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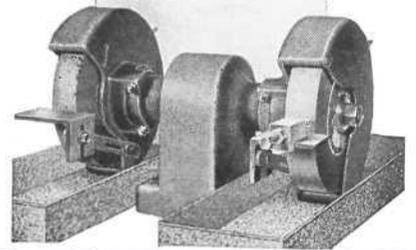
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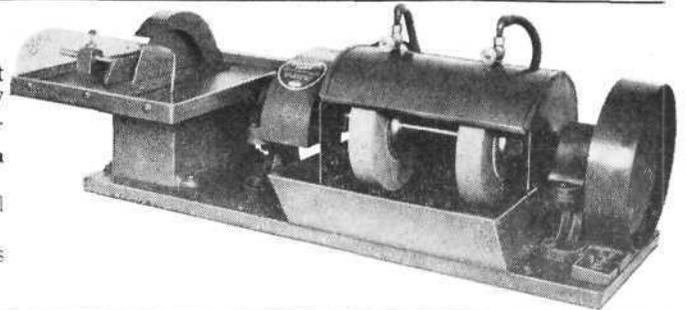
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DESERT CALENDAR

- May 30—Lincoln County Homecoming Day, Caliente, Nevada.
- June 1-30—Special exhibit, colored reproductions of Southern California Indian cave paintings, by Charles La Monk. Southwest Museum, Los Angeles, Calif.
- June 2-3—Intermountain Junior Fat Stock Show, Salt Lake Union Stock Yards, North Salt Lake City, Utah.
- June 4-5—Pioneer Days celebration, Clovis, New Mexico.
- June 9-10—Arizona State Cattlegrowers Convention, Flagstaff, Arizona.
- June 12—Fiesta of the Loma. Procession from chapel after mass, followed by music and fiesta. Taos Pueblo, New Mexico.
- June 12—Feast of San Antonio de Padua celebrated at Cordova and various other northern New Mexico rural villages.
- June 12-17 — Future Farmers of America Fair, Santa Rosa, New Mexico.
- June 13 — Ceremonial dances, Taos, Sandia and San Ildefonso pueblos, New Mexico.
- June 17-19—Vernal Rodeo, Vernal, Utah.
- June 19-27—Riverside Chapter, Sierra Club of California trip to Monument Valley.
- June 20 — Corpus Christi Sunday, Santa Fe, New Mexico. Long processions march through the streets of the city following mass in St. Francis Cathedral and Christo Rey Church.
- June 23-26 — Rodeo and Roundup, Lehi, Utah.
- June 24—Annual Feast Day of St. John, San Juan Pueblo, New Mexico. Ceremonial dances and fiesta.
- June 24—Corn dances, Taos Pueblo and Acoma, "The Sky City," New Mexico.
- June 26-27 — Indian Capital Rodeo, Gallup, New Mexico.
- June 27—Procession of La Conquistadora, commemorating the reconquest of New Mexico from the Indians by De Vargas in 1692. Santa Fe, New Mexico.



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Two of the Seri men, showing their long hair, and a girl with facial paint. They have no jewelry.



Manuela and her brother. They were faithful helpers while the author was living with the Seri Indians.

They Wouldn't Be Civilized

Hostile and impoverished, the Seri Indians of Tiburon Island in the Gulf of California have resisted all efforts of both church and state to bring civilization to their arid island fortress. But despite their evil reputation they are human beings who can be friendly—as this author discovered during his sojourn of several weeks with them.

By CLIFFORD L. BURDICK

Photos by the Author
Map by Norton Allen

I HAD BEEN sent on a private mission to get acquainted with the Seri Indian tribe, living on the west coast of Sonora, Mexico, and on their ancestral island, Tiburon (shark), largest island in the Gulf of California.

The Seris had been reported as being one of the fiercest, most uncivilized tribes of Indians left on the North American continent. My sponsor was the late Albert M. Johnson, philanthropist, well known for many years as the partner of Death Valley Scotty and who built the famous Scotty's Castle.

Mr. Johnson had established a foundation dedicated to helping needy Indian tribes. Reports of this backward Seri tribe had filtered through to Hollywood where Mr. Johnson then resided and had intrigued his interest. Here was a tribe that really needed help, he thought, perhaps culturally, educationally, or economically. Possibly he could help them agriculturally, establish a mining industry to raise their standard of living.

I was sent to get acquainted with the Seris, to live with them, to investigate their needs, photograph them, and report back. I had spent some years in Mexico, and knew Spanish, which

many Seris also spoke. I was properly outfitted with a four-wheel drive car which I loaded with provisions at Tucson, along with old clothes which are always welcome with needy Indians. Other essentials were an outboard motor, a tent, sleeping bags, blankets, cameras, binoculars, picks, shovels, and compasses.

Mr. Johnson had often flown over Tiburon Island on his air trips from Hollywood to Mexico City, and had wondered what sort of humans lived on that mountainous island fortress. He stressed the importance of securing good photographs of the people.

At Magdalena, Sonora, I made arrangements with my faithful old Mexican guide, Francisco Laguna, to accompany me, inasmuch as he had been in contact with the Seri Indians, and knew their chief, Juan Molina. Francisco was anxious to take the trip, as he wanted to become better acquainted with the Seris himself. Francisco was a retired farmer and miner of 65 years. He felt that the only chance to improve the standard of living of the Seri Indians was to develop some mineral resources known to exist in the Seri desert.

We left the main arterial highway at Santa Ana, and headed westward

over poor dirt roads for 150 miles before reaching Desemboque, the mainland stronghold of the Indians. The first 100 miles was through sparsely settled ranch country. As we approached the coast, the country became more and more arid, and it was evident that farming as an occupation for the Seri Indians would be out of the question, at least until such time as our scientists discover a cheap means of making fresh water out of sea water. The saguaro and pitahaya cactus, however, produce a nutritious fruit of which both Indians and Mexicans are very fond. The pitahaya, or organ-pipe cactus, which grows profusely in Mexico, produces a delicately flavored red fruit, resembling a large strawberry, a real Indian delicacy.

As Francisco and I crossed the final mountain pass we could see Desemboque, the Seri fishing village, looming in the gorgeous rays of the setting sun, and like a gem in the gulf of California, beautiful Tiburon Island, surrounded with shark-infested waters.

We were both thirsty, and as we passed a well at a little ranch where the Indians secured part of their drinking water, we stopped for a drink, and to fill the car radiator. We let down a bucket on a 30 foot rope. When

the cargo arrived at the surface, in the pail of water floated two enormous toads. I decided I was not thirsty after all.

Francisco and I arrived in Desemboque as the sun was sinking below the waters of the gulf. He had visited these strange people before, but I had some misgivings when I got my first glimpse of these fierce looking primitive tribesmen with their long hair waving in the wind or their braided queues hanging down their backs almost to their hips.

I was reminded of an article in the Encyclopedia Americana concerning the Seri Indians, p. 592: "They manifested an implacable hatred toward aliens, whether Caucasian or Indian, and the shedding of alien blood is regarded as their highest virtue."

We had already heard the story of "Yellow Teeth," an American prospector who had ventured too far into Seri territory, in search of placer gold. He struck it rich, but did not live to enjoy the fruits of his labors, for his blanched bones were later found on the desert sands near his diggings, easily identified by his gold teeth. The Seri Indians had clubbed him to death.

Curious eyes peered suspiciously at us from behind the protection of doors and windows as we drove our jeep into the center of the village and halted. They obviously were startled at the sudden and unexpected arrival of three strangers in their midst, one of them a *Norte Americano*. I also was curious, and I could see women cooking their evening meal of fish and *frijoles* outside their adobe houses, or their more flimsy dwellings built with ocotillo sticks plastered with mud and covered with palm fronds. In the evening glow, some of the Seri men could be seen silhouetted on the beach cleaning the giant sea-bass they had just brought home from a day's fishing in their canoes made from hollowed-out logs, and operated with both sails and paddles.



As soon as they are old enough to hold a paddle and spear, Seri boys are taught to fish, for fish is the tribe's most important item of food.

Our jeep immediately was surrounded by some of the more daring and friendly Seris, who began to run their hands over our baggage, apparently hoping for some gift. Also, the official reception committee was seen approaching — the chief of the Seri Indians, who introduced himself as Juan Molina.

The chief was a tall powerfully built dark-skinned Indian, with the typical high cheek bones, straight black hair

and piercing black eyes of his race. His poise and dignified bearing recalled to mind other great Indian chiefs of the past, Black Hawk, Sitting Bull, Cochise and Palma. Whatever apprehensions we may have had as to our welcome and safety in this remote village of wild-looking savages, the intelligent face and friendly gestures of Juan Molina were reassuring to us, and we gladly accepted his proffer of an empty bamboo house nearby as a shelter for the night. After the bouncings we had received on the rough trails that day, any sleeping accommodations looked inviting to us, and we were soon settled for a good rest.

We were spreading out our sleeping bags in the bamboo hut, when the chief again appeared, with a large dish of cooked sea-bass the Seris had caught that day in that angler's paradise—the Gulf of California. The handsome chief offered this token of his hospitality apologetically: "This is about all we have to offer. My people live by fishing. This desert country will not grow much but cactus and mesquite. We have to haul our water two miles, and then it often is not fit to drink. When my people get sick we have no doctors, so we give them a tonic made from the oil of the sea turtle."

The chief was interrupted by a shrill penetrating wail that wafted out over the evening air. It sounded a bit like the melancholy howl of the western coyote that is heard so often at night. And yet there was something human about it. Francisco asked the chief the meaning of the sound. "Oh, that is just an Indian mother mourning the death of her child. You will hear the same wail in the morning about daylight."

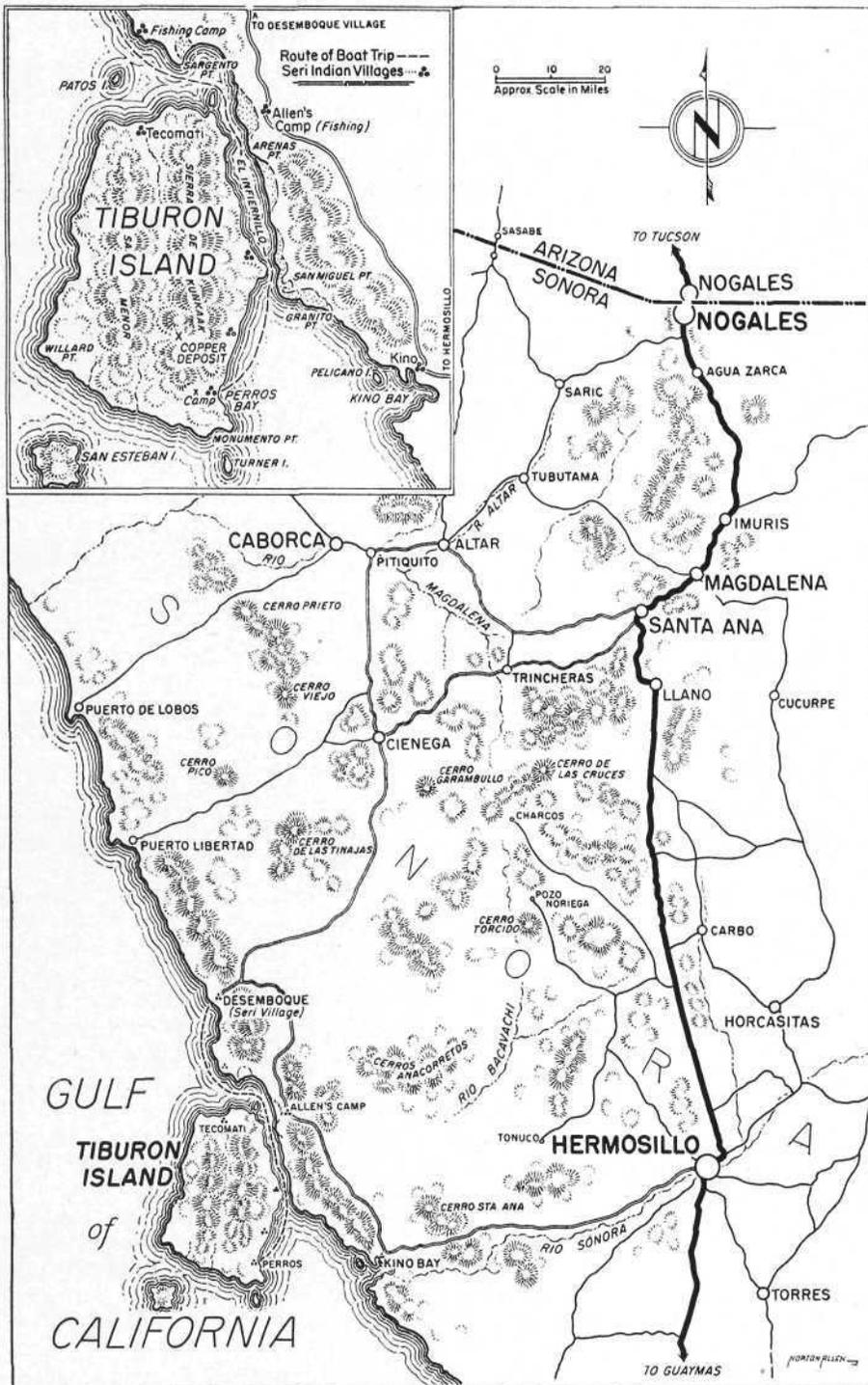
We asked the chief many questions about the history of his tribe and their ancestral home. He seemed glad to talk with us and to answer our questions. He explained that his tribe had a very old and eventful history. The

This is the facial adornment of a Seri girl eligible for marriage.



Jose Estorga's pet, the coral snake. He carried it around in his pocket.





Seris were seen in their present location by the earliest white explorers. Most of their history was of war with some other tribe, perhaps the Yaquis or the Papagos. Their weapons had been spears and bows and arrows, but their chief defense had been their speed afoot, plus their endurance.

Mule deer have always been plentiful in the land of the Seris. Sometimes they would hunt them with bows and arrows, but a favorite method was to set a dog on the unfortunate deer. When the dog tired, a Seri would take up the chase, and tired out the fugitive. The powerful Indian would throw down the deer and break its

neck, then cut out and eat the warm meat immediately, without cooking.

We asked the chief to tell us about his island fortress home — Tiburon. We looked at our maps and saw that it was about 30 miles long by 30 wide, the largest island in the Gulf of California. It was separated from the mainland by about seven to 10 miles of water, so it was comparatively easy for them to defend themselves from hostile tribes. They could make a swift surprise raid on some enemy tribe, gather a food supply of cattle, and make a fast getaway for their island in their canoes. This explains why they were about the last primitive

people to be touched by modern civilization.

Tiburon is mostly mountainous, the highest peak being about 4000 feet. There are valleys but even these are too arid to produce any food except the cactus fruit. Drinking water was always available, however. The chief said he knew of 19 waterholes on the island.

The chief excused himself, and we were so tired we went to sleep immediately. We were awakened about daybreak by the familiar mourning wail. As we walked along the beach, we could see the Indians preparing their boats and nets for fishing. The women carried five-gallon cans of water on their heads from the water vender.

A pack of scrawny ill-tempered dogs were fighting over some fish meat. Farther up the circling beach could be seen hundreds of pelicans, the Seri pilot-birds, wheeling and diving not more than 500 yards from the shore. Apparently they had sighted a school of sardines, and were intent on catching their morning meal. A flock of seagulls had joined them in the hunt.

Soon we saw two boats loaded with Indian fishermen paddling rapidly toward the diving pelicans who had guided them to the school of sardines. Suddenly an explosion pierced the morning air. The Indians had tossed a charge of dynamite into the school of tiny fish. It had exploded under the water, killing or stunning great numbers of them. In this way the Seris obtain the bait which they use to catch the great sea-bass. The dead or injured sardines float on the surface of the water, and there is a scramble to see who gathers up the most fish, the fishermen or the pelicans. The pelicans, instead of being frightened by the explosion, gathered in still greater numbers, as if the shot had been the signal to come to breakfast.

Turning away from this interesting scene our attention was attracted by a very strange looking creature just appearing over the rim of a large sand dune skirting the beach. As he came closer we saw that he had no hands, and that he wore a white bandage under his chin and up over his head. He was garbed in a bright red cape or shawl draped over his shoulders.

When Francisco asked him the cause of all his misfortunes, he pointed to the large flock of pelicans feeding on the sardines close to shore, then explained that once when he had gone out to blast and gather bait, he had held the lighted fuse an instant too long, and it had exploded and blown off both his hands, broken his jaw and deafened him. He had heard a rumor that in the great country to the north

where the white man lives, artificial hands were made. He was hoping against hope that we might be able to secure some for him that he might return to fishing, and earn a livelihood for his wife and three small children. Fortunately it is tribal custom among the Seris that the strong take care of the weak. But he wanted to earn his own livelihood if there was a way to obtain artificial hands.

We shared our breakfast with him. He told us his father had been the chief of the tribe, that he was the heir to the throne, had it not been for his accident. In spite of his handicaps, Pedro had the bearing and intelligence of a prince.

We asked him to relate some of the history of his tribe. He told about the many attempts made by church or state to civilize his savage people. Over 200 years ago the Spanish Padres sent missionaries among the Seris to convert them to Christianity. They built a church or two and even planted vineyards, the ruins of which can still be seen on Tiburon Island. The priests had been successful in converting some of the Yaquis. At that time the Seris were at war with the Yaqui Indians, and they suspected the Yaquis of having sent the priests among the Seris to spy on them. At any rate the missionaries did not stay long enough to make any lasting impression on the Seri Indians. They were either driven out or killed. As a result the Seris have no churches, no religious rites or celebrations. What religion they may have is individualistic. Occasionally one wears a charm or amulet about his neck.

Pedro told of the efforts made by the Mexican government to tame the Seris. Taking note of the impoverished condition of the Indians, plans were made in Mexico City to solve the problem by moving them to a new settlement to be built for them near Hermosillo. The Seris not only were to be given homes, but also the opportunity to learn to be farmers. Some of the tribesmen actually were moved to the new location.

But they did not remain long. They became homesick for the carefree life they had known on Tiburon Island. They gave the "civilized" new village back to the Mexicans and silently stole away.

It may be that the Mexican authorities gave a deep sigh of relief after they were gone. It is related that one young Seri got into an altercation with a Mexican and killed him. He was forthwith thrown into jail. But young *Buena Vida*, the Seri, became homesick. He tore down the door of the jail, overpowered two Mexican guards,



Above—Cleaning the sea bass they have just caught. The village of Desemboque in the background.

Below—Many of the Seris live in crude Ocotillo shelters such as this.

and trotted back to home, sweet home on Tiburon Island.

As Francisco and I became better acquainted with the Seris and their manner of life, we studied the country for miles around, to determine its agricultural or mining possibilities. Farming seemed to be out of the question. There was no source of water for irrigation. The only fruits and vegetables obtainable by the Indians were brought in by Mexican traders who bought their fish.

One of the most unforgettable characters among the Seris was Jose Estorga, the affable and talkative snake-charmer. Jose was one Seri who made a business of smiling. He was a youngish looking man about 40. His perfect teeth made his smile the more engaging. He would pull from his pocket a live coral snake, about the most deadly creature to be found in that desert country. It was said of the Apaches that they had an antidote

for the bite of the rattlesnake, but when one of their number was bitten by a coral snake, they began to prepare for the funeral. But Jose played with the coral snake as others would kittens.

I asked Jose about the wedding ceremony of Seri Indian lovers. He replied that Seris do not have weddings. When a young Seri likes an Indian maiden, and she responds to his attentions, he has to buy her from her father. If he is wealthy, the price may be a fishing boat, if poor, perhaps firewood will do. If accepted, the young suitor just moves in to live with the family and works for and with them.

As a rule the Seri is a strong individual, and many live to be over 100. There is some sickness among the younger generation who have taken a liking to candy and the devitalized foods brought in by the Mexican traders. There is not a doctor within 100 miles.

The Seri Indians have the reputation of having been cannibals until recently. I wanted to clarify that point. One day, after we had been among them for some time, and I felt that we had been accepted as friends, I thought that I might safely broach the subject. Accordingly, I asked one of the older men a direct question, why they formerly ate human flesh. I was watching closely for his reaction to such a bold and compromising question, and saw a half-sheepish, half-ashamed expression creep over his face. For a moment I was afraid he would refuse to give me an answer, but he finally replied, in his newly acquired Spanish tongue, "Well, we liked the flavor better than that of most other game; still we resorted to eating humans only when we were very hungry." Here was indeed a frank confession. "But why do you still eat people? Or do you?" I countered, still watching him carefully to detect whether or not he was telling the truth. "We don't dare," was his reply. "The Mexican government has threatened to kill us if any

more visitors to Tiburon Island fail to return." Although some anthropologists doubt that the Seri Indians were ever cannibals, I would be inclined to take their own admission at face value.

One night Jose was describing to us some strange green and blue mineral deposits in their island fortress of Tiburon. He invited us to take a prospecting trip to the island in search of commercial minerals. Francisco and I accepted the invitation.

Juan Molina, the chief, furnished his boat, a dugout canoe fitted with sails and paddles. I took the outboard motor, just in case of calm. We carried food provisions to last a week. However, we had not correctly appraised the Seri appetite, for within three days we were scraping the bottom of the larder.

We set sail from the Seri port, Desemboque, early one morning, headed for Tiburon island, the traditional island home. The distance by water to the nearest island village, Tecomati, was but 15 miles. However, we were heading for the south end of the island,

all the way down the channel separating the island from the mainland, a distance of some 60 miles.

For the first few miles we were favored with a good sailing wind, but at midday a calm enveloped us, and it was necessary to start up the motor. Then all was smooth sailing. The Seris like to make camp rather early, and by three o'clock we were heading into Tiburon Island's east shore to camp for the night. Next morning we were again on our way, sailing toward the south. Soon after noon we landed at the bay of *Perros* or dogs, on the south-east coast. We had no more than landed when half a dozen more or less wild dogs greeted us. These had at some former time been turned loose by the Indians to shift for themselves.

A 100-year-old Seri waded ashore. I was about to remove my shoes to do likewise. "No, no," he insisted, "just jump on my back and ride." I was amazed that he carried me so lightly, but was further surprised to see him and the other Seris load 150-pound packs on their backs and carry them three miles inland to the pre-arranged camping site. This was apparently a ghost town, exhibiting the ruins of some ancient habitation, possibly the exact spot where the first white missionaries settled. Here and there could still be seen foundations where once stood adobe houses.

The Seri chief then demonstrated his ability as a cook, by baking some fine bread over the coals of the camp fire. The evening meal was a tasty morsel for all the tired travelers. Before retiring for the night, a meat and vegetable stew was placed in the coals to cook and simmer until about midnight, when one of the party would remove it from the fire. This chore, our hundred-year-old patriarch volunteered to do. In the morning the stew was ready to eat, but the old boy had eaten all the meat out of the pot.

After breakfast, Jose, Francisco, and I set out across the hills in quest of the mineral deposit. We climbed a steep ridge and rounded a cliff, when Jose halted suddenly, and motioned for us to keep quiet. As he raised his rifle, I saw silhouetted in bold relief against the sky, standing on an overhanging ledge about 100 feet above us and 50 yards ahead, the most majestic appearing bighorn sheep I had ever seen. Here was the meat so badly needed in camp, but what a pity to shoot, I thought. At any rate Jose took good aim and pulled the trigger—but nothing happened. The shell missed fire, and in an instant the animal was gone, much to my inward relief.

Hard Rock Shorty of Death Valley



The lean-to porch in front of the Inferno store was crowded with dudes as was usual during the tourist season. Some of them had come to Death Valley out of curiosity — they wanted to know what kind of a place this was. Others were passing through on their way from California to Nevada, some were rock collectors and others were camera fans.

Over at one end of the porch Hard Rock Shorty was seated on a wobbly bench which creaked at the joints every time he moved. He was answering questions — always the same questions: "Why do they call it Death Valley? Is there still gold in the mountains around here? How hot does it get? etc., etc."

Finally some one asked about snakes. Shorty had answered this one a thousand times, and he always tried to give a new answer.

"Nope! Ain't no snakes. All froze to death forty, fifty years ago," he answered.

Then he paused to fill and

light his corn-cob while the crowd waited in suspense.

"Happened the last time that ol' crater up in the north end o' the valley erupted. That wasn't no ordinary volcano. Most of 'em spout fire an' brimstone. But I guess ol' Ubehebe had burned herself out for this time she sent up a blast of air so cold it began rainin' icicles an' hail as big as baseballs all over this country. Turned so cold the water froze in the springs, an' me an' Pisgah Bill had to melt ice to give the burros a drink.

"Happened in June, but the snakes all thought it was an early winter and went into hibernation. Every few days that ol' volcano would send out another blast of cold air. Lasted all summer an' the reptiles got their seasons all mixed up.

