in the triassic period some 150,000,000 years ago, was presented to the National Museum at Washington, D. C.

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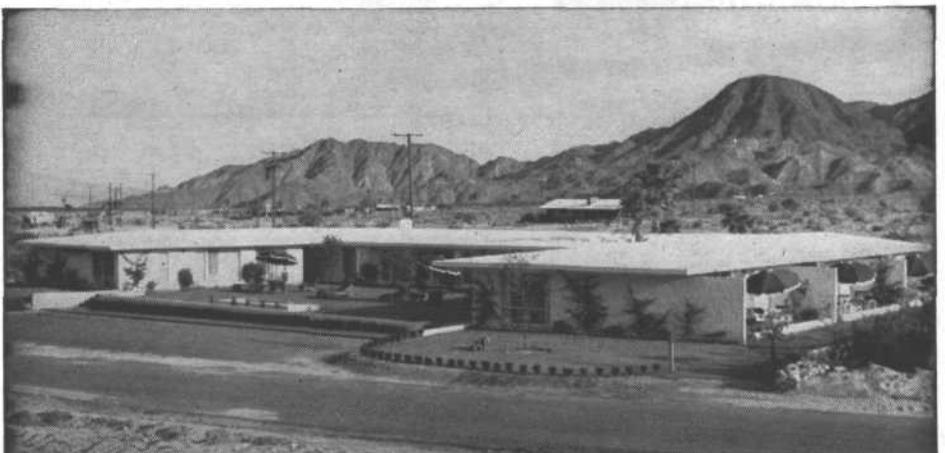


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THE *Desert* MAGAZINE
PALM DESERT, CALIFORNIA

Indians to Share Profits . . .

FLAGSTAFF—Will Rogers Jr., Hollywood, California, has taken a long-term lease on Katchina lodge, only privately-owned property on south rim of the Grand Canyon, and says he plans to convert the historic lodge into a business concession for the sale of Indian-made jewelry on a profit-sharing basis. "Everybody has made money on Indian jewelry except the Indians who made it," explains the son of the famous part-Indian humorist. "At Grand Canyon, under a profit-sharing arrangement, I'm going to see if this trend cannot be reversed."

—Gallup Independent.

COLOR SLIDES—Travel, Nature, Geology, etc. Free list (with sample 30c, three for dollar). Kelly D. Choda, Box 5, Los Alamos, New Mexico.

20 OLD WESTERN outlaw photos, \$1.00. 20 different Old West, Pioneer, etc. photos, \$1.00. 10 different battle of Wounded Knee 50c. 5 different Lincoln 25c. Lists 5c. Vernon Lemley Store, 302 Dallas Ave., Mena, Arkansas.

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CALIFORNIA

Indians on Irrigated Land . . .

BLYTHE—Settlement of 2000 Indian families on irrigated lands in the rapidly developing Colorado River Indian reservation is the goal of a colonization plan which calls for 200 new families to be moved each year from their desert homes to the Parker valley project. Applicants are screened on their home reservation before they come to Parker, headquarters for the Indian service.

There are now 24 Hopi and 22 Navajo families on the reservation. They are on southern section of the area, the Mojaves and Chemehuevis are at north end of Parker valley. A primary highway through the reservation is expected to be built as soon as funds are available. It will connect with U. S. Highway 60-70 six miles east of Blythe.—*Palo Verde Times*.

• • •

Palm Springs Museum Opens . . .

PALM SPRINGS—Doors of the Palm Springs museum were opened for the 1949-50 season October 15. Lloyd Mason Smith is director and Agnes Andrews is secretary. The institution annually attracts thousands of visitors, is famed as a desert museum.—*The Desert Sun*.

Lake Re-Creation Proposed . . .

BARSTOW—C. B. McCoy, long-time desert resident, would like to see prehistoric Lake Mojave be made again into a lake. An earth dam in the narrows of Afton canyon would impound waters of the Mojave river, creating a lake several miles long, McCoy claims. Water now flowing in the Mojave river wastes itself in Soda lake. The proposed dam would also impound flood waters, it is argued, preventing flood damage. In prehistoric times Lake Mojave covered most of the desert area near here, the shore line may be traced on adjoining hills. At some period the river broke through, creating scenic Afton canyon. If the prehistoric barrier were replaced, Lake Mojave would again exist, according to McCoy. He has had the idea for more than 20 years.—*Barstow Printer-Review*.

• • •

L. G. Goar, the man who developed Punjab flaxseed which has been a major factor in the agricultural economy of irrigated regions of the Southwest desert, has joined Imperial Valley's Southwest Flaxseed association as a consulting agronomist. He was for years superintendent of the University of California experiment station in Imperial Valley.—*Imperial Valley Weekly*.

Ducks Gather on Salton Sea . . .

INDIO—With the annual southern migration of wild ducks well underway along the Pacific flyway, thousands of ducks of various species have been noted at the Salton Sea Wildlife refuge. Pausing in their southward flight at Salton sea, the ducks are finding that the federal wild life service has provided well for them in the way of feed, planting several hundred acres of barley.—*Indio Date Palm*.

Rabbits Now Legal Game . . .

MOJAVE—Rabbits of all species may now be legally shot in the southern California desert counties, according to the state fish and game commission. The open season on brush, cottontail and jackrabbits extends to December. Bag and possession limit is eight brush or cottontail per day, there is no limit on jackrabbits.—*Mojave Desert News*.

A 25-million-pound date crop that is expected to return about \$1,500,000 to growers is being harvested in the Coachella valley, picking and packing will continue until the first of the year. Dates are all hand-picked and graded by hand. Growers this season can depend on a guaranteed price of 8 cents per pound as result of a stabilization plan worked out by the Date Growers Committee.—*The Desert Sun*.



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Right to Sue Vetoed . . .

