

THE

Desert

M A G A Z I N E



AUGUST, 1949

35 CENTS

LETTERS . . .

Memories of an Old Railroad . . .

Garden Grove, California

Desert:

I believe there is an error in the title over the picture of the two gentlemen driving the spike (on page 23 of the current Desert). The name of the gentleman on the right should be Charles Clegg instead of Charles Gregg. These gentlemen are the authors of an interesting book entitled *Virginia and Truckee*, a story of Virginia City and Comstock times and one that every lover of the old West should have on his bookshelf.

It has numerous pictures — all good halftones — of the old railroad which is in the process of being abandoned. These pictures are priceless, especially to those who have in years gone by worked on some railroad in the West, or perhaps the V & T. Why not give the boys a little boost in your Desert Books section? The story is very readable and interestingly put together.

FRANK A. SCHILLING

Desert's apologies to Charles Clegg for misspelling his name. Desert's book editor shares your high opinion of the historical book of which Clegg was one of the authors. The review of this book had already been written for this issue when your letter came.— R.H.

• • •

Beauty and Tin Cans . . .

Randsburg, California

Desert:

We were amazed, and sorry to read the editorial remarks in your July issue about Randsburg. Your editor missed so much when he passed through our town.

Oh, we don't need pretty painted-over little houses. We like our tin cans and our unpainted "shacks." They are our home, and here we have the biggest hearted, most understanding old-timers you've ever met — intelligent, educated and refined.

We have some beautiful homes here, inside and outside, along with our relics of gold rush days and our tin cans. We too could paint up a bit our old cabins and shacks, but we are proud of many of these relics of an important era in American life. Randsburg was, is, and will always be Randsburg — a shack to live in and a chance to live — a gold mining town — a golden opportunity perhaps.

Your editor did miss so much!

MRS. STANLEY N. SHIRLEY

Town That Disappeared . . .

Berkeley, California

Desert:

Today the dead trunk of a tree is all that remains of what was once a flourishing little mining town which still appears on many Arizona maps as "Silverbell." A road leading out of Tucson is called the Silverbell road.

Silverbell was a copper mining camp. The hills around it were honeycombed with shafts and glory holes.

It closed down 30 years ago. I lived there as a boy. My step-father ran the locomotive which carried the ore cars across the desert to the Southern Pacific company's junction point at Red Rock.

From 1919 to this date the camp has never reopened. About 1936 the



All that remains of Silverbell

smelting company which owns most of the property in the region, tore up all the railroad tracks (both narrow gauge and standard), and sold them for scrap.

After being gone 30 years, I revisited the camp. One old saloon still stands, all the rest of the houses have vanished completely, and except for a few rusty pieces of sheet metal and a few splinters of wood there is nothing to indicate a thriving mining town once was located there.

KENT YARNELL

The Wreckers Are at Work . . .

Winslow, Arizona

Desert:

Today, I look from the windows of our museum at a steady procession of trucks busily engaged in hauling away the rim of the famous meteorite crater, which all the civilized world has learned to know.

This crater is one of the natural wonders of the world and I am sure that a poll would reveal that practically 100 per cent of the American populous would object vigorously if they knew what is being done by way of its mutilation.

Visitors to the crater seldom learn about this desecration which is being carried on behind the south rim, opposite that from which they view the phenomenon. Many of the visitors to our museum, where all phases of the crater are featured, protest earnestly when they learn of this operation.

Apparently the great majority of American citizens, judging by the expressions from our visitors, are under the impression that the crater is a national monument. Even those who come to us after having visited the crater, often express this belief. How such an idea has become so widespread is somewhat of a mystery, for the crater has been privately owned since early in the century.

This mining operation might seem a little less objectionable if it were producing a critical material that could not be substituted for. But even if this were the case, many public-spirited citizens would object to despoiling such a unique natural phenomenon as the crater. As a matter of fact, the product being mined is nothing more critical than silica, which can be obtained in hundreds of other locations in the United States.

H. H. NININGER, Director
American Meteorite Museum

• • •

In Defense of Randsburg . . .

Randsburg, California

Desert:

Just to let you know we live in Randsburg, and we have a pretty home and take care of it. We have flowers, too, outside, and rock landscaping.

But we are sure glad to know there is at least one pretty little place with an artistic housewife in Johannesburg.

A RANDSBURG CITIZEN

• • •

Plans for Ballarat . . .

Independence, California

Desert:

For your information, we are the owners of the old ghost town of Ballarat, which we purchased in 1937. We are now making arrangements to reconstruct this famed landmark.