"They didn't come out o' their holes 'til December — and then we wuz havin' our regular winter freezin' weather. Snakes can't stand that kind o' weather, an' it froze 'em all stiff. Ain't had no reptiles since."

"Bad luck," reflected the guide, and we proceeded toward the green mineral deposit, which as I had suspected, turned out to be malachite, a green carbonate of copper. The deposit looked very good, consisting of a 20-foot vein. The inner "pay streak" was narrower, about four feet in width. This we sampled, as well as the whole width of vein. Later assay reports showed the pay streak ran \$65.00 a ton in copper and gold, the wider sample about three percent copper. This perhaps would prove to be the makings of a copper mine that might provide an income for the destitute Seris. At least I would gather more data for a full geologic report for Mr. Johnson.

When we returned to camp some others were out deer-hunting. Francisco was preparing an early supper with fish the Indians had caught at the beach. Before long the hunters returned, without any game, but they had robbed a bee-cave, and brought in a five gallon can of the most delicious honey I had tasted in a long time.

But the larder was about depleted. The following morning, in a sense of desperation, I picked up the only weapon I had, a .22 rifle, and went forth. I did not know much about Tiburon deer, but I had had some luck hunting deer in both Wisconsin and Colorado. I finally spotted a big buck a long way off on the side of the mountain, and took two or three shots. He nonchalantly loped away around the mountain. This was a mule deer, the kind I hunted in Colorado. The big buck disappeared around the right side of the mountain.

I went around the mountain the other way, hoping to meet him on the back side. About an hour before sundown we met in the brush by the arroyo. All that could be seen was a streak in the bushes, so the first shot hit him in the leg, the second shot brought him down, and the third finished him.

The job of skinning was difficult, as a jackknife was the only tool at hand, but by sundown the job was completed. I hung two quarters in a tree away from the coyotes, shouldered the other two, and headed for camp. I was unacquainted with the island. It was getting dark. There was no moon. I trudged up hill and down dale for at least two miles, far enough to have reached camp I thought. My sense of direction must have been faulty, for I was unable either to hear or see any signs of camp.

I was getting tired by this time, so sat down to rest. Then I climbed a nearby hill, the better to get my bearings. In the distance I saw the light of a dying



Hunting party on Tiburon Island. Chief Juan Molina holds the gun and head of the deer killed by the author—who took the picture.

fire. I had been heading in the wrong direction.

When I reached the coals, it was not camp but a signal light Francisco had built on a nearby hill. From there, however, I was able to spot the camp some distance away.

Francisco, the guide, and the Indians had been worried when night fell and the camp hunter had not returned. They were visibly relieved when they saw those two quarters of venison, which they were soon sampling on the coals of the fire. The larder had been replenished, and with the honey we made out a good meal.

Juan, the Seri chief, was up and moving about early next morning. He seemed to be a bit worried. He kept watching the sky. Finally he urged us to break camp and sail for home, for a storm seemed to be brewing, and we were two days from Desemboque, or perhaps we could make it in one day by sailing on into the night.

After a hasty breakfast the boat was loaded, and we were under full sail. Each Indian took his portion of venison. Francisco and I reserved the tenderloin. Fortunately we were favored by a stiff breeze at our backs and made good time, but the skies were threatening. We were about ten miles from home when both darkness and the storm overtook us about the same time. The winds increased and it began to rain. Our small boat was not designed for rough, stormy weather. It appeared that the mountainous waves might engulf us at any moment. We had heard of the fearsome storms that sometimes descend on the Gulf of California, in which much larger boats than ours are capsized.

We could see the lights of the Indian village on the shore, but how far away they seemed! The Indians exhibited their skill as sailors in this crisis, for they had been brought up in the water and on the water.

About midnight the prow of our boat touched shore, much to the relief of all six weary travelers, cold, wet and hungry. The storm was still raging, but the boat was securely anchored, and all equipment and the venison was carried ashore.

Francisco and I were soon in the shelter of our adobe hut. In the morning we had expected a visit from our traveling companions, bringing us the equipment and the tenderloin steaks but no Seris showed up. We learned later that the Indian women were so happy over the safe return of their men they stayed up all night to celebrate. When the sun came up next morning there was no more venison left, not even the tenderloin. To add to our woes, there was no boat in sight, nor tent, nor outboard motor. After an extended search, the boat was discovered half buried in the sand of the beach, about a mile from the place where it had been anchored. The motor was still roped to the boat, but full of sand and sea-water. It never was the same again.

We felt that the first phase of our mission to the Seri Indians was completed, and we soon headed back to report to our sponsor in Hollywood. For our next trip, I recommended that he send clothing, blankets, and a doctor to establish a small hospital; and a teacher for this stone-age tribe of Seri Indians.

ON DESERT TRAILS WITH A NATURALIST - III

Giant Steeples of Lime..

This month, Naturalist Edmund Jaeger takes Desert readers on a trip to the Pinnacles, strange limestone formations rising above Searles Dry Lake in California. There isn't much to sustain life in this desolate stretch of Mojave desert, but Nature nevertheless takes good care of the native population of coyotes, wood rats, ravens, lizards and kit foxes, like the curious fellow who joined the author's party one moonlit night. This is the third in Desert's series, "On Desert Trails with a Naturalist."

By EDMUND C. JAEGER, D.Sc.
Curator of Plants, Riverside Municipal Museum

Map by Norton Allen

ONE WARM August evening, with two companions, I was walking along the wide arroyo which separates the two main groups of pinnacles which form conspicuous landmarks in California's Searles Dry Lake.

There was a brilliant full moon, and out of the shadows suddenly appeared a little kit fox. It followed along like a phantom, trotting or running before, beside or behind us like a companionable dog. Sometimes it ran out ahead and sat down, watching us intently until we almost caught up with it.

Wholly unafraid, it stayed with us during the entire evening while we hiked a distance of 2½ miles or more up the wash, among and over the pinnacles. Perhaps we were the first human beings it had ever seen.

The kit fox merely is one of many denizens of the desert which find sanctuary in this desolate part of the Mojave Desert.

This was not my first visit to the Searles Lake Pinnacles, described by the eminent scientist, Carl L. Hubbs of the Scripps Institution of Oceanography as "by far the finest examples of tufa formations in America, and perhaps in the world." Accompanying me on this exploration trip were Jack Shepherd of Occidental College and Brian Mahoney of Riverside.

These remarkable formations, some of them nearly a hundred feet high, rise from a broad plain which once was the bottom of an extensive lake. This and two other nearby lakes were formed at the close of the Ice Age by the waters of fast melting glaciers which reached this far inland desert basin by flowing through a long meandering channel which started in trough-like Owen's Valley on the east side of the giant Sierra Nevada. This particular Pleistocene lake has been designated by geologists as Searles Lake. It was not only very large, covering an area of 285 square miles, but

very deep, perhaps measuring as much as 600 feet in depth at its center. Some idea of its size and depth can readily be gained by observing the ancient water lines, beaches and wave-cut benches distinctly seen on nearby rocky hills and the distant slopes of the Argus and Slate Mountains to the north and east. These shore-line features I find are best seen in the very early morning when shadows cast along them bring out clearly their position.

The scenically impressive spires of gray limestone evidently were slowly formed under water around the vents of large hot springs by primitive lime-depositing plants called algae or possibly by bacteria. It no doubt took ages of lime deposition to build the pinnacles up to the massive forms they have finally assumed, for the rate of precipitation was very slow, perhaps as little as one foot in a hundred years. The subterranean hot waters which encouraged the activity of the algae, or possibly bacteria, issued from the lake bottom in rows of vents, probably along minor fault lines, or in close-set groups of openings marking other sites of weakness in the earth's crust. Only thus can we account for the arrangement and position of the bizarre tufaceous towers.

The lake in which the pinnacles grew disappeared long ago, leaving them exposed much as they are today. However, their original form must have been quite different; certainly they were higher. The present struc-

Termed by Scientist Carl L. Hubbs "by far the finest examples of tufa formations in America, and perhaps in the world," the gray steeples of the Pinnacles rise above Searles Dry Lake in California. Photo by Charles L. Heald.



tures have large accumulations of talus-like broken-off fragments sloping half way up about their almost vertical sides, evidencing a presumably gradual disintegration.

I seriously doubt if anyone visiting these strange "steep-sided knobs of lime" has not been inquisitive as to what might be inside them, especially at their centers. I found that one of the large columns so piqued the curiosity of some inquiring rock enthusiast that he had gouged a large hole more than a yard square out of its side almost to the middle. Of course no buried treasure was found; only more of the same porous calcareous tufa, not even an old tree trunk or other object which might have been suspected as the nucleus around which the lime was deposited.

Wandering widely over the area I saw where quite a number of mining claims have been staked out, but as far as I could see only one group of prospectors ever thought the pinnacles had any real commercial value. These men actually did some assessment work consisting of about a quarter of a mile of road. A claim-paper found in a tin can inside one of the corner monuments of rocks they had built showed that they had staked out a placer claim for gold! Some one, perhaps these "gold seekers," had once started a well in the big nearby sand wash, but they found no water to reward their hours of hard work.

The only other formations that I have seen anywhere approaching the Trona Pinnacles in size, number and appearance are rounded columns of lime, the so-called geyser-cones or algae pillars of the Bridges Basin near Green River, Wyoming, and a few small lime pillars near Tonopah, Nevada. All of these incrustations evidently were formed around old tree stumps and snags submerged by the waters of Eocene lakes. In time the woody cores became silicified so that inside the cones and lime cylinder we now find petrified wood.

The main groups of pinnacles near Searles Lake are scattered over an area of several square miles. Beyond these, often at some distance, are nearly a dozen smaller outliers. Separating the two main groups runs a long salt-bush-bordered wash of clean gray sand. It serves not only as a drainway for the run-off waters of infrequent rains but also as a trailway for many of the wild animals, like kit foxes and coyotes, which inhabit the area. Every night they leave fresh footprint evidence of their travels, and I am never surprised when camping here to see one or more of these desert carnivores roving about. At night



The little kit fox was naturally curious—he probably had never before seen a human being—so he followed the three strange two-legged creatures on their moonlight trek. Photo by Lewis W. Walker.

I often hear the coyote's clear-ringing call or the kit fox's single strange cough-like bark. I most often see coyotes in the early morning just at daybreak when they are returning to their daytime hideouts after the night's hunt. Kit foxes come from their underground lairs at dusk and quite frequently I have seen them come up to my camp, attracted either by curiosity or the odor of food.

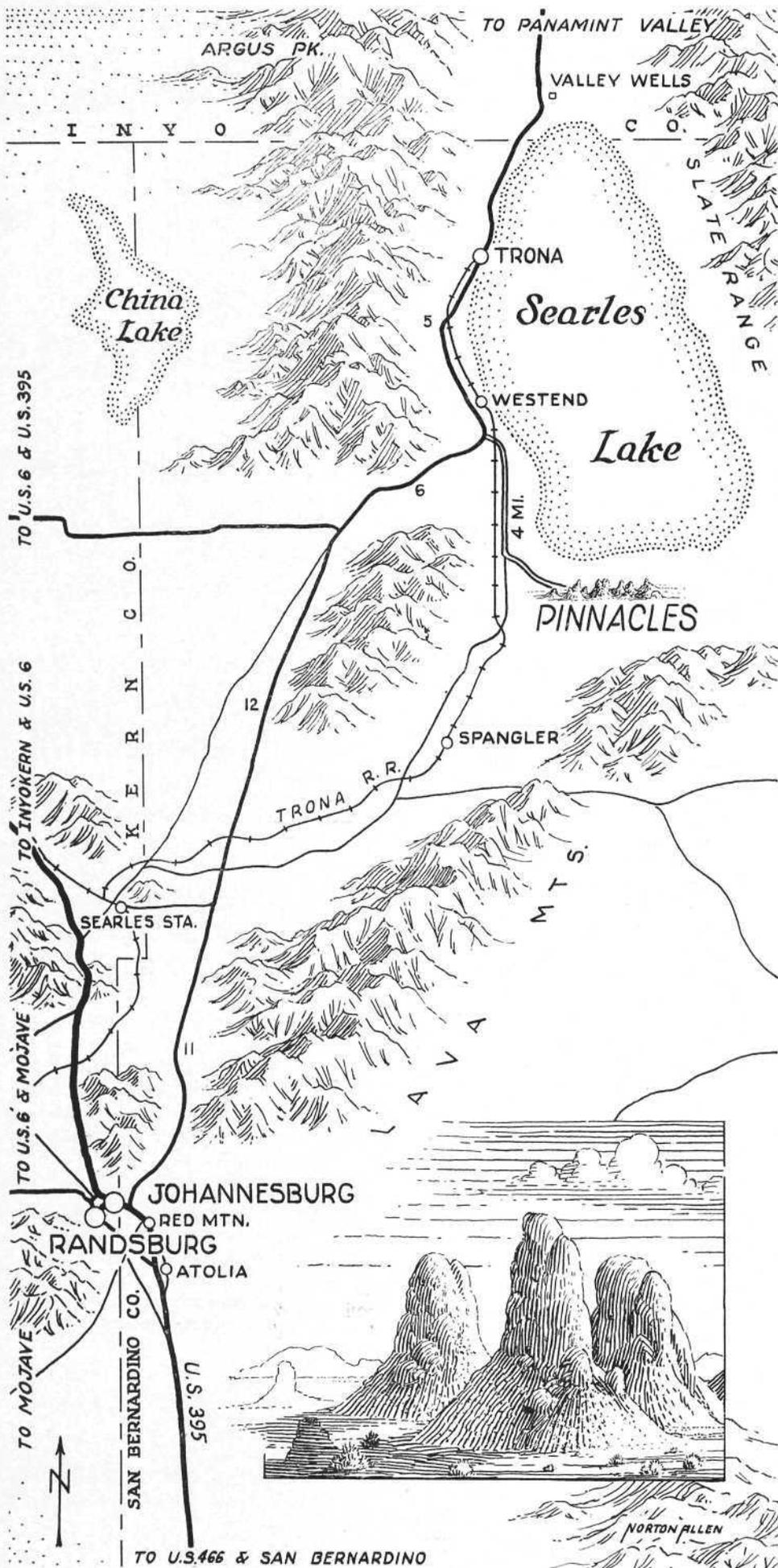
In the many crypts in the limestone towers live desert woodrats. About the openings to their homes are quantities of small, dry sticks of brittle bush and other shrubs they have brought in as they returned from their frequent excursions along regular paths to the nearby bushes. One often wonders how they or their other animal neighbors find enough to eat in a region so near devoid of plant life.

On the north sides of the rough-surfaced limestone monoliths are splashes of the brilliant color of rock-hugging lichens. The beautiful blues are those of the lichen called *Lecanora*; the bright brick-reds are produced by a lichen called *Caloplaca*; the lovely, often circular patches of gray-green indicate a species of *Parmelia*. Scattered among the colonies of colored lichen grows a velvety black lichen disposed in small patches of crust-like plates. These unique biotic entities, composed of closely associated threads of algae and cells of low grade fungi, probably actively grow only a comparatively few hours of each year during rains or other times of high humidity when water, so necessary to their existence, is found. We are not surprised then to learn that the colonies composing the many colorful irregular-

shaped patches and disk-like crusts are perhaps many years old, some of them even perhaps a half century of age.

Throughout the daylight hours the visitor to the pinnacles area hears the lonely raucous cry of ravens. Some of the big black birds may be seen circling overhead, often in pairs. There is evidence that each year a few pairs of these sagacious birds nest in shelf-like niches in some of the high rock towers. Their principal food is probably made up of lizards, and, in the spring, of the young of ground squirrels and jack rabbits. Only very infrequently must they find carrion. Another bird using cavelets for nesting sites is the spider-feeding rock wren. Heard often is its clear bell-like song. Several times a day, in cool winter or hot summer, even at mid-day, we will catch sight of this sprightly dweller of the desert's solitudes.

Right among the groups of pinnacles, and near the big central sand wash, are several low, broad, almost flat-topped domes of colorful gray and green powdery soils. As I tried to walk over them I found myself sinking often more than ankle-deep into the fine-textured almost flour-like material. Such rounded hillocks consist of soil heavily permeated with gypsum and other salts in minute crystalline form, many of them the salts that in purer form are found in nearby Searles Dry Lake where they constitute what is with little doubt the richest source of high grade commercially useful chemicals in the deserts of the world. At Trona, 15 miles due north of the pinnacles, is the large 33-acre plant of the American Potash and Chemical Company where approximately 2,000



tons of 18 different high grade chemicals are daily produced from 37,000,000 gallons of water pumped underground and returned as brines carrying the precious salts.

Several well known desert landmarks can be seen from the pinnacles area. To the north lies Telescope Peak, highest point in the Panamint Mountains. To the northwest may be seen almost mile-high Argus Peak: to the east are the bare-surfaced Owl and Slate Mountains. On the southeast lies beautiful Pilot Knob, said to have received its name because in early days it was unmistakably recognized by travelers from more points in the Mojave Desert than any other landmark. It is an isolated, steep-sided almost flat-topped mountain made up of alternating colorful layers of light and dark volcanic rocks. They make it appear, as a grizzled prospector once said to me "just like a big colored layer cake." An old, now little-used road leads from the pinnacles directly to this prominent desert landmark. It was probably made by early travelers seeking water at nearby Granite Wells.

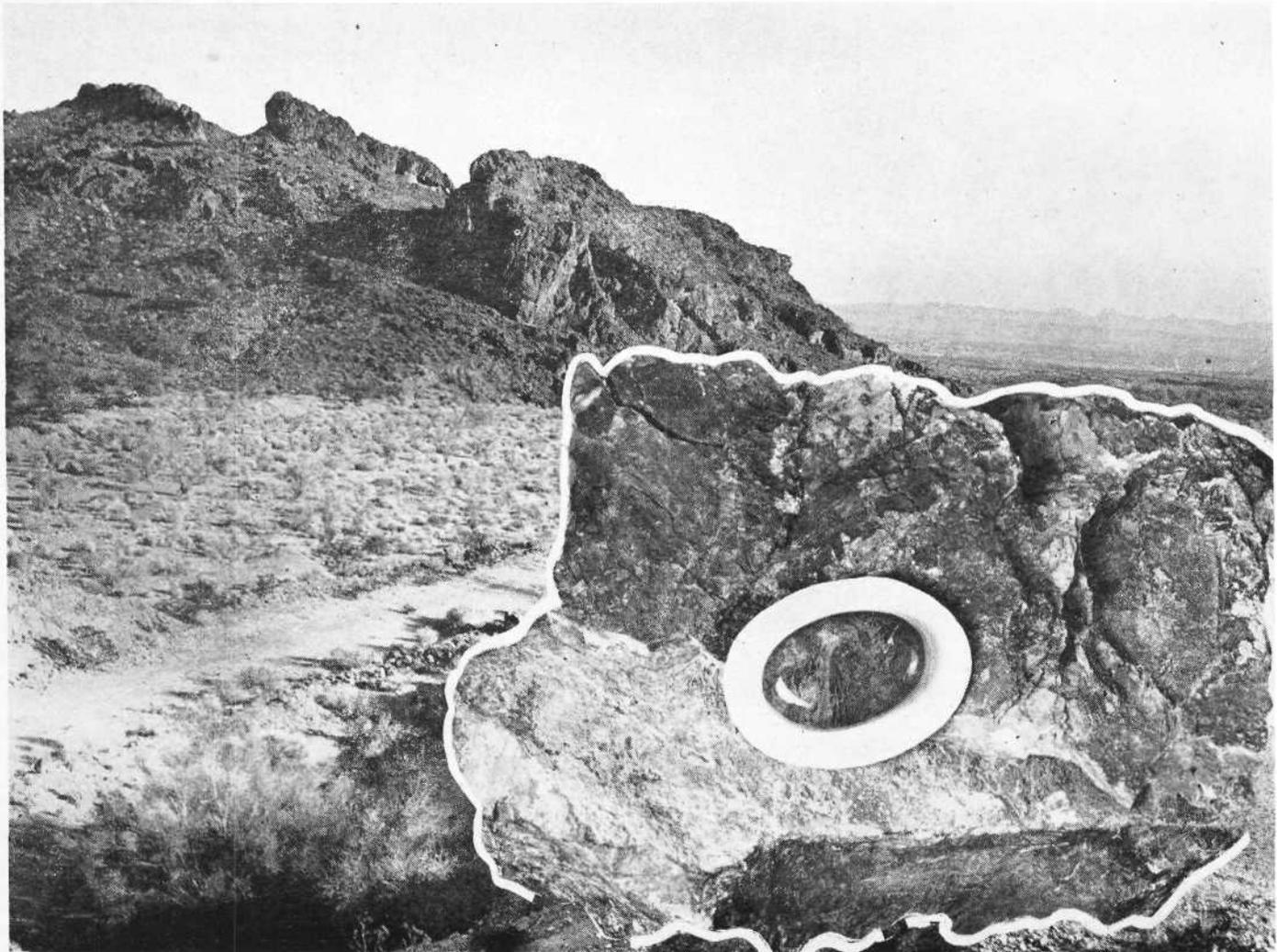
Late in October and all through November's calm, clear, sunshiny days are good times to visit this awesome spectacle of Nature. Because the strange spires are especially inspiring when seen by moonlight I generally plan my visits (and they are quite often) at full moon periods. As with so many objects these huge columns of rock then appear almost twice as massive and high as during daylight hours.

MARCH RAINS INCREASE DESERT WATER SUPPLIES

Most Southwestern areas received above-average rainfall during March to relieve drought conditions worsened by an extremely dry February. Monthly amounts ranged from over 400 percent of normal in the Lower Colorado River Basin to slightly below or somewhat above normal in other areas, the U. S. Weather Bureau and Soil Conservation Service reported April 1.

Above-normal March precipitation greatly improved the water supply outlook for the Upper Colorado, Green River and San Juan River basins. The Colorado River above Cisco was the only area in which rainfall was below normal, and consequently forecasts for streams in the area are lower than those of a month ago.

March precipitation was much above normal over the entire Lower Colorado River Basin, and the water potential in this area has greatly increased. Monthly precipitation amounts ranged from near 200 to approximately 400 percent of normal.



"Back door" into jasper area leads from aqueduct road to excellent camping area. Colorful stone is found on the opposite side of the Cave Hills, above left. Inset is chunk of red and yellow jasper found in the field, with a cabochon cut from the material. Much of the jasper is so oxidized it is difficult to distinguish it from the country rock.

Indian Jasper in the Whipples

By HAROLD WEIGHT

Photographs by the author

Map by Norton Allen

WE WERE half a dozen miles east of Vidal Junction, California, on the Parker highway when the speedometer gave a convulsive spin and dropped to zero. I stopped the car and Lucile and I stared at one another. We felt like a couple of lost mine hunters whose map had suddenly vanished. For our only map to the jasper field we wanted to relocate in the Whipple Mountains was a record of mileages and turns taken down on a hasty guided trip into the area seven years before.

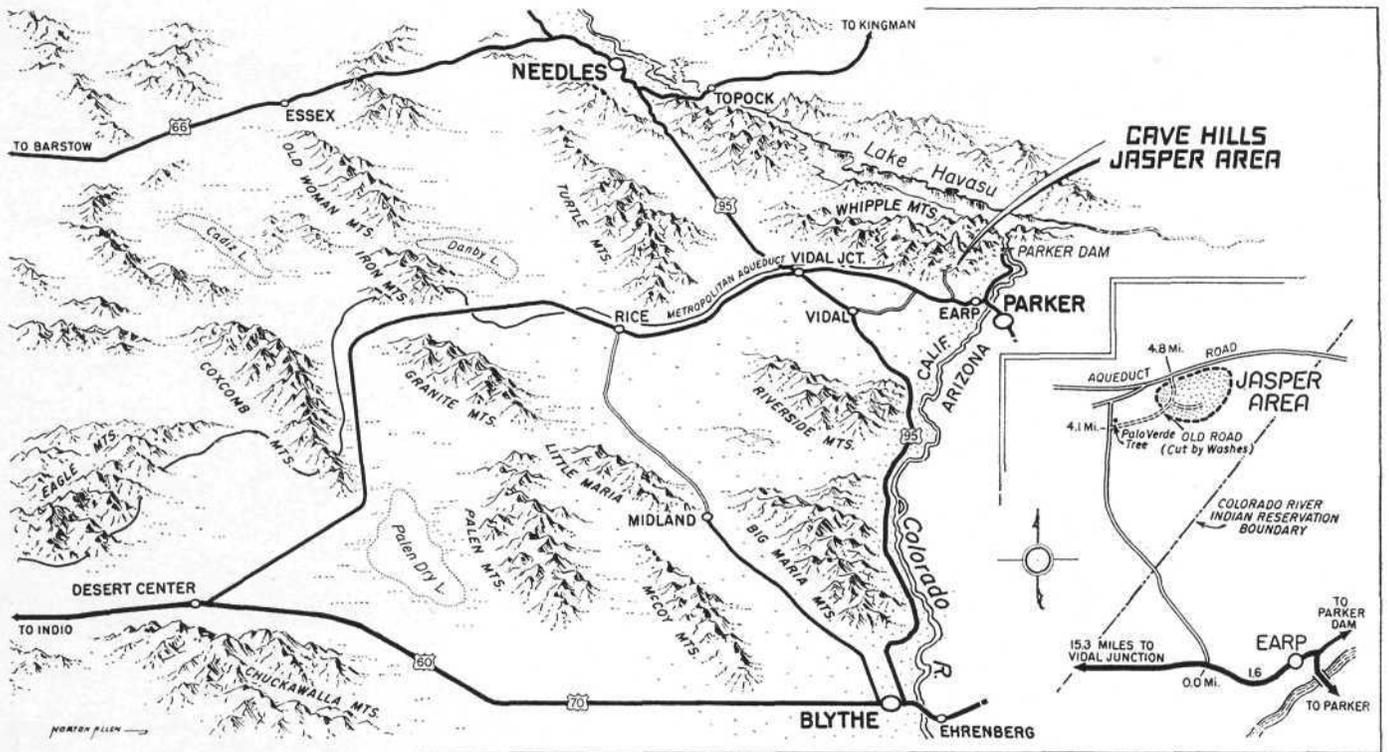
We had glimpsed that jasper on a visit to W. N. (Dinty) and Avis Moore, now active in rockhound circles in Phoenix, but who then lived at Parker Dam. Dinty and Avis took us on a field trip into the Turtles, the range west of the Whipples, and on the way made a brief detour to the jasper locality. It seemed that we were in and back out again in a matter of moments. We had a couple of pieces of the material and this note: "Jasper hill, Whipple Mountains. Jasper mainly red, with white, lavender, yellow, green. Part high grade, much of cutting quality. Extent of field unknown."