NEEDLES—After both houses of congress had passed legislation which would permit the City of Needles to sue the federal government for flood water damages caused by construction of Hoover and Parker dams, President Truman halted further action when he vetoed the measure. Introduced by Congressman Harry Sheppard, the bill would have enabled the city to file suit in U. S. district court.

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New Desert County Proposed . . .

BLYTHE—Harry Oliver, self-styled Desert Rat, publisher of the Desert Rat Scrapbook and self-elected leader of a modern secessionist movement, doesn't give up easily. His one-man campaign for formation of a new desert county—which would involve secession from Riverside county—is beginning to find a foothold in the minds of some responsible civic leaders who believe the remote desert areas of Riverside county do not receive proper consideration from the more populous areas on the coastal side of the mountains. —*Palo Verde Valley Times.*

NEVADA

New Line of Beef Cattle . . .

TONOPAH—In an attempt to establish a new and superior line of Hereford cattle to improve Nevada's range beef stock, the University of Nevada is launching an experiment it hopes will develop an animal which will make more rapid and uniform weight gains under range conditions. Work on the project will be carried on in three parts of the state; one a breeding laboratory, the second a performance testing laboratory, the third a beef finishing laboratory. —*Tonopah Times-Bonanza.*

Waterfowl Area Developed . . .

FALLON—"One of the finest waterfowl areas in the West," is the way Tom Horn, refuge manager for the U. S. fish and wildlife service, describes the Stillwater Wildlife Management area near Fallon.

The area is a 20,000-acre development being worked jointly by the state fish and game commission and the U. S. service. There is plenty of feed, with proper management the area will be "one of the best producing and best hunting areas in the West," Horn believes.

An advisory committee of local residents has been named to consult on project policies. —*Fallon Standard.*

Tribal Leaders Make Decision . . .

ELKO—Indian tribal council leaders from four western states have returned to their reservations after deciding to remain under federal control—at least for the present. Following their gathering in Elko, they told Indian Service officials they will discuss with their people the merits of a long-range government program which may eventually remove the Indians from their present status as government wards. Financial aid and supervision would also be removed. —*Battle Mountain Scout.*

Hard Winter Predicted . . .

WINNEMUCCA—Western stockmen are being warned that last winter's paralyzing blizzards may be repeated in some parts of the range and arid regions this winter. Loss of cattle, calves, sheep and lambs in the blizzards was high during the months of January and February, 1949. Several human lives also were lost. Indians on the Navajo reservation underwent extreme hardships. —*Humboldt Star.*

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Trees on Nevada Farms . . .

WINNEMUCCA—Farmers and ranchers of Nevada this past spring planted nearly 25,000 forest trees for woodlots, windbreaks and shelter belts, obtaining the trees through the University of Nevada agricultural extension service. The trees were raised in Utah under the federal farm forestry act. The program was established in 1933.—*Humboldt Star*.

Old Rhyolite Townsite . . .

BEATTY—Steps to reclassify the old historic Rhyolite townsite, so that small land tracts can be filed on, have been taken by the United States bureau of land management. Reclassification by the government is creating a conflict over title to the famous Rhyolite bottle house built in the early days of the camp's history and constructed of 50,000 bottles.—*Beatty Bulletin*.

A total of 1785 predatory animals were killed in Nevada during the last fiscal year, federal figures show. Of the total 1410 were coyotes, 370 bobcats and five mountain lions. Predators killed by ranchers and not confirmed are not included in the federal figure.—*Inyo Independent*.

To insure clean kills on game, the Nevada legislature has cracked down on big game hunters by passage of a law requiring that all rifles used in big game hunting be capable of delivering 1000 foot-pounds of energy at 100 yards. Ruled out are small rifles and large caliber weapons of low velocity.—*Inyo Independent*.

A change in the name of Caliente, Nevada, to Caliente Springs is under consideration by the town's chamber of commerce. A petition is being circulated, must be signed by 60 percent of the 429 registered voters, then goes to the city council for action.

Latest word from Carson City indicates that there is a possibility that the road from Sarcobatus to Scotty's castle in Grapevine canyon may be constructed in 1950.

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NEW MEXICO

Navajos Denied Schooling . . .

GALLUP—Of more than 24,000 children of school age on the 3-state Navajo reservation, less than one-third—or only about 7500—can possibly find a place in available schools, according to the official Franciscan-Navajo missions' monthly, *The Padre's Trail*. An editorial in September issue of the publication charges that the essentials that "make for the American way of life are today denied two out of every three Navajo children."

The Navajo will never be able to take his rightful place among his fellow Americans without proper education, and the Indians are hungry for education, the magazine declares.—*Gallup Independent*.

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It's Tedious Work . . .

ALBUQUERQUE—Graduate students and Dr. Stuart A. Northrop, head of the geology department at University of New Mexico, have more than a year of tedious work ahead of them as they attempt to remove without damage the delicate bones of an ancient dinosaur from a one-ton block of rock.

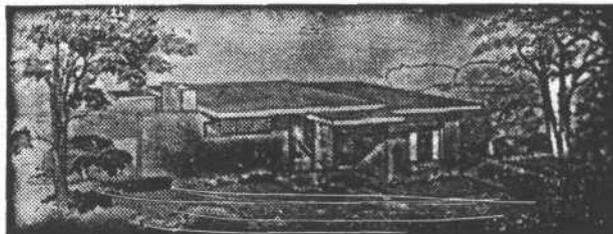
The fossil remains are one of the finds made by paleontologists of the American Museum of Natural History on Arthur Newton Pack's Ghost ranch near Abiquiu, New Mexico. The bones are embedded in 200-million-year-old rock. All but two of the huge blocks carved out were trucked to New York. The University of New Mexico and the University of Arizona each got one of the two remaining ton blocks.

Although vicious, the dinosaur was only about six feet long, had kangaroo-like hind legs. Tools used in removing the bones are delicate needles, camel's hair brushes and precision dental tools.—*Gallup Independent*.