The unusually warm days of late

When Lieut. Ives steamed up the Colorado in 1857 in the clumsy steamboat, the "Explorer," the Chemehuevi Indians were using beautiful arrowheads made from jasper. Harold and Lucile Weight went into the Whipple Mountains recently to see if they could find the source of the Indian jasper—and what they discovered is of interest both to rockhounds and archeologists.

February—ideal for winter rock hunting on the Mojave—set us off on our long-planned second visit to this jasper hill. But a pinched-out tire on the washboardy Riverside County section of the Baseline road from Twenty-nine Palms, and time consumed in its repair, threw us far behind schedule. Now the sun was low and a great fan of cirrus pouring up from the south and west promised a colorful, but early, sunset. And we no longer had a speedometer to guide us.

"Well," said Lucile, "the turnoff from this highway was 1.6 miles this side of Earp. And there was a sign there, 'River View Mine, H. O. Hogue.'



We certainly should be able to find that road."

I nodded. "And the jasper was less than 10 miles in, good desert road all the way. We can reach the area before dark, and something in there should look familiar to us."

"It was in a sort of little valley," Lucile amplified.

"Then we go on?"

Lucile nodded. "The Whipples are always worth a visit."

Even from the highway, some miles to the south, the Whipples are a striking range. Seen close up, they are among the most beautiful mountains on the Mojave. Much of their spectacular scenery is due to their composition, a helter-skelter mixup of some of the world's oldest rocks—pre-Cambrian granites, schists and quartzites—with the colorful volcanics of Tertiary times. Then too, their beauty is augmented by the relatively heavy vegetation, the ironwood, palo verde and smoke tree of bajada and washes being more reminiscent of the Colorado Desert than of the Mojave.

As the highway swung around the southern slopes of the mountains toward the Colorado River, a lean, striking finger of dark volcanic rock came into sight to the northeast. This was famed Monument Peak, a landmark since the beginning of the desert's habitation. Onate and his Spaniards must have noted it when they came down Bill Williams River to the Colorado in December, 1904. Padre Garces surely saw it in February, 1776, when going to the land of the Mohaves,

and Captain Sitgreaves on the way to Camp Yuma late in 1851.

Lt. A. W. Whipple, whose name the mountains now bear, reached the Colorado by Bill Williams fork in February, 1854. But he was trying to follow the 35th parallel, which crosses the river north of Needles at the very southern tip of Nevada, in his search for a possible route for a transcontinental railroad. So he headed north along the Colorado and apparently did not see Monument Peak.

With him was young Lt. Joseph C. Ives. A few years later Ives commanded an army expedition exploring the Colorado. And late in January, 1858, with Ives and his command aboard, the wretchedly clumsy *Explorer*—first steamer to venture so far up the river—was bumbling its way from sand bar to sand bar through the Parker Valley. As Ives wrote in exasperation: "We were three days in accomplishing nine miles. A boat drawing six inches less water and without any reinforcing timbers attached to the bottom could probably have made the same distance in three hours."

But if Ives and Captain Robinson, who piloted the *Explorer*, were unhappy about their progress, the Chemehuevi Indians then occupying northern Parker Valley, the Whipples and the surrounding desert, were not. For them it was County Fair Week and show of a lifetime combined. Always foot-loose and ready to be entertained, they deserted their camps and caves and hunting trails to sit on the river banks and watch the fun. Whenever the

Explorer went aground—which was every few hundred feet—they howled with delight.

It is a measure of Ives' character that he appreciated their amusement. Despite the trying circumstances, his *Report Upon the Colorado River of the West* sparkles with the wry comedy of the spectacle as the Indians saw it. "If we had anticipated inspiring them with awe or admiration," he comments, "we should be sadly disappointed. That we should spend days in doing what they can accomplish in half as many hours strikes them as unaccountably stupid."

As the *Explorer* inched upriver, Ives saw an unusual group of mountains on the California side. "Among the group of fantastic peaks that surmount this chain," he wrote, "is a slender and perfectly symmetrical spire that furnishes a striking landmark, as it can be seen from a great way down the river in beautiful relief against the sky." He named the spire "The Monument."

And because of that peak he called the whole range, on both sides of the Colorado, Monument Mountains. The river gorge through the mountains, whose beauty he described enthusiastically, he called Monument Canyon. And after he had navigated the canyon, past the site of present Parker Dam and the mouth of Bill Williams River, he named one outstanding peak on the California side Mount Whipple, for his old commander. Somehow in the years since, the name Whipple has been extended to cover the whole

range in California. In geological seniority, it is fair enough that Mount Whipple's ancient granites should outrank the upstart volcanic trap of Monument Peak. Historically, Whipple deserves a California range bearing his name.

Ives also had plenty of time to study the Chemehuevis whom he was entertaining. "They are altogether different in appearance and character from the other Colorado River Indians," he wrote. "They have small figures and some of them delicate, nicely-cut features with little of the Indian physiognomy. Unlike their neighbors—who though warlike are domestic — the Chemehuevis are a wandering race and travel great distances on hunting and predatory excursions. They wear sandals and hunting shirts of buckskin, and carry tastefully-made quivers of the same material."

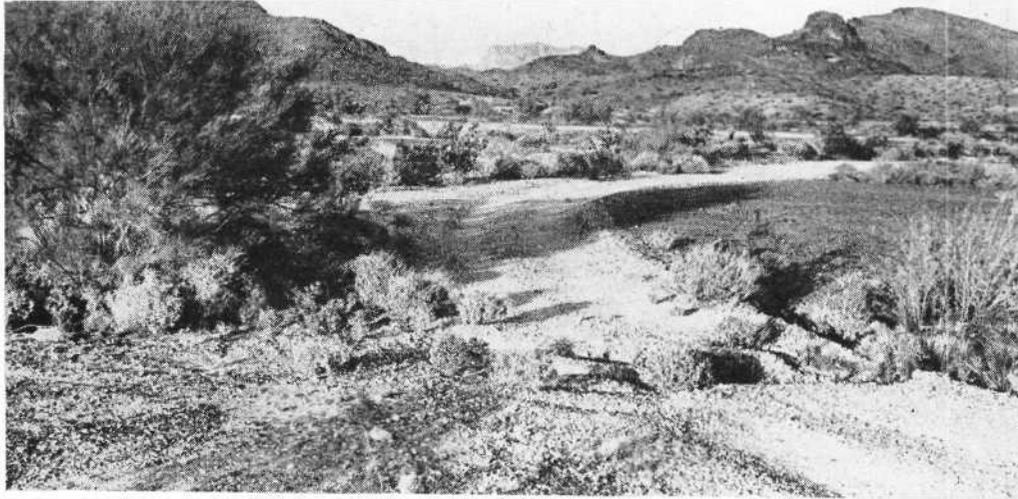
Had Ives carried his investigations a little further, he would have discovered that some of the points on the arrows in those quivers were also tastefully made of beautiful moss and paisley and bright, solidly colored jasper. He certainly would have been interested to learn part of the jasper used was found within a few miles of the Monument Peak he so admired.

We were hunting that jasper.

We camped that night far up the bajada, at the base of the first outliers of the Whipples. We estimated we should be in the vicinity of the jasper field, but had no idea in which direction it might lie. It had, in fact, been a very discouraging afternoon — but the sort of exercise I can recommend to persons who cannot understand how a mine or ledge can become lost.

The mine sign we had depended upon to identify the turnoff was gone, and since the mine was not operating, the road had deteriorated. We finally found it only by eliminating all other possible tracks. Up on the bajada, the road improved, but the branches seemed to have changed and multiplied. We had not located ourselves when darkness fell, and after a few miles of useless probing to and fro with our headlight beams, we pulled off onto a fairly level pebble pavement. Supper was a catch-as-catch-can affair consumed by flashlight in the cab of the pickup. The rest of campmaking consisted of inflating air mattresses and spreading our sleeping bags in the truck bed.

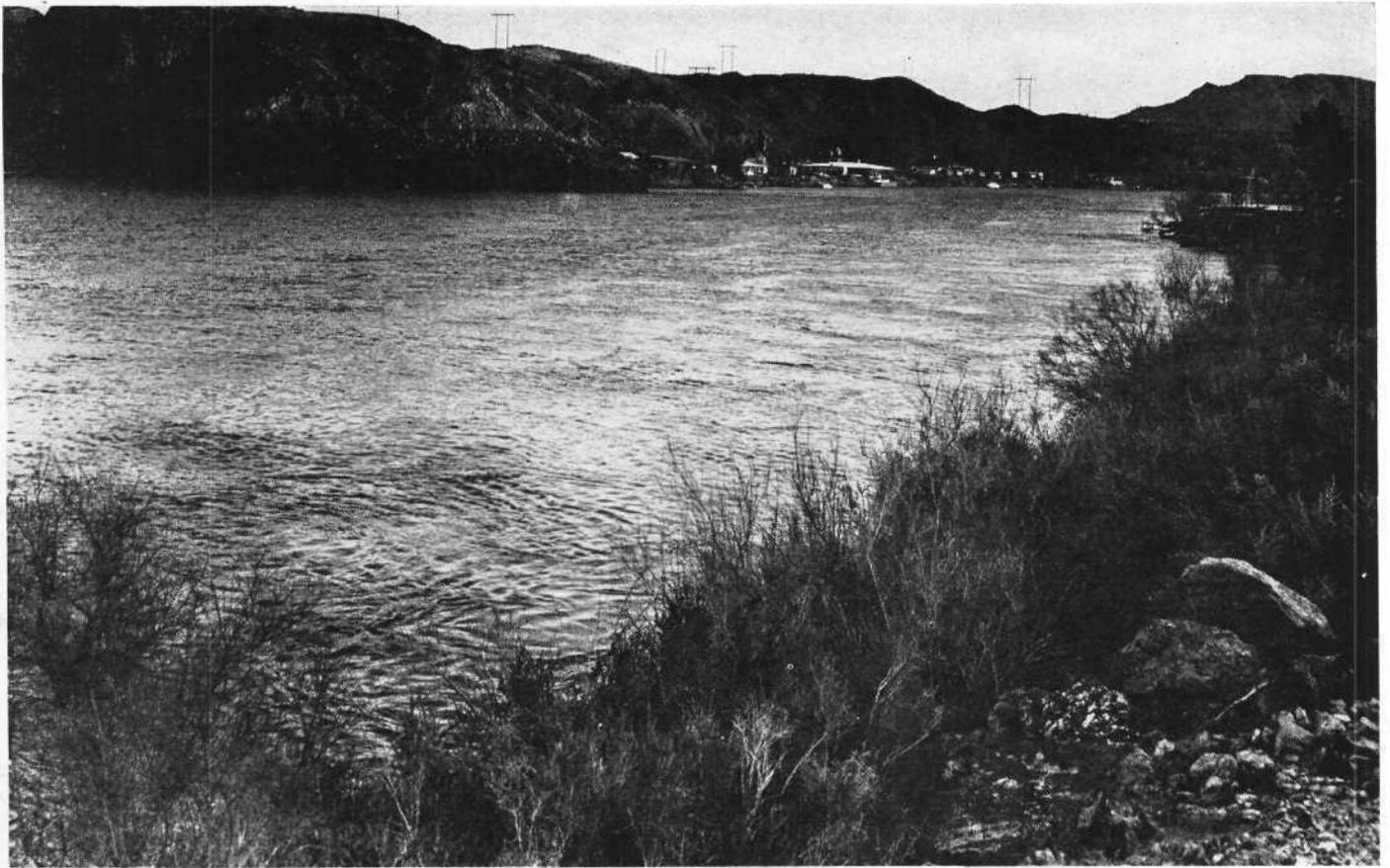
But the night was perfectly suited for desert camping—warm, clear and quiet. For a long time we marveled at the show of lights spread out below—Parker, Earp, Poston, Vidal, and scores upon scores of motels, trailer camps, private homes and individual



Above—This old road leads directly across the bajada to the jasper in the volcanic hills, upper right. Palo Verde, left, marks point where old road to the field leaves the main road.

Center—Brightly colored and moss jasper may be found on slopes and ridges in the background.

Below—From one of the caves, looking across the Colorado River valley. Riverside Mountains in the background.



Each year more and more fishermen and vacationists come to this lovely vista along the Colorado below Parker dam for recreation.

camps up and down the Colorado. This was the weekend of Washington's birthday, and it had brought a large number of eager fishermen to the river, but growth of permanent population in this area since the war is astonishing.

And after we were in our sleeping bags, we watched the march of familiar constellations overhead — Orion, then Sirius, the Dog Star, scintillating like a glorious jewel, and Cassiopeia's Chair and the Pleiades and the Hyades. But on this clear night, the whole sky seemed frosted with myriads of smaller or more distant stars which do not even show in smog-filmed skies farther west. Then the sublimity of the moment was broken by the only unpleasant note—or buzz—of that night, the voices of a few enterprising mosquitoes that apparently had tired of fisherman fare and had decided to dine out and sample rockhounds. We pulled our heads under cover and slept.

I woke once after the late-rising moon, nearing its last quarter, was well aloft. Its light was surprising, and I could see the great river valley and the faint masses of scattered mountain ranges. Nearer, the wash-cut bajada, with sharp-limbed and spined palo verde, catsclaw and cholla, was silver and black. And to the northeast, quite close to our camp, a group

of low, jagged hills looked, even by moonlight, as if they should carry rockhound rocks.

In the grey pre-dawn we boiled coffee in an open pan over a little fire in the steep V-wash beside our camp. Relishing the full bodied flavor of that "primitive" brew, we wondered if the old prospectors hadn't used the best method of coffee-making, after all.

By daylight the hills to the northeast looked even more interesting. Buttes and ridges of the brownish-black volcanic series which outcrop in many places along the southeastern edges of the Whipples, they were perfectly honeycombed with caves. A few hundred yards down the bajada

from our camp, we could see where a once bladed trail left our road and headed for the hills. When we started to follow it, we found that it had been badly wash-cut in several places, and in one great drainage channel, just to the west of the Cave Hills, the road had disappeared completely. Once across it, however, the road appeared again and was in passable condition the full length of the little group of hills.

We knew we were on the right track when, in a shallow cave in an arroyo wall, I found two small pieces of pottery—and a worked bit of bright red jasper. Then, in the sunburned volcanic rock which coated the hills, Lucile discovered a large chip of patterned, colorful jasper. We began to recognize larger pebbles and small boulders as jasper and jasp-agate. They were so oxidized and discolored—a dark or reddish brown—that they differed little except in texture from the country rock. As in many other fields, it was necessary to adjust our eyes to the material we were hunting.

The Metropolitan Aqueduct, from Parker Dam to Los Angeles, touches the northwestern edges of the Cave Hills. We followed the abandoned road almost to it, finding jasper spotted irregularly on the hillsides on the way. Some of the best we located was on a

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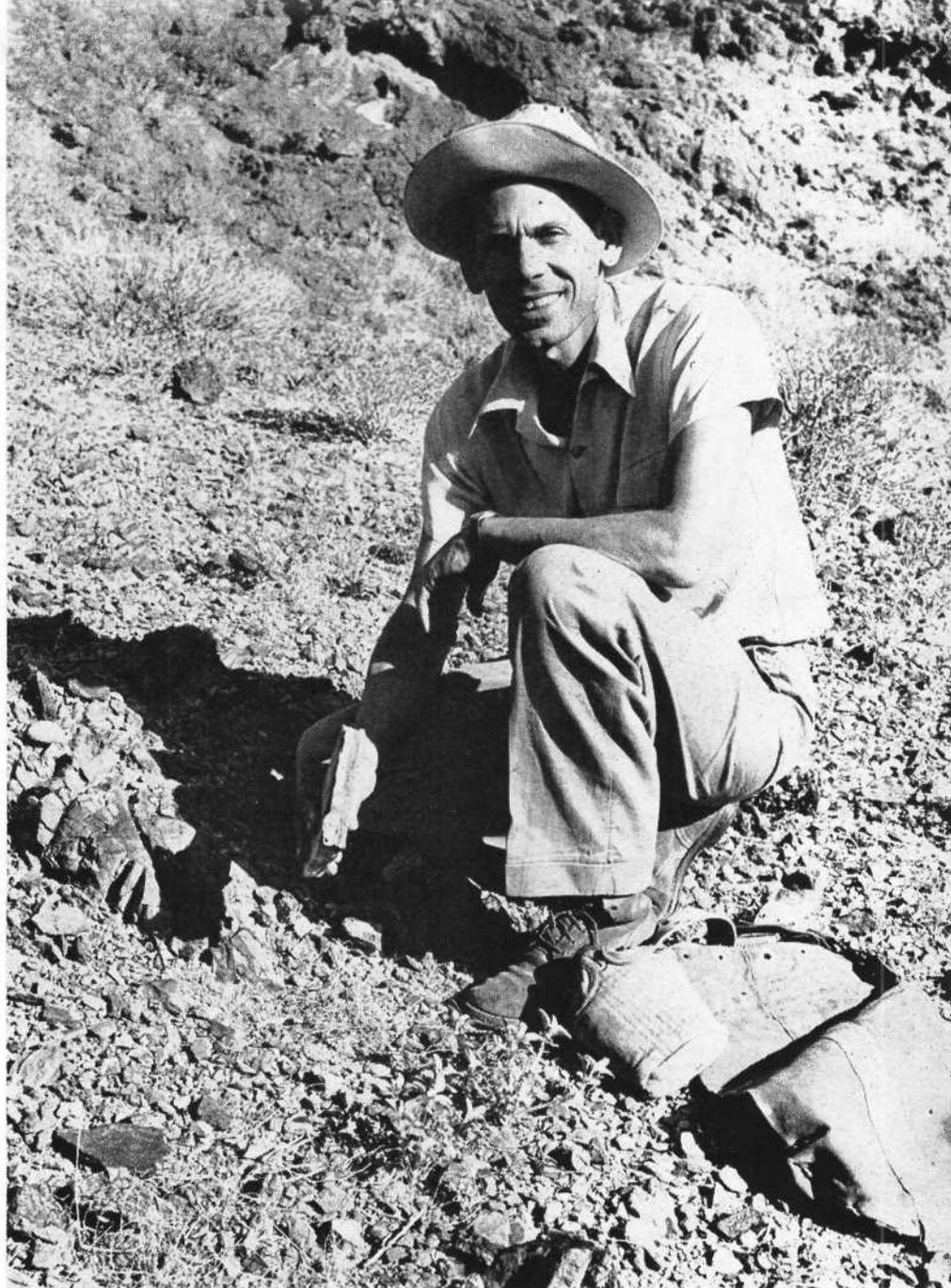
Mile	
0.0	Turn north from Desert Center-Parker highway, 15.3 miles from Vidal Junction, 1.6 miles west of Earp.
3.9	Pass under pole line.
4.1	Old road branches right to jasper field. <i>Watch for dangerous cut in bed of this road.</i> Either turn right here or continue on main road to:
4.4	Reach aqueduct road, turn right.
4.8	Turn right from aqueduct road, follow branch a few hundred yards to little mesa west of Cave Hills.

low hill northwest of the point where the road enters a deep arroyo. Another good spot was on a small butte separated by the old road from the main body of the hills. Checks showed that the jasper was scattered as float or cropping in irregular veins in many other places in the Cave Hills—from top to bottom. In quality it ranged from rather large pieces of poor grade to gem quality "thread," moss, paisley, and almost poppy-like patterns. Colors included reds, yellows, gold, green, brown. It is not a field for truck collecting, and rockhounds must cover a good deal of rough territory. But if they look they will be rewarded.

At the present time, the old road is not passable for ordinary cars, without some work being done to fill in a badly washed spot and, following it, it is necessary to walk about half a mile to the edge of the jasper field. We did find a branch trail from the aqueduct road, which cuts down into the big wash to an excellent camping place on the opposite side of the Cave Hills from the jasper. It offers the easiest approach to the collecting area. But it must be emphasized that the aqueduct road is a private road with permission to trespass revokable at any time. Probably there will be no objection to the use of this short portion of it—so long as some smart or anti-social character does not commit a nuisance. Should it be blocked, the old road can be followed.

The largest present-day inhabitant of the Cave Hills whose acquaintance we made was a rheumy-eyed desert tortoise who apparently had been misled by the unseasonable warmth to break his winter hibernation. The dirt from his earthy bedchamber still was scattered over his shell, with a little peak of it on the top of his head. I suspect that with some of the cold nights that have followed he has returned to his burrow with the determination of finding a new weather forecaster. The area also has mocking birds, linnets and bats, and apparently an enormous population of packrats, who are all cavedwellers.

And in many places we found evidence of earlier inhabitants who had worked these jasper fields before us. The chippings from their arrowpoint making indicated that they had selected their stones with an eye for beauty. One of the caves, which showed no indication of its size from below, proved to be a two-bedroom affair with a wonderful view arch in the living room. Packrats had filled the two bedrooms with an incredible amount of debris, while a tiny dark lizard seemed to be the only occupant of the living room.



The author with a piece of red and green jasper, as it occurs in thin discontinuous ledges at the base of the butte in the Cave Hills field.

In a hollow in the large boulder at the mouth of the cave Lucile found a dozen bright bits of jasper. We could almost picture the Chemehuevi who had squatted there, day after day, working up his points with that great living map of the Colorado River Valley before him. Perhaps from this very point he had seen the smoke of Ives' little steamer and had called the family together to go see the big show.

I do not know whether these caves were only used for arrowpoint making, or whether they were semi-permanent homes. I found several *tinajas* in nearby washes, which would hold water for quite a while after a rain. And of course the wife could always be sent the five or six miles down to the river to fill a few pots. And I'm certain that some of those caves, with a little fire, would be much cozier

when winter winds swept the Mojave than would any camp along the river.

It was Ives who brought the Chemehuevis alive for me. Whenever I read his journals, or those of any of that remarkable group of American military men who first reported on the West—Emory, Simpson, Whipple and the rest—I am amazed at their literary substance and vivid humanity. And I am endlessly grateful that the present compulsion of government researchers to express themselves in pedantic and meaningless jargon was then unknown.

Of course, in the matter of anthropology, Ives and his contemporaries had the advantage. They saw our Western Indians live, while present day researchers can only rattle dry bones or depend on informants who sometimes take a mischievous pleasure

in misinforming. Nevertheless, I wonder how we would picture last century's Colorado River Indians had Ives hopped ashore at each camp with briefcase full of aptitude and intelligence tests, and a questionnaire designed to fit these particular anthropological specimens into their proper sib, moiety and dichotomic pigeon-holes.

I'm sure we wouldn't have heard of the Chemehuevi who tried to cheat the lieutenant in a deerskin trade. "He was highly amused at being caught," Ives wrote, "and it raised me very much in his estimation; if I had tried to cheat him, and had succeeded, his admiration would have been unlimited." Nor would it have been scientifically worth while to tell of the Indian woman who tried to help guide the *Explorer* across a sand bar. Captain Robinson's "knowledge of the river showed that it would not do, and he sheered off without making the trial. The benevolence of the old hag was at once converted to rage, and with clenched fists and flaming eyes she followed along the bank, screaming at the captain a volley of maledictions."