New Mexico growers have been informed that the Commodity Credit Corporation will support the price of the 1949 cottonseed crop with loans at the rate of \$49.50 a ton on clean, safely-stored seed. This is at 90 percent of the August 1 parity price of \$55 a ton.—*Las Cruces Citizen*.

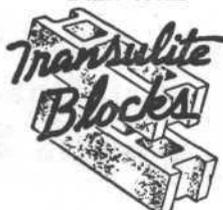
Famed as an Indian artist and one of the first to take up water colors, Tonita Pena died in mid-September in the pueblo of Cochiti. She was the mother of Joe Herrera, one of the best known of the younger Indian artists.—*El Crepusculo*.

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More Nurses for Navajos . . .

GALLUP—The Navajo service now has 10 nurses in the field working on Navajo health problems, a year ago there were only two, according to Dr. H. W. Kassel, head of the health service. Pre-natal and infant care is an important phase of the field work, helps toward better vision and hearing. Navajo response to training in cleanliness and child care is limited "only by economic conditions and lack of water."—*Gallup Independent*.

Valuable Historic Papers . . .

ALBUQUERQUE—A trunkful of letters, newspapers and account books belonging to a Civil War Indian agent who dealt with the Apaches in New Mexico has been donated to the University of New Mexico library. The gift was made by Mrs. John M. Steck, Winchester, Virginia, daughter-in-law of Indian Agent Michael Steck. A pipe smoked by Steck and famed Apache Chieftain Cochise is included in the collection. The documents give a record of war, Indian uprisings, injustices of the white man, and reveal many incidents of the turbulent times of the 1800's.—*Alamogordo News*.

Park Service Gets Ruins . . .

WASHINGTON — The National Park Service has acquired additional prehistoric ruins by adding to the federally-owned lands in Chaco Canyon National Monument. The University of New Mexico traded five sections of state school land containing nearly half the pueblos in the Monument for 5635 acres of federal land elsewhere. "Although this portion of Chaco canyon is an archeologist's paradise," explained Park Service Director Newton B. Drury, "more than half of its major ruins were in non-federal ownership until the university agreed to the exchange." The university retains perpetual preferential rights to continue scientific research in the ruins. Important ruins acquired by the federal government include: 1—Half of the large Penasco Blanco. The remaining area of this ruin is Indian-owned. 2—Casa Chiquita and Kin Kletso (yellow house), medium-sized house ruins. 3—Restored ceremonial room, Casa Rinconado. 4—Hunco Pavie and Una Vida, large pueblos, a small part of Chetro Kettle and several small pueblos.—*Gallup Independent*.

ALAMOGORDO—Three mountain lions in three weeks was the record established by George Hightower, district game warden and trapper for the New Mexico state game department, in an area near the Sacramento river as summer came to its end. One lion, a large male, was treed by hounds and

shot. The other two, both females, were caught in traps.—*Alamogordo News*.

SANTA FE—An agreement between the Apache Tribal council, the Indian Service and the Fish and Wildlife Service for administration of waterfowl management on the Jicarilla Apache reservation has been reached. Lakes in the region are said to be important duck nesting areas of the Southwest.—*Gallup Independent*.

Lovington, New Mexico, county seat of Lea county, now has two blocks of paved streets—the first paving in the city aside from the two state highways that run through Lovington. A lumber company set the pace for the city council by paving two blocks in a housing addition.

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UTAH

Shoot Cataract Canyon Rapids . . .

MOAB—Three young men, one of them John Lindberg, son of Col. Charles A. Lindberg, successfully shot the rapids of Cataract canyon in a rubber boat. Their trip started from Moab bridge, first part of the jaunt was a leisurely journey down the Colorado river until they came to the rapids of Cataract canyon. Others in the party were Ken Ross, Mesa Verde, Colorado, formerly chief ranger at the National Park, and Bill Dickinson, Santa Barbara, California. —*Times Independent.*

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of The Desert Magazine published monthly at Palm Desert, California, for October, 1949.

1. The names and addresses of the publisher, editor, managing editor, and business manager are: Publisher, Desert Press, Inc., Palm Desert, California; Editor, Randall Henderson, Palm Desert, California; Managing editor, Al Haworth, Palm Desert, California; Business Manager, Bess Stacy, Palm Desert, California.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.) Desert Press, Inc., Palm Desert, California; Randall Henderson, Bess Stacy, Al Haworth, Cliff Henderson, Lena Clements, Cyria Henderson, Nina Paul Shumway, all of Palm Desert, Calif.; Evonne Riddell and Vera Henderson of Los Angeles, Calif.; Phil Henderson of Pasadena, Calif.; Lucile Weight of San Diego, Calif.

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RANDALL HENDERSON, Editor

Sworn to and subscribed before me this 14th day of September, 1949.

WILLIAM L. MYERS
(My commission expires
Oct. 27, 1951)

How to Kill Black Widow . . .

SALT LAKE CITY—A professor of entomology at the University of Utah has come up with this advice on the problem of black widow spiders, found over most of the southwest desert. His advice: kill them. Best method, he says, is to swat them by hand, but if this isn't practical, use some 5% D D T and flame-thrower tactics. Cocoons are more easily destroyed by hand.

Another pointer—don't worry, black widows won't jump out and bother anyone unless they are disturbed.—*Salt Lake Tribune.*

History of Garfield County . . .

PANGUITCH—Press runs have started on a book called *Garfield County History* which is being printed and published in the plant of the Garfield County News, and the book is expected to be ready for distribution by Christmas. Profusely illustrated with early-day pictures, the history is to contain about 400 pages.—*Garfield County News.*

Bryce Canyon Anniversary . . .

Utah's youngest National Park, Bryce Canyon, in September celebrated its 21st anniversary with a birthday

GOLDEN MESA DUDE RANCH



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Desert

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Palm Desert, California

DESERT QUIZ ANSWERS

(Questions are on page 12)

- 1—Flood waters from the Colorado river.
- 2—California.
- 3—Apaches.
- 4—Yucca.
- 5—Mormon Battalion.
- 6—Winnemucca.
- 7—Arts and crafts colony.
- 8—Hohokam.
- 9—Newton Drury.
- 10—San Francisco peaks.
- 11—Lost mines of the Southwest.
- 12—New Mexico.
- 13—Copper.
- 14—Grand Canyon.
- 15—Hopi.
- 16—Southern Arizona.
- 17—Phoenix.
- 18—Books.
- 19—Canyon de Chelly National Monument.
- 20—Yellow.

cake and appropriate ceremonies. Park Superintendent and Mrs. Charles J. Smith planned the party. Bryce became a National Monument in 1923 by presidential proclamation, in 1928 the name was changed from Utah National Monument to Bryce Canyon National Park.—*Iron County Record.*

Monument Boundaries Studied . . .

VERNAL—Because Dinosaur National Monument is bounded by grazing districts, its boundaries are being studied by officials of the National Parks service and the bureau of land management. Jess Lombard is director of Dinosaur Monument. Cooperation of livestock men in the area has come in for commendation by federal officials, who point out that proper use of federal lands can be brought about only through close cooperation.—*Vernal Express.*

Utah's rate of population increase will be third in the nation when next national census is taken, the Salt Lake City chamber of commerce predicts. The other two states with greatest population increase are Nevada and Arizona. Utah's population now is estimated at 670,000 persons, compared with 550,310 in the official 1940 census.

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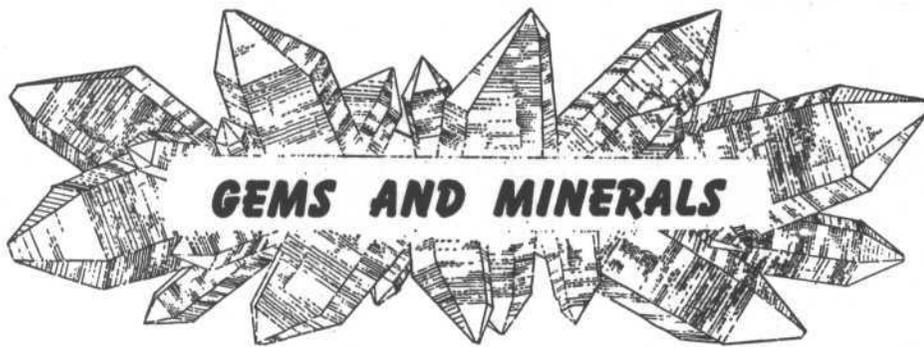
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GEMS AND MINERALS

ROCKHOUND DISCOVERS HALF-CARAT DIAMOND

Found in the tailrace of the old Cherokee diggings near Paradise, California, a half-carat diamond was brought recently to Jeweler John Woodworth for examination.

Mrs. Florence De Long was the thrilled finder, and she had two smaller diamonds and an ounce of placer gold as further reward for working the diggings. Cherokee has long been famous for diamonds as well as gold, is said to be the only producing diamond field in California.

Mrs. De Long, her husband Sam and Jeweler Woodworth are all enthusiastic members of the Cherokee Rock and Mineral society. Their postoffice address is Oroville, California.

SOCIETY STARTS CLUB YEAR WITH NEW OFFICERS

The 1949-50 club year of the Mineralogical Society of Southern California began officially with the September 12 meeting in lecture room of the Pasadena public library. Walter Bilicke of Engineers Syndicate spoke on "The Modern '49er."

New society officers are:

A. G. Ostergard, president; Don George, vice president; Mrs. Victor J. Robbins, secretary; John A. Quinn, treasurer. Directors are H. Stanton Hill, P. E. Linville, Jack Streeter, Pauline Saylor, Victor Robbins, Louis Vance and Dorothy Ostergard.

All communications should be addressed to the secretary, Mrs. Victor J. Robbins, 928 E. Hellman avenue, Monterey Park, California.

"Gems Through Literature" was topic of a talk given by Mrs. J. R. Dale, librarian for the Oklahoma State Capitol library, at September meeting of the Oklahoma Mineral and Gem society, Oklahoma City. A motion picture on Bryce, Zion and the Grand Canyon was shown.

Ring Mountings and Findings

RING MOUNTINGS: Sterling Silver, finished, ready to set. Men's from \$8.65 to \$15.00 per doz. Ladies from \$5.65 to \$13.80 per doz. Ladies 10K Solid Gold \$3 and \$4 each.
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PENDANT FRAMES W/CHAIN: Sterling or GF \$12.00 doz.
EXTRA EASY FLOW SILVER SOLDER: 1/4 oz. 50c; 1.90 per oz.
LOW KARAT GOLD SOLDER: 50c per DWT.
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NEW SOCIETY FORMED AT SANTA CRUZ

With 37 charter members on the list, the Santa Cruz Mineral and Gem society has completed organization and is now functioning with a full roster of officers.

Chosen to head the organization are:

Wilson E. Thompson, president; Mrs. Robert E. Campbell, vice president; Miss Betty Hay, secretary; Mrs. George L. Theobald, treasurer. Directors are Jack F. Moore, George L. Theobald and Robert E. Campbell.

The club meets every second Wednesday of each month in Soquel Community hall, Santa Cruz. Edythe M. Thompson is publicity chairman.

New officers of the Coachella Valley, California, Mineral society, presided for the first time at October meeting of the group. President is Don Butterworth. Monthly field trips during the coming season are planned, and at each meeting members will exchange rocks.

Origin and purpose of the Mojave Desert, California, Gem and Mineral society and the benefits it has brought to the city of Barstow and neighboring towns of Yermo and Daggett were described by Ernest J. McMichael, president of the society, in a recent radio talk over station KWTC.

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TEXAS AGATES—Five pounds selected from all locations, including plume, iris, fortification, scenic, opal assortment, etc., postpaid, \$5.00. Visit. 20 tons to select from at 25c per pound. El Paso Rock and Lapidary Supply, 2401 Pittsburg St., El Paso, Texas. Phone 5-8721.