Nor would we have had the final touch to make real the little Indian kiddies who once played around these very caves: "Mr. Mollhausen has enlisted the services of the children to procure zoological specimens, and has obtained, at the cost of a few strings of beads, several varieties of pouched mice and lizards. They think he eats them, and are delighted that his eccentric appetite can be gratified with so much ease and profit to themselves."

When we headed back toward Earp, we were satisfied that we had found a jasper field, but did not know if it was *the* jasper field. It looked vaguely familiar, but there was not a single spot that we could actually recognize. Later we returned with speedometer working and found that we had considerably overestimated the number of miles we had traveled from the highway and that this was a new field. The other jasper lies several miles farther along the Whipples. This, and the number of other hills apparently of the same volcanic constitution which we saw, is a good indication that there are more jasper areas for those who like to hunt their own fields.

It was near sundown when we reached the highway, but we did not want to turn homeward without driving up the river to Parker Dam. This, we think, is the most beautiful section of the lower Colorado which can be followed by a good road, and sundown is the perfect time to see it. But as we had been amazed by the in-

crease in population in Parker Valley, so it was with Monument Canyon. Everywhere were homes and camps and trailer parks crowded with people and cars, and the Arizona shore seemed to be in the same condition. Cars were parked at every likely spot, too, and fishermen were still out along the river. At some of the little side valleys, farming was under way.

But there ahead, as we rounded a bend, was the same blood red ridge which had so impressed Lt. Ives. And for just a little stretch no modern building obtruded. The wild, highly colored buttes and ridges which crowd the swiftly flowing river were just as they had been when the little *Explorer* first shattered the silence of this hidden world, and Ives wrote rhapsodically of its beauty. Why right here, perhaps, Ives came upon the two Chemehuevis, with their wives, children and household belongings, afloat upon reed rafts. Against that bank they may have drawn their rafts into the little cave to watch in awe, while the steamer puffed noisily by. And perhaps the warriors nervously fingered arrows tipped with the very jasper we had been collecting that afternoon.

Ahead, around the bend, the little Chemehuevi chief and his people would be waiting to make a state call upon Lt. Ives when the churning *Explorer* nosed in to the bank.

But no—around that bend was the gleaming, yet alien beauty of Parker Dam, concrete proof of the changes time had brought to the once omnipotent Colorado of the West. It was late, and this was a good place to turn back.

INSCRIPTION SELECTED FOR SCOTTY'S MONUMENT

*"I got four things to live by:
Don't say nothing that will hurt
anybody. Don't give advice — no-
body will take it anyway. Don't
complain. Don't explain."*

This inscription — Death Valley Scotty's own words, according to Eleanor Jordon Houston's recent book — is to be engraved on the plaque to be erected next November 12 at Walter Scott's grave on a hill above Scotty's Castle.

The plaque is being sponsored by the Death Valley 49ers, and will be placed on a memorial monument to be erected by the Gospel Foundation of California, owners of Scotty's Castle.

The 49ers chose the inscription at their April meeting, and at the same time approved a sketch submitted by Cyria Henderson for the design of the plaque which she will model in clay and then have cast in bronze.

Adell "K. C." Jones, Life-on-the-Desert winner whose story appears in this month's *Desert*, was born in Ogden, Utah. After attending schools in the small Congregational College town of Tabor, Iowa, she joined her father, a country newspaper editor in Lovelock, Nevada. She married John S. Case, another newspaper editor, in 1910.

When Ray Jones first called on Adell in 1947, she was reading Charles Kelly's story, "Hole in the Rock," in the May, 1947, issue of *Desert Magazine*. Ray was immediately interested and related the part his grandfather played in the historic Mormon trek. He and Mrs. Jones were married soon after. When *Desert's* Life-on-the-Desert contest was announced, she asked her husband to retell the story. Their joint entry proved to be a prize-winner.

A number of Mrs. Jones' poems have been published, and she writes occasional articles for her home town newspaper in Fallon, Nevada.

"I am a naturalist at heart, and an explorer and amateur photographer," confesses Geologist C. L. Burdick. He must, then, thoroughly have enjoyed the research and writing which culminated in the story on Mexico's Seri Indians which appears in this issue of *Desert*.

Burdick first visited the Seris' primitive village in 1943 with two American companions. Upon returning home, he told an acquaintance, T. G. Patterson, about the trip, and Patterson in turn related the story to Albert M. Johnson, Death Valley Scotty's benefactor and friend. Johnson supported a foundation dedicated to helping needy Indians and translating the Bible into their tongues. Immediately interested in the Seris' plight, he decided to send Burdick back to the Indians' village to write detailed reports of what he found there. "They Wouldn't Be Civilized" is the story of that second trip.

Burdick is a native of Wisconsin and did graduate work in geology at the University of Wisconsin. He taught high school science before entering mining geology about 15 years ago.

He currently is employed by two mining companies engaged in the development of mineral resources in Baja California. On the side he writes articles on historical geology, particularly probing the relationship of this science to archeology. He lives in Tucson, Arizona.

Lost Ledge of Mammoth Canyon

By SHEP SHEPHERD

BY THE YEAR 1857 the trails to the gold fields of California were more or less well defined. Indians were still one of the major obstacles. Not long after the massacre of 140 people at Mountain Meadows a band of fast riding Paiutes intercepted a party of California bound settlers several days' march west of the massacre scene. The party was following the old Spanish Trail. In the ensuing fight the settler group became disorganized. Two men of the party escaped and in the darkness that night struck north.

The scene of the battle was roughly on the California-Nevada border. Traveling by night and hiding by day they kept a northerly course up the wide desert valley in which they found themselves, hoping to cross the trail of other parties traveling west.

To the west they could see the towering mountain ranges they would eventually have to cross. When their water gave out they turned westward and finally arrived at a clear, cool stream. They had struck the head waters of the Owens River. A short time later, in the same general vicinity, they were resting near a small valley within sight of a lofty gray mountain. One man broke off a piece of a cement-like ledge and found it spotted with yellow flakes. He was convinced the yellow stuff was gold. His partner laughed at the idea, insisting the yellow flakes were worthless. The believer filled his pockets with about ten pounds of the ore and the two went on their way.

Eventually they made their way across the mountains and found a small stream which led them to the San Joaquin River. They followed the San Joaquin to the settlement of Milerton.

The man with the gold made plans to retrace their steps to the rich ledge. However, he had become ill and before his plans were completed he was forced to seek treatment in San Francisco. His condition became so bad he had to give up any idea of returning to the treasure. Indebted to his physician, a Dr. Randall, and without funds he paid what he could with the ore he had left and gave Randall a map of the section containing the gold bearing ledge.

The man died soon afterward and nothing more was ever heard from his companion.

This is a new version of a lost mine story related by Mark Twain in his book "Roughing It," and also in W. A. Chalfant's "Gold, Guns and Ghost Towns." It is the legendary Lost Cement mine, and so far as the records show it has never been re-discovered.

Neither man's name seems to have been preserved though their activities are frequently mentioned in old records of the Mammoth Canyon discoveries. Most authentic of these writings seems to be those of J. W. A. Wright, who wrote from Mammoth in 1879, reporting for the *San Francisco Post* on the searches still going on for the lost cement mines.

Doctor Randall arrived on the scene in the spring of 1861. He headquartered at old Monoville and hired a party of men. Next, using the dead man's map as a guide, he located a quarter section of land a few miles north of the town on what was known as Pumice Flats.

Not far to the northeast were the Mono Craters. The cones, as well as much of the surrounding area, were coated with pumice from the once active volcanos.

Randall hired a man named Gid Whiteman as foreman of eleven men and began the task of prospecting every inch of the 160 acres.

The following year, 1862, a man named Van Horn joined the search. He seems to have been prominent in the mining fields since one district was named after him. Another member of the searching party was a German whose name has not been preserved in the records.

The German is now believed to have re-discovered the gold bearing cement ledge, though not on Randall's 160 acres. He took Van Horn into his confidence and the two quit the search together, saying they were tired of the country and wanted to seek new fields. They took one horse belonging to Van Horn to carry their belongings and left in the direction of Aurora. Once hidden from the others they went to where the German had found the ledge. They loaded the horse with sacks of ore, concealed the location and struck out for Virginia City. At the Walker River they crushed and panned the cement-like material, obtaining several thousands of dollars in gold.

In Virginia City they bought needed supplies, tools and horses and took a third man into the partnership. Back at the location they started work on what was intended to be a permanent camp. The work was barely begun when Indian Chief Joaquin Jim raided the camp with a party of braves, took all their supplies, leaving only the clothes they wore and one horse with which to get out of the country. The three returned to Virginia City to wait for the Indian troubles to subside. In the meantime Van Horn became the victim of an ailment that left him semi-invalid. He started to San Francisco for treatment but on the boat from Sacramento became so ill he feared death was near. He confided in a man named Carpenter, adding that he believed his two partners were planning to return to the ledge in spite of the Indian menace.

Carpenter himself apparently made no effort to enter the search but his knowledge was passed on to two men named Kirkpatrick and Colt, the latter a member of the firearms family. These two men came to Monoville, hired a guide to take them to the vicinity of Mammoth Canyon where they believed Van Horn's camp to be.

The search uncovered a place where logs had been laid for a floor and nearby were the stumps of trees that had been felled. Continuing the hunt for the ledge the men found two skeletons supposed to have been those of Van Horn's partners. Apparently Joaquin Jim's warning had not been an idle threat. Though they kept at the search until supplies and funds were exhausted, Kirkpatrick and Colt were unable to locate the cement ledge. They did discover some ledges composed of a red cement-like material but none that were gold bearing.

Various searchers carried on a constant hunt for the treasure during the next few years. Sometimes as many as 20 parties were in the field at once, prospecting from the desert floor to the eastern slopes of the Sierra around the base of Mammoth Mountain.

In the summer of 1869 two men named Kent and McDougall outfitted themselves with horses and supplies in Stockton, California. They next appeared at a small settlement on the San Joaquin River at the western base of the mountains. There they hired an Indian to guide them across the mountains. The Indian returned much later with the information that he had

taken the men to the pumice mountain (Mammoth Mountain).

Kent and McDougall returned the following year and repeated their visit every year through the summer of 1877. Late that year a man collapsed

on a San Francisco street. As he lay dying in a hospital he identified himself as McDougall and related the following story. He said that while in Arizona he had met Kent who claimed he knew of some lost treasure in Cali-

fornia but needed help to go there. Kent hired McDougall, giving him a \$1500 yearly guarantee.

When they had gone as far as the pumice mountain on that first trip Kent dismissed the guide. As soon as the Indian was out of sight Kent said he believed they were near one of the richest gold deposits he had ever seen. He claimed he had found it in 1861 (the first year of Dr. Randall's search) but that Indian wars had prevented his returning.

From the point where they dismissed the guide the two men went on to the headwaters of the Owens River. There Kent described certain landmarks to McDougall and they began to search. Soon they found, first the landmarks, then the ledge.

That summer they took out a huge sum in gold. They melted it into bars and hid it among their belongings when they left.

Each year they took out from \$25,000 to \$50,000, clearing in all nearly \$400,000. Each time they left, McDougall said, they concealed the location against chance discovery by others. They never recorded the location or staked claims, preferring to keep the secret and avoid having it over-run with others seeking to share in the riches. Though the trip from the west over the mountains was an arduous one Kent would never risk discovery by being seen with ore in the gold thirsty camps on the desert side.

McDougall died soon after relating his story. Kent never returned nor was he ever heard from again. It is supposed that illness, or perhaps even death, intervened. The job of concealing the mine's location must have been expertly done for it has never been found again.

There is ample proof from other sources that a rich gold deposit existed in the district. One man, trading with the Indians, was paid \$300 in gold but was unable to learn where they had obtained it.

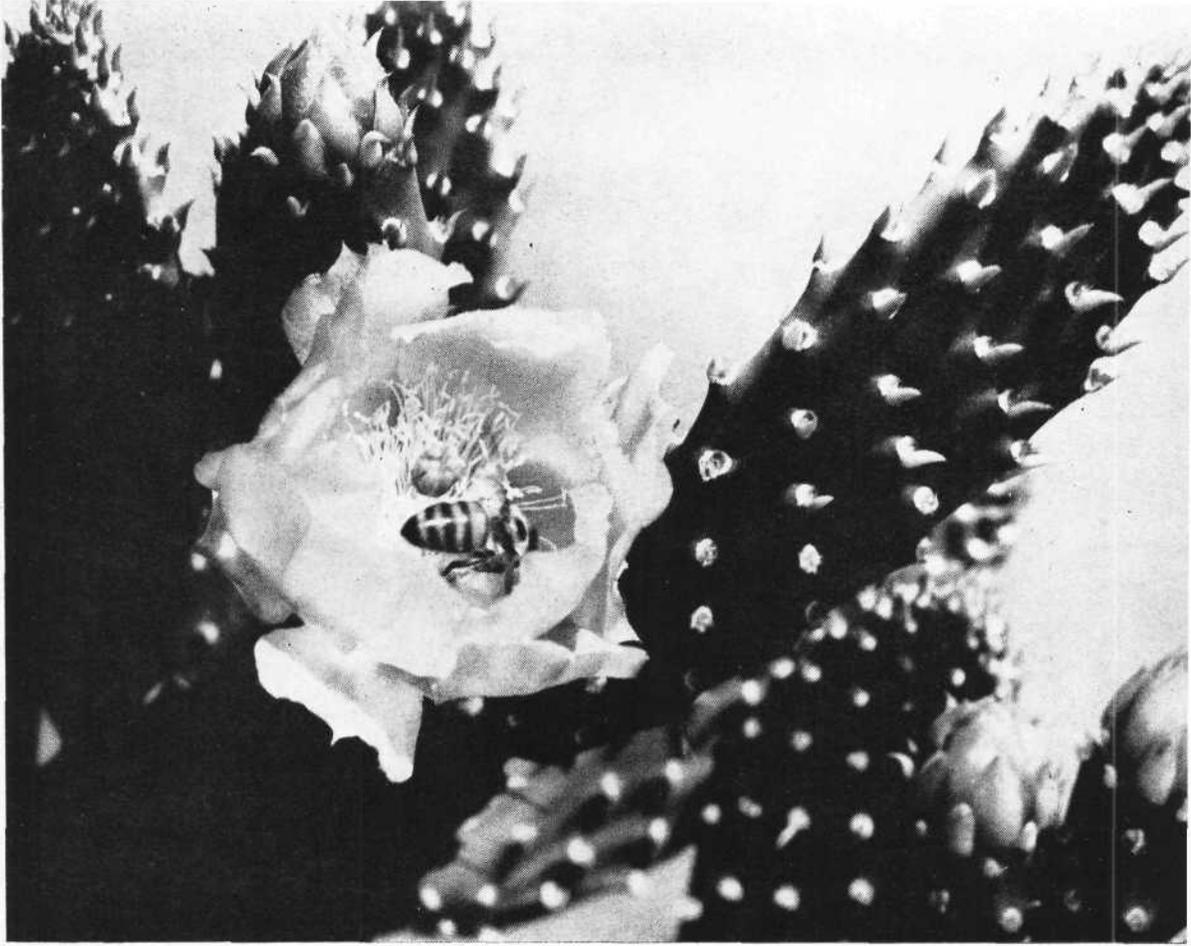
Indians coming into the camp of Benton, a day's travel into the desert from the vicinity of the mine's supposed location, paid for their purchases with gold but never revealed its source.

Winds, sands and storms can do strange things to the earth's countenance, often altering it completely. But the elements that hid a treasure can again reveal it. There seems little doubt that the reddish ledge, bearing its golden fortune, will some day enrich another finder.

Desert Quiz

The Desert Quiz this month is dedicated to Dorothy Peters and her Quiz group at Reno, Nevada. (See Letters page, this issue.) If the list is a little tougher than usual you can blame Dorothy for it. The list of questions covers many fields of interest—geography, history, plant and animal life, Indians, literature and the lore of the desert. A score of 12 to 14 is fair, 15 to 17 is good, 18 or over is excellent. The answers are on page 32.

- 1—A *Dipodomys* is a species of—Reptile ____ . Bird ____ . Rodent ____ . Insect ____ .
- 2—When the Colorado River broke out of control, flooded Imperial Valley and formed Salton Sea in 1905-6-7, the break eventually was closed by—U. S. Army Engineers ____ . Southern Pacific Railroad ____ . Mexican Government ____ . Bureau of Reclamation ____ .
- 3—Pumice stone properly is classified as—Sedimentary rock ____ . Metamorphic rock ____ . Conglomerate ____ . Igneous rock ____ .
- 4—Irateba was once a chief of the—Yuma Indians ____ . Mojave Indians ____ . Paiute Indians ____ . Pima Indians ____ .
- 5—Death Valley Scotty's proper name was — Walter Scott ____ . John Scott ____ . Lewis Scott ____ . William Scott ____ .
- 6—Highest Peak in Nevada is — Charleston Peak ____ . Boundary Peak ____ . Mount Davidson ____ . Antelope Peak ____ .
- 7—Indians used Ephedra for making—Dye ____ . Poison arrows ____ . Intoxicants ____ . Medicine ____ .
- 8—The name Peralta is associated with a famous lost mine believed to have been located in—Death Valley ____ . The Bullion Mountains of California ____ . The Superstition Mountains of Arizona ____ . The Henry Mountains of Utah ____ .
- 9—Havasupai Canyon, home of the Supai Indians, is a tributary of the Green River ____ . The Virgin River ____ . The Verde River ____ . the Colorado River ____ .
- 10—Cathedral Gorge State Park is in — Utah ____ . Nevada ____ . New Mexico ____ . California ____ .
- 11—The book *The Romance of the Colorado River* was written by —Nevills ____ . Dellenbaugh ____ . Powell ____ . Kolb Bros. ____ .
- 12—One of the following desert trees or shrubs does not shed its leaves in winter — Jojoba ____ . Mesquite ____ . Catsclaw ____ . Desert Willow ____ .
- 13—Mexican Hat, Utah, overlooks the—Colorado River ____ . Green River ____ . San Juan River ____ . Sevier River ____ .
- 14—An Indian trader is licensed—By the State in which his trading post is located ____ . By the U. S. Bureau of Indian Affairs ____ . By the Indian Tribal Council ____ . No license required ____ .
- 15—The color of most of the locoweeds which grow on the desert is—Bluish-purple ____ . Red ____ . Yellow ____ . White ____ .
- 16—The rock formation known as "The Squaw and her Basket" is seen —On an island in the Great Salt Lake ____ . In the Granite Dells at Prescott, Arizona ____ . At the edge of Pyramid Lake in Nevada ____ . In the Chiracahua National Monument of Arizona ____ .
- 17—The harvesting of the date crop where dates grow on the Great American Desert, generally begins about—September ____ . April ____ . June ____ . February ____ .
- 18—Quicksilver comes from an ore known as—Fluorite ____ . Cinnabar ____ . Magnesite ____ . Galena ____ .
- 19—Breyfogle is a name generally associated with—The discovery of gold at Goldfield ____ . The capture of Geronimo ____ . The archeology of the Mesa Verde National Park ____ . A lost mine in the Death Valley region ____ .
- 20—The Hopi bread known as *piki* is made from—Wheat ____ . Corn ____ . Millet ____ . Barley ____ .



PICTURES of the MONTH

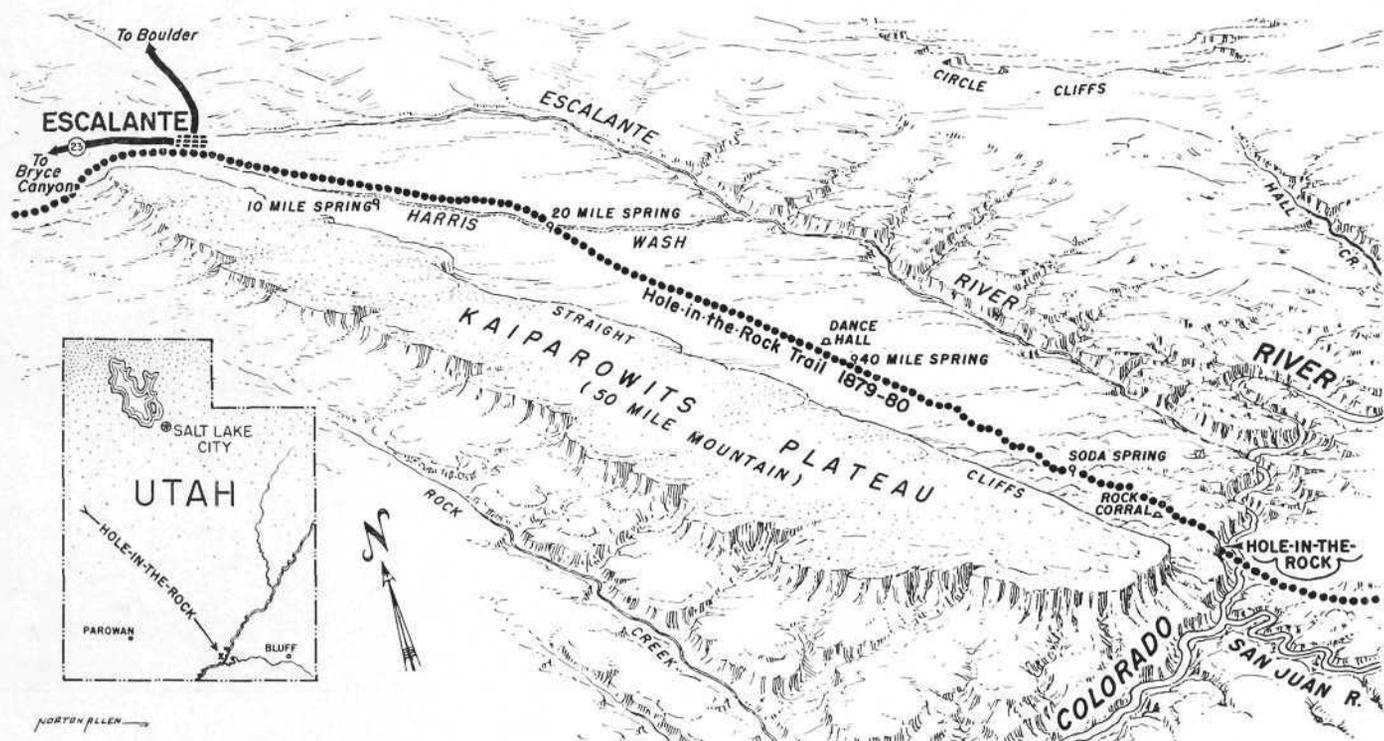
Migratory Worker . . .

Gathering the nectar of a cactus blossom, the bee worker was quietly busy long enough for Harry Vroman of Albuquerque, New Mexico, to ready his camera and take this photograph, first prize winner in Desert's April contest. Vroman used a B&J Press camera, Xenar 5¼" lens, panchromatic film, 1/50 second at f. 11.

Sunset on Lake Mary . . .

Valdis Avots of Flagstaff, Arizona, was awarded second place for this study of a sunset over Lake Mary, Arizona. A Leica Elmar 35 mm. camera was used with yellow filter, 1/40 second at f. 8.

. . . LIFE ON THE DESERT . . .



Last Wagon Through the Hole-in-the-Rock . . .

By RAYMOND SMITH JONES
As told to his wife, Adell

MY GRANDFATHER, Joseph Stanford Smith, was only five years old when his parents, Joseph H. and Maria Stanford Smith and their family set sail from Liverpool, England, for the United States. The family had been converted to Mormonism in their native Staffordshire and were on their way to join the Saints in Utah. They sailed on the old ship *Curling* in April, 1855. They landed in New York a month later. It was October before they reached Salt Lake City, having come across the plains with Milo Anderson's Handcart Company, the elders walking all the way.

In December of that year they were sent to the Iron Mission in Southern Utah and settled at Cedar City. Here Stanford grew to manhood.

Arabella Coombs was born in Colorado and migrated with her parents to the Iron Mission. In 1870 she and Stanford Smith were married in the

Before his death at the age of 94, Stanford Smith told members of his family the intimate details of his personal experience as a member of the historic Mormon colony which in 1880 crossed the Colorado River at the Hole-in-the-Rock on its way to establish a new settlement at Bluff, Utah. The personal sacrifice and courage of that amazing trek are revealed in this story, told by one of Smith's grandsons.

Endowment House at Salt Lake City. She was 17, a pretty dark-haired girl, pleasingly plump. Stanford was 20, tall and thin with brown hair and blue eyes. They set up housekeeping in Cedar City.

In 1879 word came to them from church leaders that they were among the families chosen to found a colony in the far off corner of San Juan County. About 80 families, from

Cedar City, Parowan and Paragonah answered the call, perhaps not cheerfully but certainly without question. They gathered at the frontier town of Escalante and when word came from the scouts that a place had been found to cross the Colorado River, the caravan started out.

Stanford had a stout covered wagon and two teams. With him were his wife Arabella and their three little children, Ada Olivia, five; Elroy, three, and George Abraham, just six months old.