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NEVADA GROUP SPONSORING GEM SHOW IN NOVEMBER

What is expected to be one of the outstanding exhibits in the West will open to the public November 11, 12 and 13 when the Clark County Gem Collectors, Nevada rockhound group, stages its Mineral and Gem show in Las Vegas.

The show will be in the United States Naval reserve armory in Las Vegas. Members of the Clark County group come from several communities, but have a common interest.

ROCK COLLECTION: Rough, slices, cabochons, spheres. Wm. A. Dashner, 2717 Hampshire Ave., Huntington Beach, Calif.

BRAZIL: Amethyst and Citraen, green Tourmaline, golden, green & white Beryl, Aquamarine, Chrysoberyl. Australian gems: Fine Opal, blue Sapphire, Zircon. Burma: Pigeon Blood Ruby, Balas Ruby, Zircon. Africa: Fine Tourmaline, spec. Emyrad, Tigers Eye, black Star Sapphire. Ceylon: Fancy Sapphire, 7 carat average, Spinel. Moonstone. Local: Peridot, Montana Sapphire, Yogo Sapphire, Mexican Topaz. P. O. Box 1123, Encinitas, Calif. Visitors contact postoffice.

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CLEAREST SELENITE Crystals known. All sizes, 40c lb. Gem Conglomerate, 50c lb. Petrified Wood, fine gem quality, 50c lb. Blue Banded Agate, \$1.00 lb. Pigeon Blood, many colored Agates, \$1.00 lb. Picture Sand Stone, 8c per square inch. Finest slabbed Blue Agate and Dinny Bone, 50c per square inch. Postpaid. Hubert's Rock Shop, Springdale, Utah.

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HERE IT IS AGAIN, as seen at the Sacramento Convention—Arizona Snowflake Jasper, \$1.25 lb. postpaid. Tucson Thompson, 10016 North Seventh Place, Phoenix, Ariz.

AMONG THE ROCK HUNTERS

LONG BEACH ROCKHOONDS PLAN ANNUAL SHOW

An interesting talk on mineral lights was given by Tommy Warren at regular September meeting of the Long Beach, California, Mineralogical society. August field trip was the society's annual picnic at Southgate, while in September members went in a group to attend the Los Angeles Lapidary society's seventh annual gem show and picnic at Montebello.

The Long Beach society has announced that its annual show will be November 12 and 13 at Sciots' hall, Sixth and Cerritos, Long Beach. New display cases are expected to add much to the exhibits.

Members of the Northern California Mineral Society, Inc., have been looking forward to a field trip November 11, 12 and 13 for which a bus has been chartered. The proposed trip includes Natoma, Sutter Creek, Copperopolis, San Andreas, Carson Hill, Jackass Hill, Sonora and La Grange—in the Mother Lode country. September meeting of the group was a business session, followed by a lecture.

The Yavapai Gem and Mineral society, Prescott, Arizona, has doubled its membership, a report given at the annual meeting in September revealed. New officers were also installed, with Ernest E. Michael succeeding Harold Butcher as president. Mrs. E. E. Michael was reelected secretary-treasurer. Ray Shire is new vice president. The society's library is also being expanded, so that reading may supplement field trips.

An arm-chair tour to see "Pegmatites of Brazil and Scandinavia" was enjoyed by members of the Pacific Mineral society, California, at their September meeting. Dr. Joseph Murdock, associate professor of geology at the University of California at Los Angeles, was guide on the tour, illustrated with color slides. He is co-author of latest edition of the State of California "Minerals of California," bulletin No. 136.

Appointment of committees and planning the October 30 field trip were principal items of business at the October meeting of the Coachella Valley Mineral society. In September the group enjoyed a picnic on shores of California's Salton sea, more than 250 feet below sea level. The society is proud of the fact it has been successful in advocating formation of night school classes in Rockology at Coachella Valley high school.

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FEDERATION CONVENTION IN 1950 GOES TO TRONA

The 1950 convention of the California Federation of Mineralogical Societies is to be held at Trona, it was decided at the state convention in Sacramento. The Searles Lake Gem and Mineral society will have the NOTS Rockhounds and the Boron group as co-sponsors to handle arrangements for the convention.

Previous events staged by these groups have attracted state-wide attention, their annual hobby show and the '49er parties are good examples. Leaders of the clubs have the know-how when it comes to arranging and conducting conventions and exhibits.

DAD AND MOTHER SMITH IN BUSINESS AGAIN

Mr. and Mrs. C. H. Smith, known to the rock fraternity as "Dad and Mother" when they operated the Mint Canyon rock shop at Forrest Park north of Solomint before the war, have decided to open shop again—but this time it is a trailer located for the present at Manchester and Western in Los Angeles. They will advertise as "The Rocksmiths."

Members of the Rand District Mineral and Gem association in California believe they can boast the oldest and youngest rockhounds in the country, according to Mrs. S. N. Shirley. The oldest is William Jenkins, 82, and the budding young enthusiast is Carleigh Gallard—three months of age. Mrs. Shirley says she wouldn't advise any young athletic rockhound to try to out-walk or out-climb 82-year-old Jenkins on a field trip. As for little Carleigh, she hasn't been on any long hikes yet.

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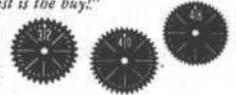
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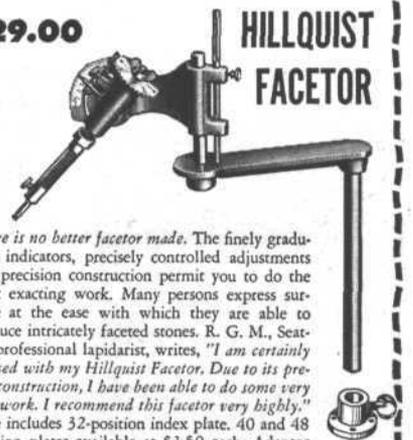
You get **three** index plates without extra cost (32, 40, and 48 positions).



Finest materials and construction are used thruout. The spun aluminum splash pan is quickly removable so that pans for different grits can be used. The 8" Master Lap is precision machined of cast aluminum. Shaft is 1/2" with ball thrust bearing and full 3 1/2" babbitt fitted sleeve bearing with grease pressure lubrication. Stand is swivel mounted so that any position on the lap can be maintained. Price includes three index plates, two double-end metal dops, hose, clamp, pinch cock and V-belt. All for \$62.50 f.o.b. Seattle.

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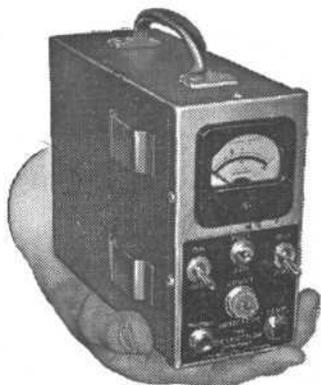
1545 W. 49TH ST. SEATTLE 7, WASH.

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**FIRST TELEVISED
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What is claimed to be the first televised lapidary demonstration was presented by the San Diego Lapidary society August 9 over radio station KFMB-TV, channel 8, in San Diego.

Television performers who represented the club were Mrs. D. Detrick, M. Shunk and J. Barth. Cutting of a cabochon, faceting of a gem stone, silver smithing, making a ring mounting and setting a stone were demonstrated and explained over the air.



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**JUNIOR ROCKHOUNDS STAGE
SUCCESSFUL MINERAL SHOW**

Improvement in the quality and variety of exhibits was evident at the third annual gem and mineral show of the Junior Rockhounds of Prescott, Arizona, in the opinion of the judges, Dr. Charles A. Anderson, Dr. S. C. Creasey and Ernest E. Michael, vice president of the Yavapai Gem and Mineral society.

The show, held September 3 and 4 in Prescott, attracted many visitors. The Juniors are headed by John Butcher, president, and Tommy Ryan, vice president. Bobby Jones is secretary-treasurer. Twenty-one collections were exhibited. Much work went into the show, but the youngsters felt well rewarded.

With outdoor summer meetings a thing of the past, the Searles Lake, California, Gem and Mineral society is resuming regular meetings in Trona. At the September meeting the group was fortunate in being able to hear Jack Streeter, president of the American Federation and the California Federation of Mineralogical societies. Streeter exhibited a collection of mineral specimens from the Harvard museum collection. On Saturday, September 17, a group of Searles Lake members, led by President Johnny Pillott, climbed Telescope peak.

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What may be a new heavy mineral has been found in the Hualapai mountains by Guy E. Hazen, field paleontologist of Kingman, Arizona, and a sample has been taken to the University of California for further study. Hazen found the unfamiliar heavy mineral while on a field trip with 14 students from the University of California, Santa Barbara, who were studying the deposits of thulite, found only in the Hualapai mountains and in a region in Norway. Hazen turned his new specimen over to C. D. Woodhouse, instructor of the group, for identification or to verify if it is a new mineral.

A new open house plan which calls for members of the Pomona Valley, California, Mineral club to gather at homes of club members at regular intervals to see collections and enjoy a social evening, has been adopted. It was announced at the September meeting, first gathering was at the home of Mr. and Mrs. Glen Weist in Ontario. Miss Geneva B. Dow is chairman in charge of planning the informal meetings.

In Selma, California, lapidary and jewelry classes have been started this fall every Monday and Wednesday night. New grinding wheels, new sanders of an improved type, new polishing wheels and new lap wheels have been added to the shop equipment, making it one of the finest shops in the state. Gates Burrell is instructor, Edward Rossi directs the jewelry class.

A full winter's program is planned by members of the Seattle, Washington, Gem Collectors club and the Tacoma Agate club, according to announcements from the Northwest. The two groups got together during the summer for a potluck picnic. Delegates from the Seattle club who attended the 1949 convention at Eugene, Oregon, were to report at the October club meeting.

Need for an organization designed for advanced rockhounds and those interested in lapidary work has led to the formation in Yuma, Arizona, of the Desert Lapidary Guild. The new group was organized by V. N. Yagar, founder of the Yuma Gem and Mineral society, and C. R. Bittorf. Directors are Yagar, Bittorf, R. Blalack. Communications to the Guild should be addressed to P. O. Box 1265, Yuma, Arizona.

Regular meetings of the Victor Valley, California, Mineral club are held at the high school the first and third Wednesdays of each month and all meetings are open to visitors. At September meeting of the group, members reviewed success of the mineral display at the San Bernardino County fair, and recalled the pleasure they had in preparing the many exhibits.



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AMATEUR GEM CUTTER

By LELANDE QUICK, Editor of The Lapidary Journal

"How far that little candle throws its beam, like a good deed in a naughty world," wrote Shakespeare. This thought came to us recently when we culled a sentence from "The Working Of Semi-Precious Stones" by J. H. Howard. This was the forerunner of his present best-selling "Handbook For The Amateur Lapidary," which every beginner should own before he even owns a rock. Mr. Howard's brochure was written in 1931 and it started the intensive experimenting that has grown into America's third largest creative hobby—gem cutting.

Mr. Howard said "this whole subject of facet cutting is merely an idea to be played with and is not a work that can be successfully done by an amateur." Indeed! How far that little candle threw its beam is indicated in the fact that, 18 years later, many professional lapidaries in America concede that the best facet cutting being done today is being done by amateurs.

It is being done by amateurs because they take the time to do it perfectly; because they usually work with better equipment and they have the courage and interest to experiment with new techniques. Most of the growth in facet cutting has been in the last three years. Five years ago one could go to any number of gem shows and count the faceted stones on his ten fingers. Today the number of faceted items and cabochons in shows is almost equal.