When the crevice, through which the scouts thought the wagons could be taken down to the river, was reached the men were dismayed. It would take weeks, some even said months, of hard work to make a passageway. It was already October and supplies were rapidly diminishing. Perhaps they should turn back and find an easier route.

But church authorities said: "No, proceed at any cost."

So groups of families back-tracked to camp at the springs: Rock Corral,

Soda Springs, 50-Mile and 40-Mile. At the latter was a great natural bowl carved by erosion in the sandstone. On its smooth floor the older men, the women and children danced to pass away the long evenings and forget their cold and hunger.

Grandfather used to tell how they even snared gophers and made stew of them to supplement the meager rations. The younger men set about carving a road down through the Hole. It took them three months to do it—a road more like a crude staircase, down which they hoped they could take their wagons.

The families were called to the rim and the descent was begun. The wagons were lowered one at a time, with locked wheels and ropes attached to the rear axles, then belayed around a stout juniper post, solidly embedded in the rock rim. The strongest men slowly played out the ropes, letting the wagons descend as easily as possible.

As road foreman, Stanford had seen little of his family for weeks. He was laboring to exhaustion, first at the rock cut, then on the ferry and the long dugway up the opposite bank of the treacherous river.

At last the word came that all the wagons were down, and the crossing on the ferry began. Stanford looked around for his family and wagon, but they were nowhere in sight. He dropped his shovel and climbed to the top of the crevice.

There, huddled in a heap of tattered quilts on packed dirty snow he found his wife, her baby swathed in blankets in her arms.

"Stanford, I thought you'd never come," she exclaimed.

"But where are the other children, and the wagon?" he asked.

"They're over there. They moved the wagon back while they took the others down." She pointed to a rusty stovepipe showing above a huge sandstone boulder.

For a moment Stanford's face flushed with rage. He threw his hat on the ground and stomped it—as was his habit when he was angry.

"With me down there helping get their wagons on the raft, I thought some one would bring my wagon down. Drat 'em!"

"I've got the horses harnessed and things all packed," Belle breathlessly assured him as they ran toward the wagon. Stanford hooked up the team, two at the tongue, and old Nig tied to the rear axle. The fourth horse, a cripple, had died at 50-Mile spring.

The children woke up, tumbled from their bed in the wagon, and

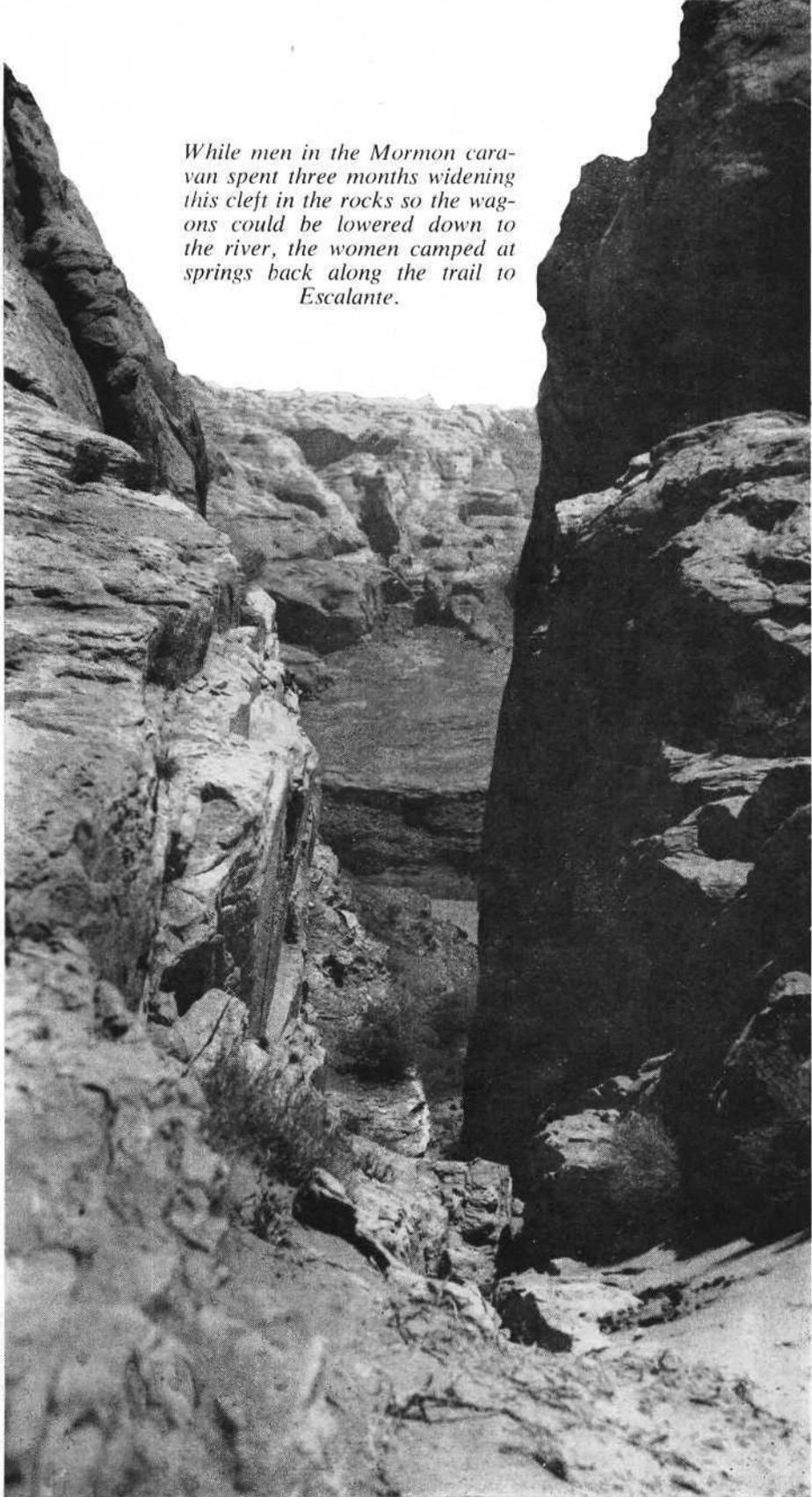
wanted to help. Stanford climbed in and unlocked the brakes—and paused long enough to give each of the youngsters a bear hug.

Arabella climbed in and laid the baby on the bed and Stanford started the team toward the crevice through

which the wagon must be lowered to the river.

"I'll cross-lock the wheels. Please throw me the chains, Belle."

She did as he asked, and then jumped down to help. Stanford took her arm and they walked to the top



While men in the Mormon caravan spent three months widening this cleft in the rocks so the wagons could be lowered down to the river, the women camped at springs back along the trail to Escalante.

of the crevice, where hand in hand they looked down—10 feet of loose sand, then a rocky pitch as steep as the roof of a house and barely as wide as the wagon — below that a dizzy chute down to the landing place, once fairly level but now ploughed up with wheels and hoofs. Below that, they could not see, but Stanford knew what was down there—boulders, washouts, dugways like narrow shelves. But it was that first drop of 150 feet that frightened him.

"I am afraid we can't make it," he exclaimed.

"But we've got to make it," she answered calmly.

They went back to the wagon where Stanford checked the harness, the axles, the tires, the brakes. He looked at Belle, and felt a surge of admiration for this brave beautiful girl. They had been called to go to San Juan, and they would go. With such a wife, no man could retreat.

"If we only had a few men to hold the wagon back we might make it, Belle."

"I'll do the holding back," said Belle, "on old Nig's lines. Isn't that what he's tied back there for?"

"Any man with sense in his head wouldn't let a woman do that," he cried.

"What else is there to do?" she countered.

"But, Belle, the children?"

"They will have to stay up here. We'll come back for them."

"And if we don't come back?"

"We'll come back. We've got to!" answered Belle.

Carefully she set three-year-old Roy on a folded quilt back from the crevice. Between his short legs she put the baby and told him: "Hold little brother 'til papa comes for you."

She told Ada to sit in front of her brothers and say a little prayer. She kissed each one and tucked quilts snugly around them. "Don't move dears. Don't even stand up. As soon as we get the wagon down papa will come back for you!"

Ada turned to Stanford, "Will you come back, papa?" He could only nod a yes and turn away with tears. "Then I'm not afraid. We'll stay here with God 'til you and mama get the wagon down." And Ada began her little prayer: "Father in heaven bless me and Roy and baby until our father comes back."

To take Belle's mind off the children, Stanford told her to test Nig's lines. "Pull back as hard as you can. I bet you couldn't pull the legs off a flea." Arabella wrapped the lines around her strong supple hands. Stan-

ford got aboard. "Here we go. Hold tight to your lines." Arabella smiled at her little brood. "We'll be right back," she called.

Stanford braced his legs against the dashboard and they started down through the Hole-in-the-Rock. The first lurch nearly pulled Belle off her feet. She dug her heels in to hold her balance. Old Nig was thrown to his haunches. Arabella raced after him and the wagon holding to the lines with desperate strength. Nig rolled to his side and gave a shrill neigh of terror. "His dead weight will be as good as a live one," she thought.

Just then her foot caught between two rocks. She kicked it free but lost her balance and went sprawling after old Nig. She was blinded by the sand which streamed after her. She gritted her teeth and hung on to the lines. A jagged rock tore her flesh and hot pain ran up her leg from heel to hip. The wagon struck a huge boulder. The impact jerked her to her feet and flung her against the side of the cliff.

The wagon stopped with the team wedged under the tongue and Stanford leaped to the ground and loosened the tugs to free the team then turned to see what had happened to Arabella. There she stood, her face white against the red sandstone.

He used to tell us she was the most gallant thing he had ever seen as she stood there defiant, blood-smeared, dirt-begrimed, and with her eyes flashing dared him to sympathize.

In a shaky voice he asked, "How did you make it, Belle?"

"Oh I crow-hopped right along!" she answered. He looked away.

He walked to the apparently lifeless form of Nig, felt his flank. It quivered under his hand and Nig tried to raise his bruised and battered head.

Stanford then looked back up the crack. Up there on the sharp rocks a hundred feet above him waved a piece of white cloth, a piece of her garment. Why she had been dragged all that way!

"Looks like you lost your handkerchief, Belle." He tried to force a laugh, instead he choked and grabbed her to him, his eyes going swiftly over her. A trickle of blood ran down her leg making a pool on the rocks. "Belle, you're hurt! And we're alone here."

"Old Nig dragged me all the way down," she admitted.

"Is your leg broken?" he faltered.

She wouldn't have his sympathy; not just yet anyway. "Does that feel like it's broken?" she fairly screamed, and kicked his shin with fury.

He felt like shaking her, but her

chin began quivering and he had to grin, knowing by her temper she wasn't too badly hurt. He put his arms around her and both began crying, then laughing with relief.

They had done it! Had taken the last wagon down — alone. Stanford put Belle on the bed in the wagon, found the medicine kit and cleaned the long gash in her leg.

"Darling, will you be all right?"

"Of course I will. Just leave me here and go as fast as you can for the children."

"I'll hurry," he flung over his shoulder and began the steep climb up the incline they had just come down.

He passed old Nig, who was trying to regain his feet. He climbed too fast and became dizzy. He slowed down, and looked around. He had driven a wagon down that fearful crevice, and dragged his wife behind. Her clothes and flesh torn, she had gamely said she'd "crow-hopped right along." God bless her gallant heart! He kicked the rocks at his feet and with tears streaming down his face lifted his hat in salute to Arabella, his wife.

"Papa! Papa!" a faint call came from far up the crevice.

He answered: "Papa's coming, Ada!" His voice echoed and re-echoed among the rocks as he called to the children over and over.

At last he reached the top to find the three little ones sitting where their mother had left them.

"God stayed with us," said Ada. "The baby's gone to sleep an' my arm's 'most broke," said Roy. Little George woke up and smiled a toothless grin.

Stanford Smith lifted the baby tenderly in his arms, took his son's hand in his, and with Ada clinging to his pocket, went down to Arabella.

Stanford's wagon lumbered out of the canyon, the team limping painfully. Old Nig followed behind on trembling legs, his hide torn and bleeding in places.

Just before they reached the river's edge, five men came into view just ahead of them, carrying chains and ropes.

"Look, Stanford," she said. "They are coming to help."

He cracked his whip and shouted to his team and bore down on the men evidently without any intention of stopping. They jumped out of the road just in time.

"We came back to help you," one of them began, but Stanford cut him short. "How's the ferry, boys? Any of it left for us?"

"Brother Smith, we didn't—" Again he was cut short. Stanford hadn't gotten over the bitterness he felt when his

family and wagon were left stranded above the Hole-in-the-Rock. He glanced at Arabella. She was pale. He remembered her gallant conduct, and was ashamed of his own ill temper.

"Forget it fellows. We managed fine. My wife here is all the help a fellow needs." Arabella's smile forgave his petulance. They went down to the ferry, followed by the abashed men. The wagon was loaded onto the raft. Arabella lay on a pallet at the raft's edge and watched red cliff walls recede, then closed her eyes and slept. When Stanford lifted her to the wagon an hour later she was completely relaxed.

After they got up out of the canyon of the Colorado there was still a long slow journey to reach their final destination at Montezuma Creek on the east side of the San Juan River. For two and a half more months the tired caravan plodded eastward from the Colorado, hewing its way through juniper forests, fighting mud which balled the wheels into solid disks, sliding down the slick clay hills where the wheels could get no traction, climbing from canyon to mesa and back to canyon over and over again.

Each mile of the long trek was a fight to conquer weariness, hunger, discouragement and fear, in bitter winter weather. Finally they came to their last barrier — San Juan Hill. For a week they pitted their strength against its slippery sandstone and almost gave up. But they had to make it! And they did, but the trail was strewn with broken spokes, worn-out shoes, livestock that had collapsed from exhaustion. Men toiled and sweated goading the wagons on and up.

The caravan finally crawled back to the San Juan's brink and found between weird bluffs of many-colored sandstone a tiny green valley. They stopped because they could go no farther. Here was grass, water, good soil—a place to rest and recuperate. It had a fierce untamed beauty that refreshed them. There were fish in the river and rabbits in the willows—food. They decided to call their new home Bluff.

"End of the Trail," sang out one of the men. "This is San Juan."

"But it's so small—no bigger than a backyard," protested his wife. "Where is the fort? The Indians? Our own people?" (A settlement had already been established at Montezuma Creek.)

"This is not Montezuma, but it's decided we stay here. We can't go on." Some of the women refused to believe this small parcel of land was their destination and were reluctant to

get down from the wagons. Others leaped down with eagerness, ready to make a home here. Arabella and her friend Mary Jones were eager to pick out their plots, adjoining as they had been neighbors in Cedar City. "We can build our houses side by side, of this pretty pink stone," cried Arabella, and Mary agreed.

"Well, it's a wonderful place to camp for a while," said Stanford as he unhooked his team. It was the 6th of April, 1880. Songs were on the women's lips as they carried water from the river to bathe the children—their first real baths since leaving Escalante. And then they washed the clothes.

They must still live in the wagons while the men built homes. And some must move on seventeen miles up the river to Montezuma for it had become evident that this place was too small for so many families. So they began a lottery for the land. Each head of family lucky enough to draw a land number would receive 15 acres and a small city lot.

Platt Lyman was their leader. "We will meet here on this spot tomorrow morning for land-drawing," he said, "go now and prepare yourselves." He stressed the fact that Montezuma was their original destination; that the families already there were expecting them, hopefully waiting for help to come, as they were surrounded by hostile Indians whom they hoped to convert. The majority had to go on.

Stanford failed to draw one of the lucky numbers, and he and Arabella went on to Montezuma, and three years later moved to Mancos, Colorado. Of all the colonists mentioned in this story, only the baby, George Abraham Smith, now 74, is living—making his home in the little Mormon colony at Ammon, Idaho.

Today a monument stands on the bank of the Colorado River where that historic crossing was made — a tribute to the self-sacrifice and courage of the Stanfords and the Arabellas of that heroic period in Western history.

PHOTO CONTEST . . . in June

If you get up and out early enough one morning this June, you may find a night-blooming cereus still blossoming in the dawn. Or watch one at night and use flash equipment for a camera study of this interesting desert flower to submit in Desert Magazine's June Picture-of-the-Month contest.

Of course photo contest subject matter is not limited to night-blooming cereus. Anything of the desert Southwest—animal, vegetable or mineral—is eligible. Winners are selected on the basis of good composition, unusual subject treatment, clear focus and sharp contrast of black and white.

Entries for the June contest must be in the Desert Magazine office, Palm Desert, California, by June 20, and the winning prints will appear in the August issue. Pictures which arrive too late for one contest are held over for the next month. First prize is \$10; second prize \$5.00. For non-winning pictures accepted for publication \$3.00 each will be paid.

HERE ARE THE RULES

- 1—Prints for monthly contests must be black and white, 5x7 or larger, printed on glossy paper.
- 2—Each photograph submitted should be fully labeled as to subject, time and place. Also technical data: camera, shutter speed, hour of day, etc.
- 3—PRINTS WILL BE RETURNED WHEN RETURN POSTAGE IS ENCLOSED.
- 4—All entries must be in the Desert Magazine office by the 20th of the contest month.
- 5—Contests are open to both amateur and professional photographers. Desert Magazine requires first publication rights only of prize winning pictures.
- 6—Time and place of photograph are immaterial, except that it must be from the desert Southwest.
- 7—Judges will be selected from Desert's editorial staff, and awards will be made immediately after the close of the contest each month.

Address All Entries to Photo Editor

The Desert Magazine

PALM DESERT, CALIFORNIA



Escnscnoltzia glyptosperma, a typical Mojave Desert poppy. Photo by Mary Beal of Daggett, California.

DESERT HAVEN

By ALICE BRILEY
Albuquerque, New Mexico

This is landscape from a fantasy.
Objects are rigid. They appear to be
Savagely threatening and vigilant.
The sun is a metal shield and every plant
Is armored. Hard to believe these spears
are warm
With shelter for such tender things. No
storm
Disturbs the Elf Owl in her spine-thatched
house.
The wren in the mesquite thorn, the dancing
mouse
See nothing alien in their home but find
The desert a pioneer mother, austere but
kind.

PURPLE HAZE

By A. L. TOULOUSE
Costa Mesa, California

Yours is no magic glory,
Spun of burnished gold,
Splashing the heavens with beauty
No heart can ever hold.

Yours is no trailing crimson,
Nor gaudy banner flying,
That changes every moment
As the day is dying.

Yours is the breath of solitude,
Silently drifting down
And gently wrapping about the land
A hazy purple gown.

Yours is the curtain of tranquility
That beckons the coming night,
And modulates the harmony of brilliance
To a subdued pastel light.

Yours is the desert vesper hour
That comes to this land of stone,
And fills the air with music,
A song in a whispered tone.

Yours is the hymn of twilight
Bringing sleep beneath your span.
Yours is the will of God,
Giving comfort and peace to man.

YUCCA

By GEORGIA JORDAN
San Diego, California

Unyielding bayonets of rooted green
Protect the rounded yucca spires that gleam
Upon the western hills, bright with the
sheen
Of morning sun on temple bells of cream;
Fair cloisters for the insect choirs that sing
A happy welcome to the new-born Spring.

DESERT GOLD

By MARY PERDEW

Not hidden by the aging rocks
Nor deep beneath the sands,
The gleaming gold that all may share,
Is far from seeking hands,
Remote from weary, futile search,
Long wanderings and toil,
The finest and the brightest gold
Is not within the soil.
Though Nature guards her secrets well
At times, near close of day
The wonder of the treasure shines,
In glorious array.
Pure gold, for all the world,
It lies in Desert sunsets,
Flaming skies.

I LIKE THE DESERT

By AMY VIAU
Santa Ana, California

I walked in the desert and did not care
That sand filled my shoes and wind blew
my hair;
For I like the desert and its wind and sand
Are one with the reaching desert land.

I gazed through the sunny arid air
And beheld the desert, everywhere,
Its vastness reigning victoriously
O'er land once ruled by the rushing sea.

I walked in the desert where tall cacti wear
That special dignity desert plants share;
The sand purred where I walked — such
purring could be,
Since I like the desert, perhaps it likes me.

Wild Poppy

By MARGARET SHELTON
Vista, California

Needing only sunshine
A toe-hold in the rocks
Nothing half so dainty
Comes in a florist's box.

Fragile as a butterfly
Shy of the oft used trail
Sends its petals riding
High on the desert's gale.

• • •

DESERT REVERIE

By ORVAL RICKETTS
Farmington, New Mexico

Pale blue of pinyon smoke ascends
To drift above the sage
In lazy spirals, like my thoughts
Soar off beyond the page.

The pungent fragrance fills the air
With potent scent of pine,
As redolent as timbered hill,
As heady as a wine.

These wisps of wafted smoke somehow
Stir strange, far thoughts in me,
As if this healing incense might
Be spirit of the tree.

• • •

NOSTALGIA

By GRACE BARKER WILSON
Kirtland, New Mexico

I want to hear the coyotes howl on some far
hill,
And the crackle of the campfire break the
evening still.
I want to watch the red of sunset skies grow
dim,
And see the purple sage against the canyon
rim.
I want to hear the wind as it goes whistling
on,
And the lowing of the cattle when the sun
is gone.
I want to see the friendly stars come close
and bright,
And sleep out on the range land on a moon-
lit night.

• • •

CANYON ARTIST

By ELSIE MCKINNON STRACHAN
Santa Ana, California

Unnoticing the tourists' probing eyes,
Nor conscious that her wrap was out of
place
Among the tanning throng, she searched the
skies
Above the canyon, watched the low-sun's
pace.
Beside her easel on the look-out rim
She placed pastels of every shade and hue;
And there, while daylight's sky grew quickly
dim,
She blended colors where the page was new.
And then, as windowed light of El Tovar
Pricked through pine scented dusk, her
fingers sped,
She sketched the mighty chasm, its shad-
owed scar
Of stream, the sun's mauve footprints over-
head.
Yet, some of narrow stature thought her
odd—
Whose fingers traced this moving glimpse
of God.

LETTERS

And the Waters Prevailed . . .

Englewood, Colorado

Desert:

"In the six hundredth year of Noah's life, in the second month, the seventeenth day of the month, the same day were all the fountains of the great deep broken up, and the windows of heaven were opened. And the rain was upon the earth forty days and forty nights. And the waters prevailed, and were increased greatly upon the earth; and the ark went upon the face of the waters . . . and all the high hills, that were under the whole heaven, were covered. And every living substance was destroyed which was upon the face of the ground, both man, and cattle, and the creeping things, and the fowl of the heaven; and they were destroyed from the earth: and Noah only remained alive, and they that were with him in the ark." Genesis, Chapter 7: verses 11, 12, 18, 19, 23.

With such a simple explanation for the finding of dinosaur fossils, why must we say that no one knows the cause of their wholesale destruction? We may consult any King James version of the Bible and we shall find that approximately in 2349 B.C., 4302 years ago, the entire earth was destroyed by a tremendous flood. Why make it so difficult for ourselves in trying to estimate just how many "millions" of years ago these animals were buried, when the Good Book tells us the complete answer in simple language any child can understand?

JAMES E. WILHITE

Quiz Fan's Plea . . .

Desert:

How about some new blood for an old favorite, the Desert Quiz?

Everybody I know who reads *Desert Magazine* (and there is an eager group of *Desert* fans in this end of Nevada) turns to the quiz page first—as many people seek a newspaper's comics before reading the headlines. In our own little crowd, we await the arrival of *Desert* each month with anticipation as to what the quiz will hold, then all assemble and take the test together. Arguments, even wagers ensue, and the winner doesn't let the runners-up forget for a minute for the rest of the month that he is top man in desert lore. With the arrival of the next issue, he may be deposed and a new king crowned.

There is nothing so disconcerting as to begin one of these quizzes and find

that half of the questions have been asked over and over again. The Desert Quiz Master has been improving lately and has come up with a few new questions that are really lusus, but could he junk some of those stock queries regarding the location of the Lost Dutchman Mine, the fact that Tombstone was noted for silver and that the capital of New Mexico is Santa Fe? By now we have memorized the answers to these and other over-and-over-againers, and it hardly seems fair to take credit for them.

The general consensus of opinion up here seems to be that the multiple-choice type quiz is favored over the true-false. It is better for a group when nobody agrees and everybody wants to scatter.

Even as is, the quiz section is a highlight in *Desert Magazine*.

DOROTHY PETERS

Thanks, Dorothy Peters, for your letter. The Quiz Master has no alibi. He admits he just sorta got in a rut. But he'll try to do better—and if the June Quiz is a toughy it's all your fault. As appreciation for your letter, Desert will give a year's subscription to the member of your group who wins the June Quiz. If it's a tie, they'll have to flip a coin or draw lots. We're not kidding, we really mean this—and we'll depend on you to send us the name, and if you win it yourself, more power to you.—R.H.

The Lost Dutchman Mine . . .