This whole thing came about through available knowledge gained from the shop note books of groups of experimenters like the Faceters of the Los Angeles Lapidary society. Constant experimentation resulted in documented data and an exchange of ideas in correspondence so that now a good library exists among faceters on every cut that was known back in 1931 and scores of variations developed since.

The beginner today does not hesitate at all to try faceting first. Many beginners turn out creditable faceted gems immediately. It can be done. But faceting is not cabochon cutting. If you are going to facet you really must read and follow instructions. You need books; not profound books on crystallography and geometry. You may become the best faceter in your community and never understand what is meant by the critical angle. If you do understand geometric principles, elementary physics, crystallography and gemology you will be successful faster perhaps, but you can learn to facet and never know that amethyst is purple quartz.

If you are going to facet we offer several suggestions:

Begin with quartz. Begin with a fairly large stone. Buy the "Book of Gem Cuts" from your favorite dealer. Buy a piece of colored quartz. It costs little more than clear quartz and it certainly gives one more satisfaction to display a gem as an amethyst (purple quartz) or a citrine (yellow quartz) than just to say to one's unimpressed friends "it's quartz." And a big stone (15 to 30 carats) certainly is more impressive and rewarding than some mite of a one- or two-carat job.

If you think it's a good idea for kids to learn to swim with water wings then you should buy "The Book Of Gem Cuts" to keep you afloat while you are learning to facet. Don't let all those angles scare you. Faceting looks difficult. Don't misunderstand us—faceting is not simple. But any

beginner can do it and time has proved that Mr. Howard was wrong when he said "it is not a work that can be successfully done by an amateur". And you can bet that no one is happier about it than J. Harry Howard.

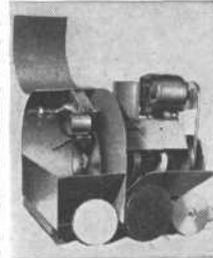
This is being written at the conclusion of the Seventh Annual Gem show of the Los Angeles Lapidary society which was all we predicted it would be—the biggest and best exhibition of amateur cut gems ever witnessed. When directly questioned by President Gunderson every dealer there admitted that it was the best they had ever seen and the crowd of more than 15,000 was the best spending aggregation they had ever hawked to. Gem for gem the faceted stones were just about equal with the cabochons and we are still of the opinion that a case of good cabochons is more interesting than a case full of faceted gems. We said more interesting—but they are not as beautiful.

Emphasis was on rutile or Titania, sometimes erroneously and misleadingly referred to as "synthetic diamonds." We don't think Titania gains anything in being compared to a diamond. It is a gem in itself; the only gem that Man has ever created. It is not a synthesis of any other gem nor is it an imitation of any other gem. It is a synthesis of rutile, which to our knowledge has never been cut as a gem in its natural state because cuttable material doesn't exist.

First information on rutile appeared in this column. First cutting instructions appeared here and the first stone ever cut was cut by an amateur. We now record that the amateurs lead again in improving rutile. The idea of making doublets of rutile, with a top harder than rutile itself, occurred to several and the first doublet was cut by Jack Alger of Los Angeles. Several magnificent doublets have been cut by Thomas Daniel of Los Angeles. One has a synthetic green sapphire top and Titania bottom and another has a pink sapphire top. The effect is entrancing and the durability of the stones is much greater because of the synthetic corundum tops.

We are taking some of these to show our eastern friends who attend our lectures. By the time this appears we will have talked to groups in New York, Washington, Cleveland and Detroit and just about the time this issue reaches subscribers we shall be arriving in Chicago on our way home from New York. The Chicago Rocks and Minerals club and the Marquette Geologists are jointly sponsoring our talk on "The Second Stone Age" at the lecture hall of the Chicago Academy of Sciences, 2001 N. Clark St., Chicago, on Saturday evening, October 22 at 8:00 P. M. Anyone interested in gems or gem cutting is welcome to attend and we hope to meet many *Desert Magazine* subscribers there.

The wind-up of the 1949 shows will be the usual fine display of the Orange Belt Mineralogical society at the industrial building of the National Orange Show at San Bernardino on November 19 and 20. We are informed that 91 cases are being built on the plan of the Glendale Lapidary & Gem society's lighted case. The Glendale case is the best that any society has originated and plans can be obtained upon application.



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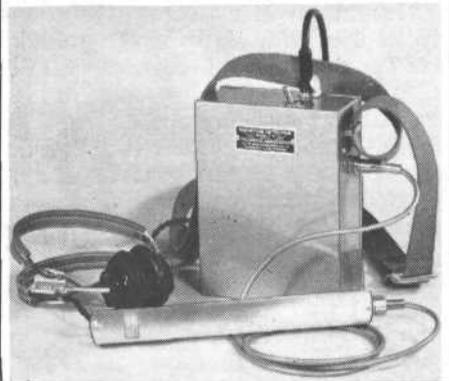
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Just Between You and Me

By RANDALL HENDERSON

FOR 16 YEARS NORMAN NEVILLS piloted his boats through the most treacherous rapids in North America without injury to himself or his passengers—and then met death in an airplane crash.

Norman has long been recognized as the foremost white water boatman in the nation. But to those of us who have ridden with him through the roaring Sockdolger and Grapevine rapids, he was something more than a fine boatman. He was a gallant companion, and a courageous leader whose enthusiasm and confidence transformed a hard dangerous feat into a gay glorious adventure.

Norman and Doris were a great team. Doris liked the river, and rode the rapids as fearlessly as her husband. But the running of six or eight expeditions in a single summer season involves tremendous problems of supply and communication—and it was Doris who managed these details while Norman concentrated his attention on his passengers, his boats—and the river. Seven trips through Grand Canyon and scores of expeditions down the San Juan, Green, Snake and Salmon rivers without the loss of a passenger is an amazing record.

A few days after the death of Doris and Norman I received a letter from P. T. Reilly, who had accompanied Norman as boatman on several expeditions. Reilly expressed the sentiment of all those who have ridden with Norman on the river when he wrote:

"A lifetime is too short a period to know such people, but friendships are not always judged chronologically, and we are grateful for the few years we had with them.

"I think of the exuberant Norm and how he could fire anyone with enthusiasm to the point where any adventure would be a success. I remember his horny rock-like hands and the well-developed muscles that might have belonged to a man 60 pounds heavier. How I admired his skill in riding the really big water, skirting deep holes and sharp rocks, plowing stern-first through huge waves that completely enveloped the *Wen*. I recall his campfire tales of the river, and his delight in acting out the after-dinner charades; his spur of the moment decisions to do minor things in an unusual manner.

"I am glad that I knew Doris, working so efficiently and quietly in the background, taking care of the innumerable details necessary to make the trips a success, often doing a man's work. No man ever had a more loyal wife than Norm. She gave beauty to the bleak landscape of Mexican Hat by planting trees and flowers—and, living in a community where there was no school, she taught Joan and Sandra beautiful manners and book learning beyond their years.

"Norman and Doris have enriched the lives of all who have known them."

During the late summer I had occasion to make a couple of trips over the mountains to Los Angeles. And now it is plain to me why the folks who reside on the coast

like to come to the desert so often—they want to get away from the smog which has become a major catastrophe to the once delightful community of coastal Southern California.

For years the chambers of commerce there have been trying to promote more factories. Factories bring more people and bigger payrolls. Unfortunately, more factories also bring more smokestacks—and what a curse those smokestacks have become to the community that was once famous for its sunshine and flowers. For the smog is putting a blight on the plant life as well as the humans who must breathe it day after day.

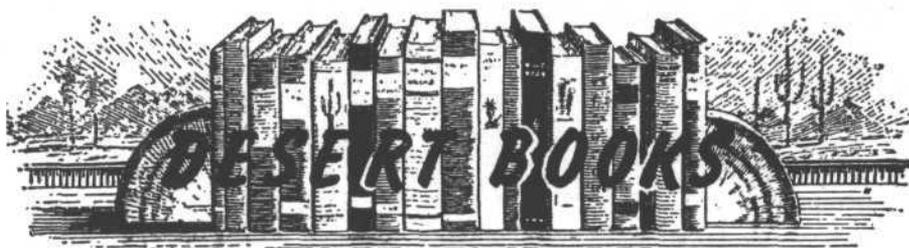
Undoubtedly science will find a way to get rid of those vile gases which now permeate the atmosphere, but while science is getting around to the job, we are glad to report that over on this side of San Jacinto mountain we still have an abundance of fresh air and sunshine. And we are glad to share it with visitors from the coast—but we hope they'll leave their smokestacks behind.

I have long advocated the abolishing of all chambers of commerce—and in their places the forming of groups which will be interested primarily in the promotion of cultural activities. The difference is that most chambers of commerce are concerned mainly with quantity—they want more people and more smokestacks and more money. I am sure that some day, when human minds become more mature, we will all realize that quality is a more significant word than quantity—that more people and more factories are less important than the creating of a community environment which brings out only the best in the humans who already dwell there.

This month *Desert Magazine* begins its 13th year. Since desert folks are not inclined to be superstitious we have no misgivings as to the 12 months ahead. We like to think that *Desert* is like the other things that live and grow on the desert—they thrive on adversity.

Not that *Desert's* staff has found the way especially difficult. But we have gone through a depression, a war, and a couple of earthquakes and so surely we have become toughened enough to withstand any jinx that may attach to the number 13.

Actually, *Desert* now has more subscribers than at any time in the past 12 years, and the list is increasing every month. We have been in our new publishing plant at Palm Desert over a year now. We've found it a pleasant place to work, and it has been especially gratifying to have so many thousands of our readers come in and browse around the art gallery, the book and crafts shop, and walk through the printing plant—and sign their names in the register. My only regret is that I do not have the time to meet them all personally. For I am still a working editor—and I like to spend as many hours as possible out on the desert trails. But friends and readers are always welcome here nevertheless.



THE TECHNICAL SIDE OF NAVAJO WEAVING

If you are technical-minded, you'll enjoy reading through the 237 pages of Charles Avery Amsden's *Navaho Weaving*. You might even enjoy it if you're not technical-minded, for there are 123 illustrations, many in color, and the author's treatise on the art and science of weaving is enlivened with dashes of interesting history, anthropology, ethnology.

Charles Avery Amsden makes no apologies for his technical treatment. In fact he set out to do what had not previously been done. There have been numerous studies of primitive textiles and several on Navajo weaving have been published, but the subject has usually been approached from the esthetic rather than the technical point of view. So Amsden's *Navaho Weaving* is something different.

University of New Mexico Press, Albuquerque, New Mexico, 1949. Index, biblio., foreword by Frederick Webb Hodge. \$10.00.

HISTORY MAKES A FASCINATING TALE

Discovery of gold in California in January of 1848 started a great many things. One of the things for which gold was responsible was formation of

the transportation firm of Wells, Fargo and Company, organized in New York in 1852. Its announced purpose was to undertake transportation of "packages, parcels and freight of all description in and between the City of New York and the City of San Francisco, and the principal cities and towns in California."

The company also dealt in the purchase and sale of gold dust, bullion and specie—and hauled precious cargoes for others.

In the business of transporting treasure the Wells Fargo people knew violence and death, Indian raids, stage robberies, financial panic, blizzards in the mountain passes, heat and thirst on the desert, train robberies, titanic financial battles.

And so when Edward Hungerford, transportation historian and one-time Wells Fargo executive, undertook to write the history of the company he chose an apt title for his book: *Wells Fargo—Advancing the American Frontier*. It is a turbulent history of turbulent times.

Random House, New York, 1949. 258pp., 16 illus., 2 maps, index, biblio. \$3.75.

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