Los Angeles, California

Desert:

I think I have read almost every story ever published about the Lost Dutchman Mine, and in 1941 spent about two months in the Superstitions looking for the fabulously rich vein.

The stories put out by some of the writers are, in my opinion, just bunk.

Some writers talk about surface veins. The Superstition Mountains do not have any veins showing at the surface; there has not been sufficient erosion to expose them. Others tell of placers and arrastres. They never saw either in the Superstitions.

In 1941, a friend of mine and I had a pack outfit owned by Abe L. Reid who had spent 40 years in the Superstitions working for different ranches and hoping to find the lost mine. He told us that in all those years he had never seen the color of gold.

I understand Herman Petrasch, whose version of the Lost Dutchman story was published in the January issue, passed away in November, 1953, at the age of 92.

V. H. GOODMAN

The Over-rated Concentrator . . .

Searchlight, Nevada

Desert:

I have always liked your fine magazine, and I was shocked to find a highly inaccurate article on page 24 of the April number.

"Wilson, Nevada," the mining item was headed, and it began: "One-hundred percent recovery of gold is the claim of inventor . . ." The so-called "concentrate classifier" which this paragraph described happens to be located on my property, which, incidentally, is 42, not 60, miles from Las Vegas. The machine is not a success and everyone who has seen it has not called it a success, and it certainly does not move about a thousand yards. The operators are lucky to get two yards through the thing in an hour.

There is no machine operating in Alaska, as both machines are here on my property. One machine was operating until I cancelled the lease March 26 because it was not concentrating and it recovered a very small percentage of the values.

LEON V. GARLAND

For Campfire Control . . .

Flagstaff, Arizona

Desert:

I agree with Dr. Edmund Jaeger (*April Desert*) that the wood campfire is the highlight of an outdoor trip. Cooking over a ready-built fireplace at an established campground is about as satisfying as cooking on a gas range.

However, the camper must exercise caution in building and tending his campfire. I have heard campers insist that three rocks on two feet of duff made a fire perfectly safe—and I have had to put out the flames that crawled out after they had left the site believing the fire out.

I know that most *Desert Magazine* readers are experienced campers and too much in love with Nature to burn even a struggling clump of sage brush unnecessarily. As an unconscious matter of habit, I am sure they would never place their rocks or start a fire without first making sure that it could not crawl away out of control.

But to those readers who may not be so careful or experienced, I would sound this warning: First, clear your fire site of all burnable material for a distance of at least two feet in all directions. Then, and only then, is it safe to start the fire.

My experience makes me partial to the sheep herder's fireplace, dug in the soil. If I intend to stay in one place for more than one day, I prefer to cook under the fire.

PAUL M. ELLIS

Finders Keepers? . . .

Glendale, California

Desert:

I was very interested in the story, "Lost Wells-Fargo Gold" in the April issue of *Desert Magazine*, and I am wondering who would become the legal owner if this lost gold were to be found?

ENOS SNYDER

So many factors enter into the question of who may properly claim lost treasure that it is impossible to answer it unless all the specific circumstances are known — whether the discovery was accidental or the result of a considerable expenditure of time and money, whether the land was public or private, whether the original owner or his heirs can or cannot be positively established, etc. Not even a lawyer would attempt to answer your question in advance of the discovery.—R.H.



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THE *Desert* MAGAZINE

PALM DESERT, CALIFORNIA

Water Hope for Desert . . .

Los Angeles, California

Desert:

It has been my pleasure closely to observe the work of Stephen Riess, controversial primary water hydrologist, for many years. Confusion created by technical errors in articles such as "New Source of Water for Desert Lands?" by Gaston Burrige (April *Desert*) gives comfort and argument to critics of his well-locating methods. It is not possible in a short letter such as this to describe the sound foundation for his work; rather, it is hoped the following explanation may help to clarify the situation.

Geologists, hydrologists in particular, are generally agreed that the earth's water is either internal or external in basic origin. The latter is derived from the well-known precipitation cycle; the former, from little understood petrologic processes. According to this definition the great mass of existing water is predominantly external in origin. There is no controversy about either of these conclusions.

With particular reference to groundwater locations, hydrologists have been and are primarily concerned with external water. Procedures for its location involve a knowledge of physical factors such as porosity, percolation, precipitation, drainage, etc. For this reason wells are first located, as a rule, in the porous lowlands of valleys or basins, then located up the slopes to the economic limit of pumping from a more or less uniform subsurface water level.

A part of the water of internal origin, that defined by Riess with reference to the precipitation cycle as "primary," represents water of original occurrence. Its location involves mainly a knowledge of the chemistry of petrologic processes and none of the aforementioned factors. For this reason the Riess primary wells are located in practically impervious rock, the highland of the valleys and basins.

Misunderstanding of this distinction has resulted in much criticism by what we might distinguish as practicing secondary external water hydrologists. Riess readily admits his knowledge of the process is incomplete. Many new wells must be drilled to perfect primary water hydrology. Statistically, the record is most impressive. Academic support comes not from secondary water hydrologists but rather from metallurgists, petrologists, mining geologists and desert rats who know good and well that some spring waters did not originate in the atmosphere.

Since precipitation does not affect primary water well production or loca-

tion, the desert offers as good a place as any for water development. It will not be made to bloom overnight as a result of the Riess discovery, because the lack of hard-rock well-drilling "know-how" and inadequacy of equipment impedes its progress. New sonic well-drilling devices offer a possible solution to this problem.

LLOYD ROOKE

• • •

Sage and Sagebrush . . .

San Bernardino, California

Desert:

I note there has been some discussion in *Desert* about the names creosote bush and greasewood as applied to desert shrubs.

Confusing greasewood and creosote is almost as bad as the error made by writers who refer to desert brush collectively as sagebrush. That really puts my nerves on edge. Actually, there isn't a single plant of sagebrush among the various kinds of plants they are referring to collectively. Sagebrush does not grow in the low southern deserts, except perhaps an occasional plant near the base of the foothills.

Sagebrush is not the same as sage, if you please. That's another mistake that makes the plant-lover bite his fingernails. Sagebrush is *artemisia*. Sage is *salvia*. Yucca is not a cactus, but a lily. Ocotillo is neither cactus nor lily. It is *fouquiera*. How many times have I heard people refer to both these latter species as cactus. Might as well confuse a walnut with a grapefruit—they both grow on trees don't they? I am not a botanist.

EDWIN F. WIEGAND

• • •

River at Mexican Hat . . .

Milwaukee, Wisconsin

Desert:

I was interested in the news item from Mexican Hat, Utah, published in the April issue of *Desert Magazine*, which told of the new bridge being built over the Colorado River at that point.

My goodness, how can this be? I am sure that I crossed the San Juan River at Mexican Hat last June 27. I felt at the time that the new bridge was sorely needed.

Thanks for a fine magazine. But hereafter let's cross the beautiful San Juan at Mexican Hat—or do I have the wrong hat?

LEROY S. TAYLOR

Reader Taylor is indeed right. It was Desert's exchange editor who got his hats mixed up. For his stupidity he has been awarded a Dunce's Hat.—R.H.

Here and There on the Desert...

ARIZONA

Apaches Elect Woman . . .

SAN CARLOS — A quiet-spoken 28-year-old woman with a sincere interest in the welfare of her people is the first member of her sex to be elected to the San Carlos Apache Indian Tribal Council. She is Pricilla Smith, graduate of Indian Service schools and Haskell Institute in Kansas, where she took a two-year commercial course. New chairman of the San Carlos tribe is Jess J. Stevens, former vice-chairman; Oliver Talgo succeeds Stevens in the latter capacity. Other councilors are Fred Naltazan, Briton Goode, Ernest Victor, Paul Anderson, Manuel Hinton, Marvin Mull, Harrison Porter and Willis Titla. Retiring chairman is Clarence Wesley, who had held the post for three years. —*Phoenix Gazette*.

Father Abandons Search . . .

YUMA—John Walker has finally given up hope for his daughter June, who disappeared with her companion, Klaus Martens, on the Yuma desert in July, 1951. The New York insurance man had planned a final 3-week search for the pair but abandoned it after seeing the desert for the first time this April. Until the search trip to Yuma, the easterner had had no conception of what the desert was like. He was overwhelmed by its vastness and desolation and accepted its ability to swallow up his daughter without a trace. Miss Walker and Martens disappeared after their rented light plane apparently made a forced landing on the desert. Their tracks led from the undamaged plane but were lost in the sand after a few hundred feet. —*Yuma Daily Sun*.

Mark Victims' Graves . . .

SENTINEL—A brass plate bearing the Oatman family name and a brief history of their massacre by Tonto Apache Indians in 1850 now marks the victims' burial spot 15 miles north of here. The historical marker was placed by the Arizona Society, Daughters of the American Revolution. The Oatmans left an immigrant train to continue alone to California, were overtaken by Indians and the mother, father and one child killed. One boy, thrown over a cliff and believed dead, recovered and escaped. Two daughters were taken into captivity where one died and the other, Olive, later was rescued and reunited with her brother. —*Phoenix Gazette*.

Indian Liquor Vote . . .

PHOENIX—Arizona voters will be asked in the November general election to lift the ban on sale of liquor to Indians. The resolution provides for lifting of the ban on Indian liquor sales after July 1, 1957. However, Indians would be able to buy liquor immediately upon approval by the electorate in off-reservation establishments. —*Phoenix Gazette*.

Hopis Report to Phoenix . . .

PHOENIX — Secretary of Interior Douglas McKay has announced that the Hopi Indian Agency, located wholly in Arizona, soon will send administrative reports to the Phoenix Area Office of the Bureau of Indian Affairs instead of to New Mexico. Effective date of the transfer of administrative jurisdiction has not yet been worked out.

Desalting Tests Readied . . .

PHOENIX — Government chemists have completed preliminary studies of Salt River Valley water wells being considered as sites for testing a process to reduce by electrolysis the salt content of irrigation water. Tests are scheduled to begin in fall. According to R. J. McMullen, general manager of the Salt River Valley Water Users Association, there is a growing problem of salt concentration in valley lands. With the lowering of the water table, he explained, mineralized waters at lower levels are not carried off in drainage but are recirculated by pumping, thus increasing the salinity of the soil. —*Phoenix Gazette*.

KEAMS CANYON — Clyde W. Pensoneau, a member of the Indian Bureau staff at the Colorado River Agency, Parker, Arizona, has been named superintendent of the Hopi Agency at Keams Canyon. Pensoneau served the Colorado River tribe as agricultural extension agent since 1952. He has been with the Bureau for 13 years.

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COTTONWOOD—John W. Stratton has assumed duties as superintendent of Tuzigoot National Monument. A former personnel assistant at Southwestern National Monument headquarters at Globe, he succeeds J. W. Brewer, now superintendent at Wupatki National Monument. — *Verde Independent*.

CALIFORNIA

Tramway Path Cleared . . .

PALM SPRINGS—Construction of the Mt. San Jacinto Tramway, projected on plans as the largest and highest in the world, is scheduled to start late this year or early in 1955. Final obstacle to the project was cleared in April when Secretary of Interior Douglas McKay approved an exchange of land which granted the Winter Park Authority right-of-way across a half section of land in the San Bernardino National Forest 2700 feet above sea level on the almost perpendicular side of Mt. San Jacinto. For more than four years the granting of this right-of-way, upon which two giant steel towers of the tramway will be located, has been opposed by conservation groups which fear that the tramway will open the wilderness area to persons who would not appreciate the wonders of the virgin mountain area. Under terms of the land transaction, the Winter Park Authority deeded one full section of land situated near the headwaters of Snow Creek at the 5000-foot elevation for the 326 acres of land at the 2700-foot elevation. The proposed tramway is expected to cost between eight and ten million dollars. —*Desert Sun*.

Antique Sundials

Made of solid bronze, collected from historical places of the West. Old ranches, Spanish, Indian and Civil War battlefields, Coronado's winter camp of 1541.

The original dial I found in the remains of a burned wagon train on the old Santa Fe Trail just south of Raton, New Mexico.

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JUDGES NOW SELECTING WRITING CONTEST WINNERS

Many readers responded to *Desert Magazine's* latest writing contest, which closed May 20, with stories of how they had succeeded in attracting desert birds to their homes. Most of the entries were from folks untrained in professional journalism; many of the manuscripts submitted represented first writing attempts of their authors.

Members of *Desert's* editorial staff selected to act as judges in the contest are carefully considering entries, reading and re-reading them until final selections are made, and results will be announced in the July issue.

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DESERT TEA. One pound one dollar postpaid. Greasewood Greenhouses. Lenwood, Barstow, California.

NEW CALIFORNIA State Topographic Map 64x90" \$2.50. Lost mines of 10 Southwestern states, with map \$1.75. Sectionized County maps: San Bernardino, Riverside \$1.00 each, Inyo, Mono, Kern, Los Angeles 75c each, Imperial, San Diego 50c each. New series of Nevada County maps \$1.00 each. Joshua Tree-Twenty-nine Palms area \$1.56. Township blanks, all sizes. Lode or Placer location notice forms 5c each. Topographical maps in California, Nevada, Utah, Arizona and all other Western states. Westwide Maps Co., 114½ W. Third St., Los Angeles, California.

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Try, Try Again . . .

NEEDLES — For a distance of about six miles immediately below Davis Dam, the clear cool water released from the dam has scoured the Colorado River bottom bed down to exposed gravel and rubble, providing fair to good trout habitat. The warmer silt-free water of Topock Swamp and Lake Havasu, just below Needles, provides habitat for large mouth bass. But in that section of the river between Needles and the Nevada line, the river bottom is mainly fine sand in continuous movement downstream, and summertime water temperatures are mostly too cold for warm water fish and too warm for trout. The California Department has made several unsuccessful plants in the difficult river stretch and soon will try again—this time with the small mouth bass, an “in-between” fish whose temperature tolerance is somewhere between warm water and cold water varieties. About 15,000 will be planted in early summer. — *Desert Star*.

Swims Across Salton Sea . . .

MECCA—Ray Carmassi, 25-year-old swimming instructor, became the first person to swim across Salton Sea when he negotiated the choppy waters April 11, from Salton Sea Beach on the south side to Desert Beach across the sea on the north shore. Time was 11 hours, 10 minutes and 31 seconds. Because of adverse conditions, he did not attempt the return swim as originally planned.—*Desert Sun*.

Ask Mono Monument . . .

MAMMOTH — A Forest Service field survey of the Mono Craters south of Mammoth may be made this summer, according to Mr. and Mrs. John Haddaway who are leading efforts to establish the craters area as a national monument. The Haddaways have organized the Save-the-California-Scenery Society at Mammoth in the interests of preserving the natural beauty of the Mono Craters.—*Inyo Register*.

Museum Group Gets Kilns . . .

LONE PINE — The old charcoal kilns south of Lone Pine, which played an important part in the early development of Inyo County, have been presented to the Eastern California Museum Association by the Columbia-Southern Chemical Corporation. The grant included a 1¼-acre parcel of land on which the kilns are located, with right of access to the property from Highway 6-395. The kilns were built nearly 85 years ago to furnish charcoal for the famous Cerro Colorado lead-silver mine in the mountains above Keeler.—*Inyo Independent*.

New Superintendent Named . . .

DEATH VALLEY—Following the resignation of T. R. Goodwin as superintendent of Death Valley National Monument April 1, the Park Service office in Washington announced the appointment of Fred Binnewies of Bandelier National Monument as Goodwin's successor. Ted Ogston, chief ranger, who has been eligible for retirement for some time, but who remained as acting superintendent after Goodwin was seriously injured in an automobile accident several months ago, also has resigned active duty in the Park Service. Goodwin is making his home at present in Las Vegas, Nevada.

Indians Prefer Status Quo . . .

PALM SPRINGS — Five years is too short a time to put the Indians on a basis of equality with their white brothers, believes Cruz Siba, Palm Springs Indian. The proposed termination bill is too drastic, he told Riverside County supervisors, and charged that an attempt is being made to push the bill regardless of how the Indians themselves feel. If only five years is allowed for training the Indians for citizenship, a large percentage of them will become charity cases, he said. Siba believes the Indians would prefer remaining wards of the government to being given their freedom uneducated, discriminated against and incapable of earning a living.—*Date Palm*.

NEVADA

Indians Protest Self-Rule . . .

LAS VEGAS—Nevada Indians are seeking to halt a congressional bill which would transfer federal reservation lands to the state. While the Indians are not in disagreement with the intent of the law, they believe that Nevada Indians are not yet ready for total self-rule. Many tribesmen, Indian spokesmen claim, cannot read or write and are incapable of managing their medical expenses and other costs. In the event the bill is passed, the spokesman recommend that a state board be set up with representation from the governor's office and various tribal units to help the Indians in the transition. — *Las Vegas Review-Journal*.

5,000,000th Visitor . . .

BOULDER CITY—It was an April Fool's joke on the Boulder City Bureau of Reclamation office, Hoover Dam officials and the Boulder City Chamber of Commerce. Officials from the three organizations waited all day April 1 to greet the five-millionth visitor to take the guided dam tour since the giant reservoir was first opened to

public inspection January 1, 1937. The last person in line that day was number 4,999,980. The five-millionth visitor had to wait until early April 2. —*Las Vegas Review-Journal*.

Navy Considers Lake Mead . . .

LAS VEGAS—Rumors have been flying in Las Vegas that the U. S. Navy is considering an installation at Lake Mead, but no official confirmation of reports has been made. A cadre of Navy men has been quartered at Nellis Air Force Base and the officers have been reported “highly interested” in the Lake Mead area, giving rise to speculation that a base is planned there.—*Las Vegas Review-Journal*.

Lake Mead Cabin Sites . . .

BOULDER CITY—A second vacation cabin site area has been opened in the Lake Mead National Recreation Area. The latest group of lots was made available in April by the National Park Service. It is located 16 miles south of Overton on the shore of Lake Mead in the vicinity of Stewart Point. The 89 lots in the parcel are being made available as part of a new program designed to give more opportunity for recreational use of the reservoirs created by Davis and Hoover dams.—*Las Vegas Review-Journal*.



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LOS ANGELES

NEW MEXICO

RR Hires Indian Guides . . .

SANTA FE—Indian guides in full tribal costume now ride Santa Fe Railway's streamlined Super Chief eastbound and El Capitan westbound to explain to passengers the various landmarks, history and colorful sights of the Southwest. Three Indians from Zuni Pueblo have been assigned to ride the two trains in New Mexico between Gallup and Raton. They are personable and good conversationalists, and the information service they provide is proving popular with travelers.—*New Mexican*.

Indian Craftsmen Reassured . . .

GALLUP—Shinzo Noguchi, Tokyo College professor on a visit to Southwestern Indian country as a member of a special cultural committee, says something will be done about Japanese-made imitations of Indian crafts. Noguchi said he was very surprised to hear of recent charges by Indian craftsmen that imitation Indian articles made cheaply in Japan were being sold in this country for the genuine article. He promised to take the matter up on his return to Japan.—*New Mexican*.

Father Berard Gravely III . . .

GALLUP — Father Berard Haile, 84, Franciscan priest who has spent 50 years working with the Navajo and translating their language, suffered a heart attack at St. Michaels, Arizona, in early April and is gravely ill in Gallup. Only a few weeks before, the Navajo Tribal Council voted to publish the two volumes of Father Berard's monumental work on the Navajo Blessing Way ceremony.—*New Mexican*.

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Uranium Gives Navajos Hope . . .

WASHINGTON—The current uranium boom on reservation lands will not solve all of the Navajo troubles—but it will help. Recent discoveries of great pockets of raw uranium on tribal lands may bring new and much-needed wealth to the tribe. Roughly \$470,000 went into the tills of the Navajo Tribal Council from rentals and royalties of uranium lands for the year ending June 30, 1953—and this is only a starting trickle in the flood of dollars which should accrue during the next few years. In addition, new jobs for Indians should be created by the \$2,750,000 uranium ore processing plant now under construction near Shiprock. "Uranium is the most important development on the reservation in the last few years," said Allen G. Harper, area director of the Navajo Agency for the Bureau of Indian Affairs, "and we hope it will mean new wealth, health and dignity for the tribe."

More Schools for Navajos . . .

WASHINGTON — An emergency program to get 7000 more Navajo children into schools by September is being worked out by the Bureau of Indian Affairs. The program would begin with purchase of about \$700,000 worth of trailers and prefabricated buildings to provide 43 additional school facilities at 36 locations on the reservation in Arizona and New Mexico. Doubling up in the present 60 boarding schools and day schools on the reservation also is planned as well as placement of a large number of pupils in off-reservation schools. A third phase calls for moving several hundred Navajo children into Northern Arizona towns for enrollment in elementary grades.—*Phoenix Gazette*.

Urge Fort Union Monument . . .

LAS CRUCES—Restoration of old Fort Union (*Desert*, February, 1953), army base of operations and supplies during the Indian wars, is being urged. A move is now under way to establish the old fort as a national monument.—*Las Cruces Citizens*.

Mining Town for Sale . . .

MADRID — "For Sale: Entire Town, 200 houses, grade and high school, power house, general store, tavern, machine shop; mineral rights 9000 acres; excellent climate; fine industrial location," read the ad in the *Wall Street Journal*. The once-bustling, now deserted coal mining town of Madrid is on the block. More than \$40,000,000 worth of coal has been mined in the area over the past 70 years. Reported price for the entire town is \$250,000.—*New Mexican*.

UTAH

To Explore Colorado River . . .

MOAB—John M. Goddard of Los Angeles, first man in history to travel the entire length of the Nile River, will embark soon on a second voyage. With a scientist companion, he plans to explore the Colorado River from a point in Utah to the Gulf of California. Detailed investigation of side canyons and caves along the 1800-mile river is main objective of the trip. Accompanying Goddard will be Dr. Arthur A. Holmgren of the U. S. Agricultural College at Logan, Utah, well-known botanist and authority on the plant life of the Colorado Basin.

First Weber "Hole-Through" . . .

GATEWAY — First phase of the \$69 million Weber River water development project was completed when Gateway Tunnel was "holed through" just 14½ months after the first dynamite blast was fired. East portal of the nine-foot, four-inch bore is about a half mile above Devil's Gate in Weber Canyon, with the west portal on the south side of the mouth of Weber Canyon. Work on the tunnel began from the west end in January, 1953.—*Salt Lake Tribune*.

More Chukars for Utah . . .

CEDAR CITY — Another 1,557 chukar partridges have been planted in 15 new Utah areas by the State Department of Fish and Game, making totals of 9,738 birds and 34 planting sites since the program began 2½ years ago. Field census and observation show the birds are scattered but managing very well. — *Iron County Record*.

ANSWERS TO QUIZ

Questions are on page 20

- 1—Rodent—the Kangaroo rat.
- 2—Southern Pacific Railroad.
- 3—Igneous rock. It is a form of lava.
- 4—Mojave Indians in the 1850s.
- 5—Walter Scott.
- 6—Boundary Peak, elevation 13,145.
- 7—Medicine.
- 8—The Superstition Mountains of Arizona.
- 9—Colorado River.
- 10—Nevada.
- 11—Dellenbaugh.
- 12—Jojoba, or Goatnut.
- 13—San Juan River.
- 14—Licensed by the U. S. Bureau of Indian Affairs.
- 15—Bluish-purple.
- 16—At the edge of Pyramid Lake.
- 17—September.
- 18—Cinnabar.
- 19—A lost mine in the Death Valley region.
- 20—Corn.

VACATION IDEAS

Pack and Boat Trips Announced for 1954 Season

Planning a summer vacation? Here are some ideas for outdoor adventure for the whole family—offered by experts in the field, the Sierra Club of California.

Twenty-one different outings in the high mountain areas of California, Oregon, Montana, Utah, Wyoming and Colorado have been scheduled by the Sierra Club for the coming summer—the most ambitious outing program the Club has ever undertaken.

The outings will include pack trips in Sequoia, Grand Teton and Glacier National Parks; knapsack trips in Rocky Mountain and Sierra wilderness areas; riverboat trips in Dinosaur National Monument, with several stationary "base camps" scheduled for the less active vacationists.

Members, prospective members, and members of other outdoor and conservation organizations are eligible to participate in the Club's outings. The Sierra Club is one of the nation's leading conservation groups and, with 8,000 members, is California's largest outdoor club. Its Outing Committee, headed by Dr. Stewart Kimball, organizes the trips on a nonprofit basis.

The varied outing fare has been arranged by the Club in conformity with its long-held belief that by encouraging people to know and to love the wilderness, they will become its staunch defenders against invasion and exploitation.

With less than one percent of the nation's total area remaining in a wild state, the Club and kindred organizations seek to preserve this small area unimpaired for the enjoyment of present and future generations.

"High trips"—so-called because they are trips high in the mountains close to timberline—are a long-established specialty of the Club, inaugurated more than 50 years ago. On these trips, the participants hike, pack animals carry necessary equipment and supplies and a commissary crew prepares meals.

There will be four high trips this year, two in Sequoia National Park, one each in Grand Teton National Park and Glacier National Park.

The first Sequoia National Park high trip will depart from Mineral King July 4 and travel by way of Franklin Pass, Forester Lake, Lost Canyon, Nine Lakes Basin, Little Five Lakes and out by Sawtooth Pass, returning to Mineral King July 16.

The second two-week high trip will leave Mineral King July 17 via Sawtooth Pass, Lost Canyon, Little Five Lakes, Nine Lakes Basin, Moraine Lake, returning via Forester Lake and Franklin Pass, reaching Mineral King July 30.

The Grand Teton high trip will be of one week's duration only, August 1 to 7. The Glacier high trip will be of ten days' duration, August 9 to 19.

The river trips down the Green and

Yampa Rivers in Dinosaur National Monument on the boundary between Utah and Colorado, inaugurated last year, will be continued this year. There will be five river trips, each of six days duration, starting June 13, June 21, June 29, July 7, and July 15.

The first three will start at Lily Park on the Yampa and continue down the Green; the last two will start from the Gates of Lodore on the upper Green River, enabling persons who have previously traveled the Yampa to see different scenery on the first part of the trip.

For the young of heart and sound of limb, the Club has scheduled five knapsack trips on which participants carry on their back all essentials of food and shelter for a week or more.

Two of these trips are planned in the High Sierra. The first, July 3 to 17, will start from the north fork of the Kings River and travel over the White Divide and Hell-for-Sure Pass. The second is planned for August 8 to 15, with itinerary to be decided later.

A knapsack trip designed especially for beginners is tentatively scheduled to depart August 1 from Glacier Point in Yosemite National Park, crossing the Clark Range at Red Peak Pass and returning to Yosemite Valley August 7.

Knapsackers will also visit California's Trinity Alps country, a one-week trip being scheduled there July 11 to 17.

One out-of-State knapsack trip has been scheduled for August 8 to 22, probably in the Jim Bridger Wilderness Area, located in the Wind River range of Wyoming.

To acquaint mountain travelers with the possibilities of burro travel—and with the wide range of burro cussedness—the Club has scheduled four trips in which burros are the beasts of burden. Since the participants not only hike but pack the burros and learn to look after their welfare as well, the trips are doubly educational.

Three burro trips will enter the Sierra from the east side, over Kearsarge Pass. The first two will probably make the circuit Glenn Pass-Woods Creek-Bubbs Creek; the third will probably go south past Mount Whitney and out over Army Pass to Lone Pine.

A fourth burro trip, starting from Tuolumne Meadows in Yosemite National Park, is especially designed for family vacationing. Parents may take as many children as they wish, with a maximum of three burros to a family. The itinerary—to the north or south of Tuolumne Meadows—will be decided by the participants.



By boat through Dinosaur National Monument. Steamboat Rock in the background. Photo by Martin Litton.

Of all the Club's outings, its base camp usually attracts most participants. The base camp is set up in some scenically spectacular area close to timberline, remote but not too far from road heads for convenient one-day transportation.

Easy of access, maintained at a fixed location, with better shelter and supply than the traveling type of trip permits, the base camp is especially popular with those who prefer to become intimately acquainted with and to explore intensively a limited area rather than to cover long distances and see much new country in a summer's trip. For this reason, it is a favorite with amateur botanists, ornithologists, photographers—not to mention fishermen.

This year, the Club is providing three base camps instead of the usual one. One, of six weeks duration, will be located on Bear Creek, a tributary of the south fork of the San Joaquin River in Sierra National Forest east of Fresno, California. It will open July 4, offering its accommodations in three periods of two weeks. Capacity is 167 persons each period.

Another base camp will be maintained in the Mount Whitney country, on Crabtree Creek. It will run from July 18 to 31, and is limited to 75 persons.

For the first time, the Club will maintain an out-of-State base camp this year. It will be located in the Three Sisters Wilderness Area west of Bend, Oregon, from August 8 to 12.

The cost of these outings depends on prevailing prices of supplies, packers' fees, and similar charges.

This year the Club expects them to be as follows: High trip, \$85-\$95; river trip, \$65; base camp, \$40-\$52; knapsack trip, \$20 (one week), \$37 (two weeks); burro trip, \$51; family burro trip, \$125 per family. Rates for children 14 years and under are \$5 less for the middle two-week period of the Bear Creek Base Camp and \$10 less on all the high trips.

The address of the Sierra Club is 1050 Mills Tower, San Francisco 4, California.

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MINES and MINING

Moab, Utah . . .

Bids have been issued and construction is expected to begin soon on an Atomic Energy sampling plant at Moab. It is hoped that the facility will be ready for operation in September or October. The sampling plant will be one of the largest uranium ore receiving stations on the Colorado Plateau and will incorporate mechanical sampling equipment and procedures to obtain accurate ore samples. — *San Juan Record*.

Moab, Utah . . .

Development is planned at once by Anaconda Copper Company on a group of 20 uranium claims recently leased in the Temple Mountain area. The claims are reported to be located on a pipe or fumerole where rich primary ore is found. For complete evaluation of the ore, a program of coring will be undertaken.—*Humboldt Star*.

Reno, Nevada . . .

University of Nevada has received a museum sample of the first oil to be discovered in the state by the Shell Oil Company, which brought in the first successful well in Nye County. Dean Vernon E. Scheid of Mackay School of Mines said the sample would be placed in the school's museum as part of the mineralogic and geologic collection.—*Pioche Record*.

Tonopah, Nevada . . .

The old Carrie lead-silver mine near Gilbert in northern Esmeralda County, whose history dates back to 1880, may be destined for new prominence, this time as a tungsten producer. The property is being reactivated by a partnership composed of Fred and Homer Gilbert of Mina, R. E. Williamson of Round Mountain and the L&W Tungsten Company of Santa Monica, California. Preliminary exploration off a drift at the 90-foot level has disclosed a 20-inch streak of highgrade scheelite running between 2½ and 6 percent WO-3, the operators report.—*Humboldt Star*.

Las Vegas, Nevada . . .

Senator Pat McCarran has suggested to Defense Mobilizer Arthur S. Fleming that a Nevada site be designated a stockpile depot under the new metals and minerals stockpiling program recently announced by President Eisenhower. McCarran pointed out that Nevada needs a purchase point to implement the program in the state.—*Las Vegas Review-Journal*.

Abiquiu, New Mexico . . .

Not far from here, in mineral-rich Rio Arriba County, scene of the most recent uranium rush, crews are working around the clock to open up what may be one of the major oil pools in the world. Drilling, now in its ninth month, has been slowed by the large quantities of water encountered from 790 feet downward. The underground water tables are so promising, in fact, that Ed W. Cannedy, the drilling contractor, believes the area eventually may become a rich agricultural empire. The oil rig is located on Ghost Ranch off U. S. Highway 83 ten miles north of Abiquiu.—*New Mexican*.

Randsburg, California . . .

W. C. Brown and J. Russell Peery, both of Johannesburg, are building a screen-jig type of mill on a site leased from the owners of the Big Dyke Claim. The property is located just east of Randsburg along the county road to Red Mountain. The mill is designed to handle placer ore, and the owners have leased placer ground just southeast of the mill to supply the concentrators.—*Mining Record*.

Kingman, Arizona . . .

Seventy-three miles southeast of Kingman, high on a mountain side in the Aquarius Range, lie the Wothree Mines, major Arizona producers of tungsten. Forty men are working 24 hours a day in the development of wolframite tungsten ore bodies and in building a mill to reduce the high-grade into concentrates. The mine's name is derived from WO-3, symbol for tungstic acid.—*Pioche Record*.

Farmington, New Mexico . . .

Dr. V. D. Harrington of Farmington and Cuba has announced discovery of a \$300,000 uranium deposit west of Farmington. Harrington said he and Clayton Davidson, local coal miner, made the discovery and that ore had been assayed at \$65 a ton. They estimated that 87,000 tons lay on or very near the surface.—*New Mexican*.

San Carlos, Arizona . . .

The Apache Tribal Council has taken steps to stop the growing amount of prospecting, apparently for uranium, taking place on the San Carlos reservation. One hundred notices that such prospecting is unlawful were posted at all entrances to the reservation. Tribal police were ordered to arrest violators.—*Phoenix Gazette*.

Winnemucca, Nevada . . .

Development of a Nevada uranium deposit, termed by mining engineers "one of the most important uranium strikes in the United States," is being started by a newly-organized Denver company. The strike was made several months ago by three young Winnemucca machinists, but the importance of the discovery was only recently determined. Mining Engineer Arthur Sweet said the deposit was unusual in that the uranium is found in veins of meta-autunite rather than in spotty deposits of carnotite. The property is located 70 miles northwest of Winnemucca in the King's River Valley of Humboldt County. — *Mining Record*.

Henderson, Nevada . . .

The Manganese, Inc., plant near Henderson, heavily damaged by fire last June, has been rebuilt and modernized and has resumed operations. Continuous production of nodulized manganese of specified grade has been maintained on a 67 percent capacity basis, with regular shipments to points of use. Full capacity is expected to be reached in the near future.—*Battle Mountain Scout*.

Washington, D. C. . . .

Lead, zinc, uranium and 16 other metals have been added to the government's list of minerals which may qualify for financial assistance in exploration projects. The Defense Minerals Exploration program was set up in 1951 to encourage production of defense materials. It included lead, uranium and zinc, but these three minerals were eliminated in May, 1953. The recently expanded list, bringing to 33 the total number of minerals eligible, includes bauxite, chromium, copper, fluor spar, crucible grade graphite, lead, molybdenum, zinc and cadmium exploration as eligible for 50 percent government assistance. Eligible for 75 percent government aid are projects involving metals such as uranium, tungsten, tin, thorium, tantalum, manganese, industrial diamonds and mercury.—*Territorial Enterprise*.

Albuquerque, New Mexico . . .

Prospectors from all over the nation packed their Geiger counters and rushed to New Mexico after Tom Bridges announced his rich uranium strike in eastern Rio Arriba county. Bridges filed 205 claims covering 4800 acres. He claimed the ore to be some of the richest found anywhere and reported that geologists estimated the presence of about 250,000 tons containing an average of .5 percent uranium oxide, worth about \$70 a ton.—*Mining Record*.

GEMS and MINERALS

FIELD TRIPS PLANNED FOR MILWAUKEE VISITORS

A tour of the Greene Memorial Museum of Paleontology of Milwaukee-Downer College with its curator, Dr. Katherine Greacen Nelson as guide, and a visit to the Lutz Quarry at Oshkosh, where marcasite, pyrite, calcite and sphalerite are found, are field trip highlights planned for visitors to the 1954 convention of the Midwest Federation of Mineralogical Societies. The meeting will be held in Milwaukee, Wisconsin, June 24 to 26. In addition to planned group trips, each visitor will receive a souvenir guide of noteworthy geological sites in Wisconsin with directions to each spot and lists of minerals to be seen or found there.

Other special features of the convention are the "Book Nook," where donated books and mineralogical magazines will be sold for federation benefit; the Trading Post for swappers, and a Pebble Pup Booth for junior collectors. Guided tours also are planned to landmarks and places of interest in the city.

SHOW IN SAN BERNARDINO

Eighth annual gem and mineral show of Orange Belt Mineralogical Society will be held September 25 and 26 at the Orange Show Grounds in San Bernardino, California.

ALFRED HAWLEY LEADS FIRST YEAR ACTIVITIES

Alfred E. Hawley is charter president of the Southern California Mineral Identification Society, organized recently in Compton, California. Purpose of the club is to promote the study of mineralogy, particularly mineral identification. Other officers are Ernest M. Featherston, vice-president, and Marge Lemons, secretary-treasurer.

REDWOOD SOCIETY DISPLAY AT SONOMA COUNTY FAIR

Redwood Gem and Mineral Society of Santa Rosa, California, invites all rockhounds to visit their gem and mineral exhibit at the Sonoma County Fair, July 16 through 24 in Santa Rosa. Local material will be featured.

ROCKY MOUNTAIN MEET JUNE 11 TO 13 IN UTAH

Mineralogical Society of Utah is host to this year's convention of the Rocky Mountain Federation of Mineral Societies, scheduled June 11 to 13 in Salt Lake City. A camp site for visitors is planned 12 miles east of the city in the Wasatch Mountains. Trailer camps and tourist cottages also are available.

Chairman of exhibit space for the show is Dr. B. D. Bennion, 1403 Emerson Avenue, Salt Lake City. W. T. Rogers, 1230 Parkway Avenue, is handling dealer space. Other inquiries may be directed to President Golden W. Robbins, 715 Boston Building, or Stewart Romney, secretary, 409 University Street, all in Salt Lake City, Utah.

JUNE SHOW TO FEATURE FAMOUS OREGON AGATES

Central Oregon's famous agates will be featured at the first annual rock show of Prineville Mineral Society, scheduled June 26 and 27 at the Crooked River Roundup Grounds, Prineville, Oregon. There will be exhibits, field trips, a trading post for exchange of material, commercial booths, grab bags and display prizes. Further information about the show may be obtained by writing Mrs. C. F. Cheney, general chairman, Prineville, Oregon.

Miss Frances Bieber of Santa Fe, New Mexico, who spent ten years in China helping the people revive ancient Chinese arts and crafts, spoke to members of Santa Fe Gem and Mineral Club on "Gem Stones Used in Chinese Costume."

Potluck supper and colored slides of Grand Canyon were highlights of the March meeting of Clark County Gem Collectors, Las Vegas, Nevada.

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SAN DIEGO SOCIETY SETS OCTOBER DATES FOR SHOW

San Diego Mineral and Gem Society has selected October 2 and 3 as dates for its 1954 show, to be held in the Spanish Village of Balboa Park, San Diego, California. There will be ample free parking, Mrs. Norman Dawson, publicity chairman, promises, and a snack bar will be operated at the show.

Mrs. Elizabeth Morrison showed fellow members of Humboldt Gem and Mineral Society colored slides of the trip she and her two sons took to Ceylon and Africa.

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2nd grade, oz. 8.00
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Chrysoprase, tigereye, rose quartz, etc. Carved fish, frogs, turtles, bees etc., in tigereye, amethyst, hematite & opal, ea. \$2.50

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8 lbs. assorted chunk mtl. for cutting.....\$3.75
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Slabs, per inch .50
Moss Agate (India), per lb. 4.60
Slabs, per inch .45
Red Plume Agate, per lb. 12.00
Slabs, per inch 1.30
Mexican Agate, per lb. 3.50
Slabs, per inch .30
Rose Quartz (very good color), per lb. 1.25
Slabs, per inch .30
Jade (Alaska), per 1/2 lb. 6.25
Slabs, per inch .90
Burnite (top grade), per lb. 7.40
Slabs, per inch .50
Templates (sizes marked for standard cuts) 2.10

FACETING MATERIAL (Mine run)

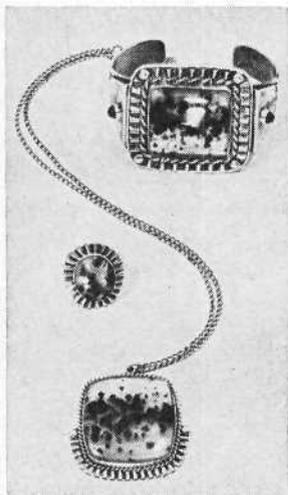
1/4-lb. Sunstone\$1.70
1/4-lb. Kunzite2.60
1/4-lb. Topaz (Mexican)2.80
1/4-lb. Peridot6.10
1/4-lb. Amethyst6.70
1/4-lb. Smoky quartz7.60
1/4-lb. Apatite6.70
1/4-lb. Garnet (very good)8.40
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70 different minerals 3.90
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large, ea. .60
Synthetic Turquoise, per gram......15
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QUARTZ CRYSTAL GEODES (Kentucky Diamonds). These geodes range from 2" to 8" diameter. Showy xls. Masses clear to white, some phantoms. Selected specimens from broken geodes \$2.50 lb. Unopened geodes \$1.50 lb. Dealers write for wholesale rates. Midwest Mineral Mart. R. B. Boies, P. O. Box 391, Hamilton, Ohio. We trade for Western minerals.

ROSE ROCKS—Barite crystals in the form of a rose 1 1/2 in. size \$1.00. We will send a free sample if you inclose 25c for packaging and mailing. Harris Gems, Yukon, Oklahoma.

WANTED: Chalk grade Turquoise. Write complete details as to quality and price. P.O. Box 5171, Phoenix, Arizona.

GENUINE TURQUOISE: Natural color, blue and bluish green, cut and polished cabochons — 25 carats (5 to 10 stones according to size) \$3.50 including tax, postpaid in U.S.A. Package 50 carats 10 to 20 cabochons) \$6.15 including tax, postpaid in U.S.A. Elliott Gem & Mineral Shop, 235 E. Seaside Blvd., Long Beach 2, California.

FOR SALE: Beautiful purple petrified wood with uranium, pyrolusite, manganese. Nice sample \$1.00. Postage. Maggie Baker, Kingman, Arizona.

THE BELEAL'S Ironwood Rock Shop. Specializing in fire agate. P.O. Box 542, Highway 60-70, 7 miles from Blythe, Cal.

TONOPAH, Nevada, is where C. C. Boak lives, with his outstanding scientific world-wide collection of Mineral, Gem and semi-Gemstone species—spectacular crystal groups, etc. Visitors welcome. C. C. Boak, 511 Ellis St., Tonopah, Nevada.

ONYX BLANKS, unpolished, black 25c each; red, green, blue 35c each. Perfect cut titanium. Fine cutting and polishing at reasonable prices. Prompt attention to mail orders. Juchem Bros., 315 West 5th St., Los Angeles 13, California.

10 POUNDS of beautiful mineral specimens, selected \$6.00. Ask for list. Jack The Rockhound, P.O. Box 245, Carbondale, Colorado.

BEAUTIFUL URANIUM specimens in banded quartz. Polishes nicely. Two pounds \$1.00. J. S. Wisdom, Tonopah, Nevada, Via Fish Lake Valley Rt.

In spite of rain, 16 members of San Diego Mineral and Gem Society made the scheduled March field trip to Tyce Quarry in In-Ko-Pah Gorge, California. Many characteristic silicates were collected in the crystalline limestone of the contact-metamorphic deposit. Later, two limestone quarries at Dos Cabezas were visited and garnets, blue calcite, white wollastonite and several other minerals collected.

Pictures painted in stone by Nature millions of years ago were featured at the March show of the Mineralogical Society of Arizona and Maricopa Lapidary Society. One picture agate had been cut and polished by Agnes M. Holst of Phoenix who then had inserted the thin slab in an enlarger and used it as a negative to print what she entitled "Storm Picture." Other show highlights were a 46-link necklace of Wyoming jade cut from one piece by E. B. Bomar of Phoenix; natural chalcedony roses and quartz crystals mounted in silver by Wilma Cowell; a complete mineral "dinner" displayed by Mr. and Mrs. Van Horne of Tempe, and jeweled bottles from China from the collection of Dr. and Mrs. A. C. Armbruster. The fluorescent room contained material from all 48 states, Canada and England.

"Not enough shelves" is a common rockhound complaint. A. E. Powell of San Fernando Valley, California, Mineral and Gem Society offers a suggestion: "To double the area of shelves, hang shallow drawers under the shelves, or construct another shallow shelf under existing ones to provide room for tools, templates and small specimens."

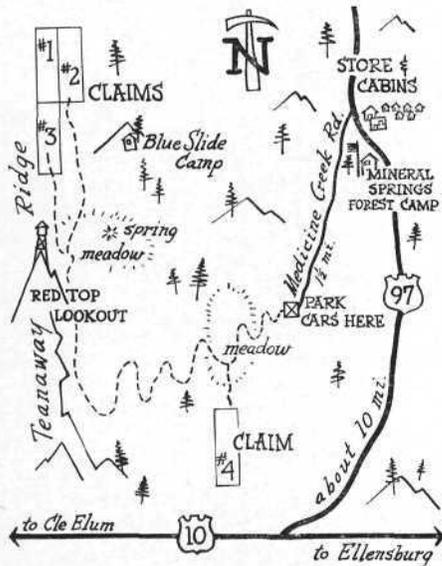
"Gold in the Mother Lode Country" was the topic of Mrs. Dorothy Craig, past president of the California Federation of Mineralogical Societies, when she spoke to Delvers Gem and Mineral Society in Downey, California. According to Mrs. Craig, the gold was originally deposited in this area during the Jurassic era when there was another mountain range where the Sierra Nevada are today. This range eroded away, leaving free gold exposed. When the Sierra were thrust upward, the gold was buried in stream beds where it was later discovered by the Fortyniners. Most of the gold is placer.

Practical suggestions for taking care of gem and mineral specimens and for displaying them to advantage were given Compton Gem and Mineral Club members by Jack Streeter at the April meeting.

A mineralogy division field trip of San Diego Mineral and Gem Society to San Felipe garnet mine netted good specimens of tremolite associated with essonite (a type of garnet), garnet and green diopside.

Because of its high specific gravity, barite is used in rotary drilling fluids in petroleum mining equipment. Barium sulfate is used in shields for atomic stock piles, and other barium compounds are employed in the manufacture of paints, rubber and glass. These facts were included in William F. Paine's talk to members of the Mineralogical Society of Arizona. Paine is general manager of the Arizona Barite Company. The company's mine, only one of its kind west of Arkansas, is located near Mesa, Arizona.

Club Files Claim on Agate Diggings; Rockhounds Welcome



Map to Puget Sound Gem and Mineral Club's agate claims on Red Top Mountain, Washington. All rockhounds are invited to hunt on the four claims.

EIGHTY ACRES of choice collecting ground have been saved for the rockhounds by recent action of the Puget Sound Gem and Mineral Club, Seattle, Washington.

Hearing that certain individuals were planning to acquire the Red Top Mountain agate beds near Liberty, Washington, and charge fees for hunting the fine blue and lavender specimens found there, the Puget Sounders acted to save one of their favorite field trip sites. They filed four mineral claims in the best areas covering the top and slopes of Red Top Mountain and Teanaway Ridge.

The club recorded the four claims in Kittitas County, Washington, at a total cost of \$5.10. To hold the claims, improvements of a minimum value of \$100 must be made on each claim. The Puget Sound rockhounds plan to place a cairn on each claim where visitors may register; other camping facilities may follow.

Frances L. Thompson, secretary, extends the club's invitation to all gem and mineral hobbyists to visit the claims, free of charge. Prior permission is not necessary, but the claimants ask that the area be left uncluttered for future visitors.

The claims cannot be reached by automobile. Cars can be driven off the highway about 1½ miles on Medicine Creek Road. From the end of the road, a ranger

trail winds up to the claims. It is a fairly strenuous hike with about two miles of fairly steep uphill trail, but the specimens found at the end are reward enough for the trek.

At an elevation of 5200 feet, the Red Top area is covered with snow much of the year, but in the summer it is a delightful place to camp and hunt for agate, crystals and geodes. It is part of a forest reserve and, although camping is encouraged, visitors are cautioned to be careful with campfires, matches and cigarettes.

CHAIRMEN PLAN FALL GEM AND HOBBY SHOW

Plans are already well under way by Searles Lake Gem and Mineral Society, Trona, California, for their October gem and hobby show. Chairmen are Oscar Walstrom, field trips; Mrs. Dunn, art exhibits; Dwight Sawyer, minerals; Eddie Redenbach, lapidary and gems; Mrs. George Pipkin, general hobbies; Mo Leonardi, raffles, and Al Tankersley, Redenbach and O. B. Ross, grab bags and miscellaneous.

Of 32 classes of symmetry that include all mathematically possible crystal forms there still are seven that have no mineral representatives, Colorado Mineral Society's *Mineral Minutes* revealed in a recent issue.

A return trip to Opal Mountain was scheduled for April by Hollywood Lapidary and Mineral Society.

A three-day field trip to Lone Pine, California, was planned for April by Long Beach Mineral and Gem Society. The area yields pyrite crystals, galena copper specimens, chrysocolla, clear and mottled calcite, lime minerals, copper, silver and lead.

An auction for members' benefit was held by San Antonio, Texas, Rock and Lapidary Society. Profits for members totaled \$66.25.

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Miss Ruth Simpson of Southwest Museum described the desert life of early California man when she appeared as guest speaker at a meeting of Los Angeles Lapidary Society. She showed colored slides of ancient Indian campsites and displayed scrapers, arrowheads, choppers and other artifacts from the Pinto Basin and Mojave Lake areas.

Members of the Mineralogical Society of Southern California were asked to bring fossil specimens to the April meeting in Pasadena. The evening's subject was the Pre-Tertiary Mojave Desert.

Duxbury Point was the destination of a field trip party from San Francisco Gem and Mineral Society. Members took advantage of low tides to hunt for petrified whalebone, agate, variegated jasper, driftwood and shells.

"Micromount Night" was April 15 for the East Bay Mineral Society of Oakland, California. George H. Needham spoke on "The Preparation and Display of Micromounts," illustrating his remarks with specimen displays and colored slides.

SECOND ANNUAL LAPIDARY ASSOCIATION SHOW DATES

Lapidary Association of Southern California will hold its second annual gem show August 13, 14 and 15 at the Shrine Convention Hall in Los Angeles. Host clubs will be the Los Angeles Lapidary Society, Santa Monica Gemological Society, Hollywood Lapidary Society and the Gem Cutters Guild. Several feature exhibits are planned in addition to displays from the 12 member societies of the association.

For every one-carat diamond found, 10 tons of rock are processed, Gladys Hannaford told members of Fresno Gem and Mineral Society. Fifty percent of the diamond is lost in cutting, so the 10 tons of ore actually yields one-half carat of cut gem. The deeper the diamond miner goes into the earth, the smaller the diamonds become. Mrs. Hannaford is a representative of the DeBeers diamond syndicate.

The Puget Sounder, organ of Tacoma, Washington, Agate Club, has announced a writing contest. Entrants are to tell how they became rockhounds.

Quartz crystals from Quartzsite, Arizona, joined collections of Delvers Gem and Mineral Society Members, Downey, California, after a recent field trip.

Five speakers presented the program at a recent meeting of Arrowhead Mineralogical Society, Fontana, California. Junior Member Joe Walker discussed Horse Canyon agate; Elmer Jarrett advised on the proper bezel of a cabochon; George Seaberg spoke on "Sawing Techniques"; George Tyler told how he made his onyx vases, and John Short gave tips on polishing tigereye.

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100 grit	\$2.65	\$3.60	\$5.35	7.50	\$11.35
220 grit	2.95	3.95	5.90	8.25	12.50
320 grit	3.35	4.50	6.70	9.40	14.20
Shipping weight	2 lbs.	3 lbs.	5 lbs.	6 lbs.	9 lbs.

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Grit Size	1 Pound	5 Lb. Lots	10 Lb. Lots	25 Lb. Lots
80, 100, 120, 18, 220	\$.83	\$.52	\$.39	\$.30
2F (320), 3F (400)	.38	.57	.41	.32
Graded 400	1.09	.73	.57	.48
Graded 600	1.35	.94	.78	.69

DURITE (Silicon Carbide) ROLL SANDING CLOTH—

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Dry Rolls

2" wide, 25 ft. long	\$2.00; 150-foot roll	\$ 9.00
3" wide, 15 ft. long	2.00; 150-foot roll	13.25
10" wide, 5 ft. long	2.00; 150-foot roll	39.77
12" wide, 5 ft. long	2.25; 150-foot roll	47.70

Wet Rolls

3" wide, 10 ft. long	\$2.00; 150-foot roll	\$21.60
10" wide, 40 in. long	2.60; 150-foot roll	71.25

DURITE SANDING CLOTH in round disks . . .

Available in 120, 220, 320 grits

Wet	Dry
6" 5 for \$1.00; 25 for \$ 3.90	8 for \$1.00; 25 for \$ 2.25
8" 3 for 1.10; 25 for 7.00	5 for 1.00; 25 for 4.10
10" 2 for 1.15; 25 for 11.00	3 for 1.00; 25 for 6.45
12" 2 for 1.65; 25 for 16.00	2 for 1.00; 25 for 9.45

CONGO OR FELKER DI-MET DIAMOND BLADES

4" diameter by .205" thick	\$ 7.80	10" diameter by .040" thick	\$14.80
6" diameter by .205" thick	7.80	12" diameter by .040" thick	18.20
6" diameter by .032" thick	7.80	14" diameter by .050" thick	25.20
8" diameter by .032" thick	10.40	16" diameter by .050" thick	28.60
8" diameter by .040" thick	11.40	20" diameter by .060" thick	39.20
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ORANGE COAST SHOW DATES

Orange Coast Mineral and Lapidary Society, Costa Mesa, California, will hold its annual gem and mineral show in conjunction with the Orange County Fair, August 10 to 15.

Searles Lake Gem and Mineral Society, Trona, California, is organizing a junior division. Helping with plans are Al Tankersley, Eddie Redenbach and Mo Leonardi.

Using a black light to bring out the beauty of choice specimens in his collection, Thomas Warren presented a program, "Fluorescence in Minerals," for Pasadena Lapidary Society.

When a new job made it necessary for him to leave the San Diego, California, area, Felix Kallis resigned as president of San Diego Mineral and Gem Society. He is succeeded by Norman Dawson, former vice-president.

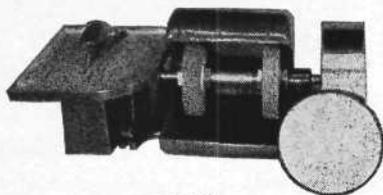
Indiana Geology and Gem Society carried an illustrated article on "Geography and Geology of the Canon City Embayment, Canon City, Colorado" in its April bulletin.

A late April field trip to Thornton Quarry was scheduled by the Earth Science Club of Northern Illinois. Those who had visited the area before, remembered the quantities of fossil specimens found there.

A "Kross-Kross" puzzle of stones to cut was the brain-teaser published in the April issue of Evansville Lapidary Society's *Newsletter*. The March issue gave the answers to the February Valentine puzzle.

Stan Skiba continued his "Uranium Prospecting" series in the April issue of the *American Prospectors Journal*, organ of the American Prospectors Club of Los Angeles, with detailed discussions of isorad mapping and quantitative assays of radioactive ores.

Jim Kilgore and Vearl Hooper pooled their knowledge of diamond saws to present the March program of Dona Ana County Rockhound Club, Mesilla Park, New Mexico. Kilgore told how saws are made, why they are able to cut hard gemstones and how they should be treated to keep them in top condition. Hooper told what not to do to saws and the best type to buy.



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Expense of incorporation for Montebello Mineral and Lapidary Society was partly defrayed by an auction sale held at a recent meeting. Program Chairman Jack Schwartz auctioned off donated specimens for a profit of \$33.

"The Earth is Born," a series of colored slides from the *Life* magazine series "The World We Live In," were shown at the April meeting of Coachella Valley Mineral Society, Indio, California. The slides and accompanying script were loaned by the California Federation of Mineralogical Societies.

An illustrated lecture, "Uranium in the Morrison and Shinarump formations in Southeastern Utah" was planned for the April meeting of Wasatch Gem Society. Guest speaker was Horace K. Thurber, Jr.

First public show of Wichita Gem and Mineral Society was held in April in Wichita, Kansas. To provide enough cases for members' displays, a volunteer group mass-constructed case parts which were sold to individual members who assembled them themselves.

Braving rain, 30 members of San Diego Lapidary Society attended the March meeting and viewed slides from "Desert Treasure Trails."

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First meeting of the junior group of Chicago Rocks and Minerals Society was held in March and elections were held. Alan Hahn is president; Alice Swanson, vice-president; Robert Gonzales, secretary; Bob Holtz, treasurer, and Jay Wollin, manager.

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A new evening class in mineral identification started April 1 at Santa Barbara High School, sponsored by the Santa Barbara Mineral and Gem Society.

In a "Did you Know?" column in the March issue of Evansville, Indiana, Lapidary Society's *Newsletter*, the editors reported that for all of the "diamond ore" mined, only one part in 21,000,000 is diamond.

A "Lapidary Clinic" was scheduled for the April meeting of Shadow Mountain Gem and Mineral Society, Palm Desert, California. General Chairman Don Butterworth said it would be an opportunity for society members to watch cutting, polishing and faceting operations and jewelry making as well as to view finished pieces.

Ninth annual exhibit of Minnesota Mineral Club was held in April. Mineral specimens, meteorites, cabochons and faceted gems were displayed for visitors.

Sgt. George Zurian, president of El Paso Mineral and Gem Society, discussed "Synthetic Sapphire and Spinel Production" in the April issue of *The Voice*, monthly club bulletin.

University of Denver announces extended day courses in gems for rockhounds and their families.

Members of East Bay Mineral Society, Oakland, California, have a new project. They are assembling kits of specimen rocks and minerals to be placed in schools where teachers and students show interest. Dr. F. M. Yockey is heading the project.

Dr. Ben Hur Wilson was guest speaker at the April meeting of the Chicago Rocks and Minerals Society. He gave an illustrated lecture on "The Earth as a Planet." Dr. Wilson is a past president of the American Federation of Mineralogical Societies.

"In Utah," Speaker Burnett Hendryx of Bryce Canyon told the Gem and Mineral Society of San Mateo County, California, "are formations of every geologic age since the world began and every kind of climate." He showed colored slides of weirdly beautiful formations in Cedar Breaks, Zion, Grand Canyon, Bryce and Capitol Reef national parks and monuments.

An oil portrait of Arthur L. Flagg, who has spent many years working with the children of Arizona, teaching them about geology, gems and minerals, was presented to the Mineralogical Society of Arizona, which he helped found. The painting was the gift of junior members of the society and former junior members now in the adult group.

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AMATEUR GEM CUTTER

By LELANDE QUICK, Editor of The Lapidary Journal

A visitor to our office the other day came for advice on how to polish opals. He said that he had tried all of the various agents on the market but that his scratches still remained. Now here was a man who thought that if he had a few scratches after finishing his sanding operation they would be removed with tin oxide or cerium oxide or some other wonder working agent. It is not so.

One could, in time, remove some hair-like scratches with a polishing agent on a felt or leather buff but it would take so much time it would be folly to try it. Our visitor even admitted that he had pits in his finished gems. We told him that he was mistaken in believing that his opals were finished if he took them to the polishers with pits and scratches in them. No one ever gets a perfect polish on any gem unless he has first done a perfect sanding job.

The temptation is strong indeed, especially with opals, to take a gem with a few scratches still on it to the buffs just to see how the fire comes out. It takes more strength of character than we usually possess to refrain from polishing until every last scratch is removed by the sanders.

We can't see that any improvement has been made in sanding operations themselves in many years but certainly a lot of things have been done to take the hardship out of the equipment used. When we first began the hobby, sanders were all home made. An amateur would visit a wood turner and get some wheels turned and an arbor hole drilled in them. Then he would rummage around until he found some sponge rubber or perhaps he would cut up some old carpet to use as a pad over which to stretch his sanding cloth. The cloth was then cut to oversize and the over-lap was tacked down to the periphery of the wheel. It used to take us a good half hour to change the cloth on a wheel. Then came the manufactured wheels with a spring attachment. These were better, but still bad.

About two years ago the greatest boon of all came along—peel-em-off sanding disks and cement. These were cut to size and all the lapidary had to do was yank off the worn out cloth, rub a little goo on a new disk and slap it on the wheel. Cloth could be changed before you could count to sixty—and that's less than a minute.

This all leads up to what promises to be a new boon to the sanding problem and one can even save that precious minute and just quit stocking any sanding cloth. There is now on the market a rubber bonded sanding wheel that does away with the use of any cloth at all. The various sizes of grits have been bonded right into a rubber wheel and all you do when you wear away the grit with sanding operations is to reveal new grit. This is not a new idea but it is an idea that has never been widely accepted because nothing has been written about it. One manufacturer of lapidary equipment used to put out a "one man band" outfit that came equipped with rubber bonded grinders and sanders but their manufacture was stopped, probably because of a lack of popularity of these items and the difficulty of purchasing replacements.

Now we hear from Stephen Chick, a lapidary instructor in the schools of Ann Arbor, Mich. Mr. Chick has been doing a lot of research on rubber sanding wheels, with the cooperation of one of the nation's

top rubber companies, and he has written a paper that will shortly appear on the excellent results obtained in lapidary classes with this type of equipment.

The chief faults with sanding cloth are that a fresh piece is usually too sharp to remove scratches. A partly worn cloth is better but the cutting texture does not remain constant. Wet sanding is preferred for some gems, and cloth for that purpose has never been too satisfactory; the firmness of padding on wheels is too uniform and it should vary with the type of gem being ground. The wear factor and time element in class rooms is tremendous where cloth is used; in the classroom there is seldom room for the use of all kinds of grit, etc.

Mr. Chick tells us that after a great deal of experimenting the nationally known rubber company has devised two wheels for all sanding operations for all materials. The name and address of the company will be supplied if you send a self addressed and postage paid envelope with your request for information. No dealer has these wheels stocked at this time but they should be stocked by most dealers soon because the manufacturer plans wide advertising about them.

Nine good reasons for adopting their use (especially in class rooms) develops from Mr. Chick's correspondence with us on the matter. They are:

The wheels were especially designed for gemstone polishing.

They eliminate fussing with sanding cloth. They enable the gemcutter to be a better master of his technique.

They are very versatile and may be used wet or dry.

There is no need to resurface the wheels to renew their cutting ability. Any wearing action will only expose new grit of the same density.

The beginner can accomplish perfect sanding immediately.

The change over is very simple; especially to vertical arbor machines.

Rubber wheels are inexpensive and long lasting.

In the class rooms, where space is limited, the use of rubber wheels greatly enlarges existing facilities.

* * *

The new edition of the ROCKHOUND BUYERS GUIDE is now out. It can be procured from Desert Magazine Bookshop for \$2.00 postpaid (\$2.06 in California). The new edition has 192 pages of valuable information for the traveling rockhound. It gives specific directions—with maps—of where to go for gems and minerals in the states of Washington, Oregon, California, Minnesota, Utah, Texas, Maine, Virginia, Arizona and Mexico.

The GUIDE has scores and scores of short cuts for your shop, many of which have appeared in this column. It tells you the name and time and place of meeting of nearly every one of the gem and mineral clubs and lists gem displays of about 600 museums. Tells you just where you can buy anything a rockhound would use from a trout fly to a rock pick, from a diamond wheel dresser to a diamond ring. This is the biggest value in a rockhound book ever offered. We can be pardoned for being enthusiastic about it because it's the one book we always believed the rockhound needed most—and we wrote it.

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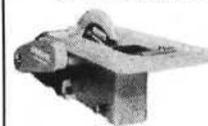
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Just Between You and Me

By RANDALL HENDERSON

LAST WEEK I was present at a meeting when the directors of the Death Valley 49ers chose the inscription which is to be placed on a plaque at the grave of Death Valley Scotty during the annual Encampment of the organization next November. (See page 18, this issue of *Desert*.)

The mystery which surrounded Scotty during his life remains unsolved after his death. This was evident in the good-humored debate which preceded the decision of the 49ers. While it is well known that the funds with which the million dollar Castle was built, and which supported Scotty in his late years came from Albert M. Johnson, the multi-millionaire insurance man, there is still no accounting for the huge sums he disbursed in frolic and folly before he had access to the Johnson fortune.

The fabulous gold mine which Scotty talked about generally is conceded to have been a myth. His enemies, and he made many of them, say he was a high-grader, a thief and a blackmailer. Others are not so harsh in their judgment. They all agree he was a master press agent.

The 49ers were unwilling to classify Scotty either as a saint or sinner. For his plaque they selected a quotation from Eleanor Jordan Houston's book, *Death Valley Scotty Told Me*—they let him write his own epitaph—and since it is an expression of the best in the man, no one is hurt.

Despite his flare for publicity while he was alive, Scotty sought no monument for himself. Once he said to Mrs. Houston: "I like the press. They never neglected me. Kept me in the headlines longer than any other man. That's monument enough for me. An honest man don't need no monument."

The Death Valley 49ers is a rather amazing organization. It grew out of the California Centennial Pageant staged in Death Valley in 1949, and was formed to perpetuate the best of the historical traditions of the Southwest.

Having no by-laws and making no discrimination as to race, religion or politics, the organization is managed by a self-perpetuating board of Southern Californians who give generously of their time to many activities of a cultural character. Anyone may belong to the organization who contributes \$2.00 or more to the treasury. As there are no salaries and the directors pay their own travel expenses the funds are devoted entirely to the staging of the annual Encampment, and toward the building of a museum in Death Valley.

The campfire programs, the artists', authors' and photographers' breakfasts—open to everyone; the art and hobby shows and the sunrise services in Death Valley, all add up to a delightful three or four day program that is most refreshing to those who occasionally like to get away from the world of speed and commerce and enjoy good

music, fine art and healthful recreation, uncluttered by catch-penny venders and stop and go signals.

Perhaps it would be stretching a point to classify the annual burro-flapjack contest which is part of the Encampment program as a cultural event—but it takes a bit of comedy to complete every well-balanced show, and those prospectors and burros are the greatest clowns on earth.

* * *

Recently I spent a weekend visiting with some of the Jackrabbit homesteaders in Twentynine Palms, Lucerne and Apple Valleys on California's Mojave desert, and was amazed at the progress many of Uncle Sam's 5-acre settlers are making.

Most of the men and women who are taking up these little homesteads are folks from the coastal metropolitan areas. As soon as the week's work is done they hurry out to their desert claims, spend the weekend building roads, erecting cabins and planting shrubbery.

Paul B. Witmer, manager of the U. S. District Land Office in Los Angeles, tells me that as many as 75 applicants are being processed in a day at his busy headquarters. The applicants are given a three-year lease at nominal cost, and if the required improvements are made within three years a deed to the property is issued on payment of the appraised value, which averages about \$20 an acre. The Small Tract Act under which these lands are sold differs from the old homestead law in that no residence on the site is required.

In future issues *Desert Magazine* will publish more detailed information regarding the Small Tract Act and manner in which literally thousands of Americans in the Southwest are acquiring desert homesteads under its provisions.

* * *

The organized mining groups persist in their efforts to secure congressional action which will open the Joshua Tree National Monument to mining operations.

Those of us who are opposed to the proposal would be much more sympathetic if the mining interests would agree to radical changes in the present antiquated mining laws—changes which would limit mining claims strictly to mining operations.

Prospectors combed the Joshua Tree area in search of minerals for nearly a hundred years before the Monument was established—and found only two or three small deposits of marketable ore which have long since been worked out. It just isn't a mineralized area.

I am not afraid that mining will ever destroy the peace and beauty of the Monument. But I dread to think what might happen to the Joshua Tree park if anyone could go in there and stake a claim and put up a shack under the protection of a law that puts on big-hearted slow-moving Uncle Sam, the burden of proving no marketable minerals are present.

BOOKS of the SOUTHWEST

COLORFUL GUIDE TO PLAYGROUNDS OF UTAH

Travelers generally are agreed that insofar as the natural landscape is concerned, the most colorful region in the United States lies within that great plateau area extending from the Rocky Mountains across New Mexico, Utah and Arizona to the State of Nevada.

The cream of this scenic wonderland is in Utah where almost the entire southern half of the state is broken by cliffs and spires and turrets of a hundred shades of red and yellow, fringed everywhere with the green of juniper and coniferous trees.

It is the two national parks and nine national monuments within Utah that have supplied the material for a colorful booklet published by the Zion-Bryce Natural History Association. With 16 pages in full color and scores of black and white photos, these national playgrounds are depicted as "Masterpieces in Erosion" in both picture and text. Members of the Park Service have contributed to make this an exceptionally fine guide book to the recreational areas in Utah. The book is well edited by M. V. Walker, executive secretary of the Association.

The official road map of Utah, showing the park areas, national forests and Indian reservations in color is included as an insert in the book.

Bound in 4-color paper cover, 65 pages. \$1.00.

SCOTTY, THE MAN WHO COULD PUNCTURE STUFFED SHIRTS

The first time Eleanor Jordon Houston met Death Valley Scotty, he autographed a book at her request and then said to her: "Now, don't let me ever see you again!"

That was in 1947 soon after Mrs. Houston had gone to Death Valley as the bride of Park Ranger Sam Houston, who was stationed there.

But despite this rude introduction Mrs. Houston became well acquainted with Scotty in the years that followed, and eventually he agreed to collaborate in the preparation of a book which would contain many of his stories. "I believe we can sell a million copies," he said. "Got to be cheap, though. Make it cheap, people will buy."

Much of the material for the book had been written when the Houstons in 1949 were transferred to Mammoth Cave National Park, Kentucky, where Sam became superintendent. Following Walter Scott's death in January

this year, Mrs. Houston decided to go ahead and publish the material under the title, *Death Valley Scotty Told Me*.

The book is largely the tales told by Scotty—not the impossible yarns the old show man delighted in telling reporters and casual acquaintances, but the kind of stories he related in the informality of evening chats with friends—for he spent many evenings with the Houstons, both at the Castle and at their Death Valley home.

Mrs. Houston, in her foreword, appraised Scotty as a very "real, forceful and unique personality," with the ability "to puncture a stuffed shirt with a few vivid words . . . Yet he never capitalized on his exploits, and he never hurt anyone, even those who called him a faker and harder names."

After her first unpleasant encounter with Scotty, she learned to know him as a very human and unobtrusive neighbor whose bluntness of speech was merely a shield for his protection against the silly chatter of the curious.

"I have tried to present Scotty as I knew him—the master storyteller, the humorist, the philosopher," she wrote. The book reveals the human being behind the glamorous Death Valley Scotty of the headlines.

Published by the author. Lithographed photos. Appendix. Paperbound in 106 pages. \$1.00.

UNDERSTANDING WEATHER AND HOW TO PREDICT IT

We can't change the weather, turning off rain for sunshine on a picnic day or producing gentle showers for our newly-planted garden. But we can predict with fair accuracy what the weather will be like.

For these predictions, most people rely on newspaper or radio reports made by trained meteorologists and, if they can read them, on weather maps published in the larger daily newspapers. But few people understand what weather is and what causes it.

In their latest book, *Our Changing Weather*, Carroll Lane Fenton and Mildred Adams Fenton explain weather for the layman and show him how he can try weather forecasting himself. They first discuss the components of weather, like clouds, rain and fog, wind and thunderstorms, cyclones and air masses. Then they show how to use this knowledge in predicting the weather, a hobby that can be both fun and profitable, especially in planning outdoor recreation.

Our Changing Weather is a Doubleday Junior Book, excellent for young readers of all ages, but it also is recommended for adults who want a simple explanation of natural phenomena which, unexplained, seem baffling.

Published by Doubleday and Company. 110 pages, numerous photographs and diagrams. \$2.50.

Books reviewed on this page are available at Desert Crafts Shop, Palm Desert

Who was this poker-faced desert rat who made the top headlines across the nation? Was he genuine—or just a skilled press agent? What about his gold mine? His castle? His private life?

You'll find many of the answers in Eleanor Jordon Houston's book—just off the press!

Death Valley Scotty TOLD ME - -

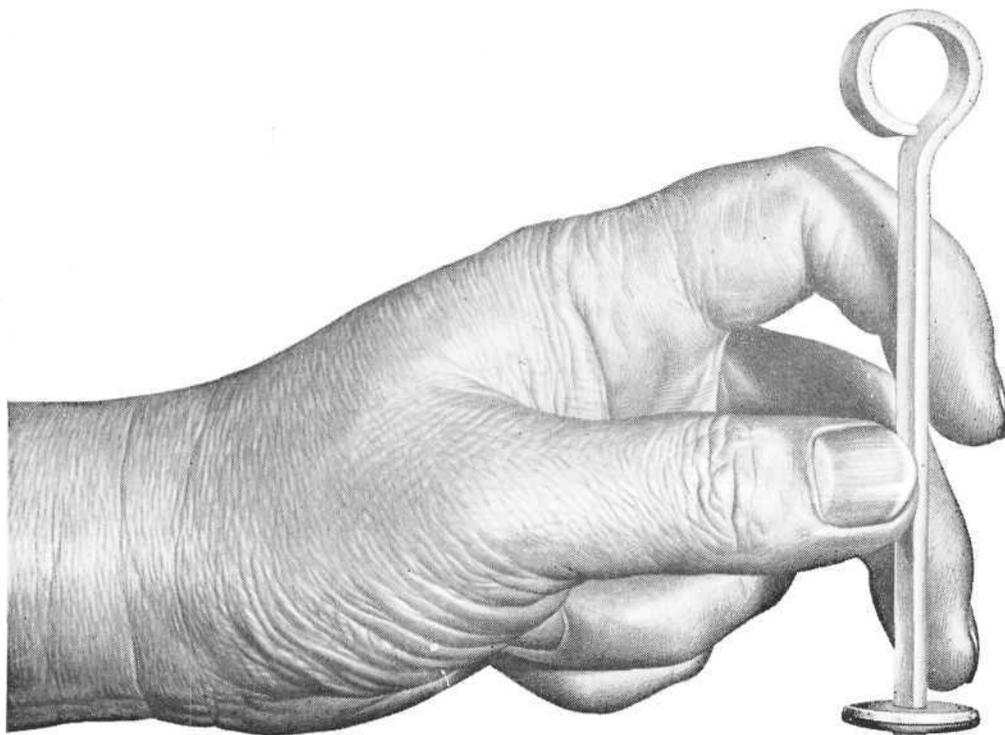
Here is Death Valley Scotty as he was known to close friends whom he liked and trusted. Here are reported the conversations which took place at Scotty's Castle, his ranch, and in the home of Mrs. Houston during the years her husband was a Park Ranger in Death Valley.

This is the story of the real Death Valley Scotty
—the man behind the headlines.

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