RALPH WAGNER

DESERT CALENDAR

- Aug. 2—Annual fiesta; old Pecos dance, Jemez Pueblo, New Mexico.
- Aug. 2-3—Ogden Junior fat stock show, Ogden, Utah.
- Aug. 3-17—Western Navajo arts and crafts exhibition; contemporary rugs, silver, etc. from Western Navajo reservation, Museum of Northern Arizona, Flagstaff, Arizona.
- Aug. 4—Annual fiesta, summer corn dances, Santo Domingo, New Mexico.
- Aug. 5-6-7—Pro-Amateur Gold Tournament at Reno, Nevada. \$7500 prizes.
- Aug. 5-7—Annual Cowboys' reunion, Las Vegas, New Mexico.
- Aug. 10—Feast Day of San Lorenzo, corn dance, Picuris Pueblo, New Mexico (28 mi fr Taos).
- Aug. 11-14—Inter-Tribal Indian Ceremonial, Gallup, New Mexico.
- Aug. 12—Santa Clara Day, various dances, Santa Clara, New Mexico.
- Aug. 12-14—Regional pistol matches, Prescott, Arizona.
- Aug. 13-14—Desert Peaks section of California Sierra club will climb Lone Pine peak, El. 12,951 feet.
- Aug. 14—Smoki Ceremonials, Prescott, Arizona.
- Aug. 17-20—Sanpete county fair and rodeo, Manti, Utah.
- Aug. 19, 20 & 26, 27—White Pine race meet; eight races daily plus a saddle horse race. White Pine county fair opens Aug. 26, Ely, Nevada.
- Aug. 19-21—Annual rodeo, Payson, Arizona.
- Aug. 19-Sep. 11—Arizona photographers. Portrait of Arizona will be the Fourth Annual theme, Museum of Northern Arizona, Flagstaff, Arizona.
- Aug. 20-21—Glendale Mineral society show at Glendale Pacific Auditorium, Glendale, California.
- Aug. 25-27—Cache county fair, Logan, Utah.
- Aug. 26-27-28—Arizona Cattlemen's Association convention, and square dance festival of all square dance clubs in the state, Flagstaff, Arizona.
- Aug. 27-28—Members of California Sierra club will make two-day backpack trip from Idyllwild to summit of Mt. San Jacinto, El. 10,805 feet. Overnight camp will be in Round Valley.
- August—Continuation of Life Magazine's traveling exhibit: "Ancient Maya"—series of 30 large photographic panels by Dmitri Kessel, Southwest museum, Highland Park, Los Angeles, Calif.



Volume 12

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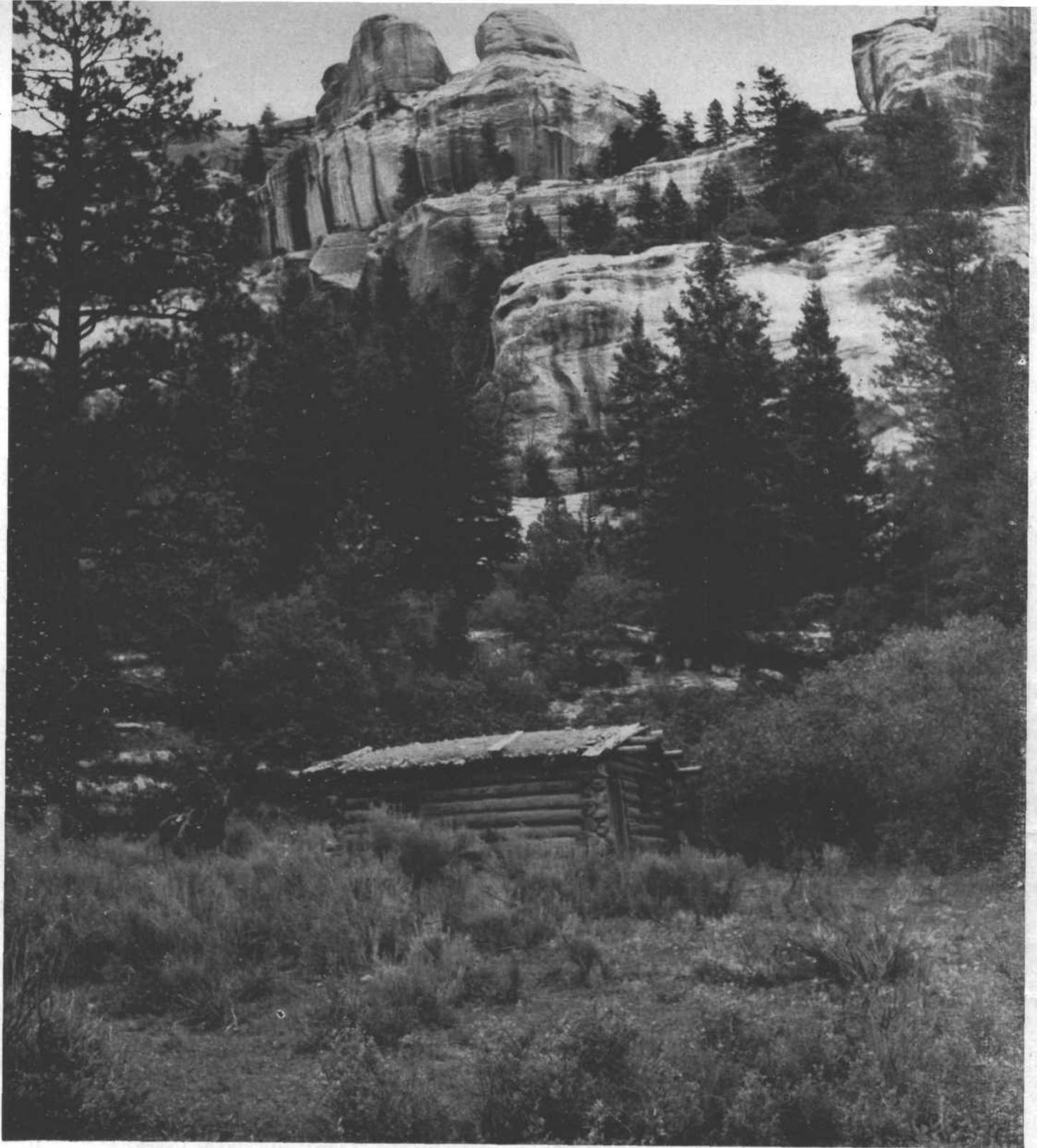
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Address Correspondence to Desert Magazine, Palm Desert, California



My Cabin In The Hills

By ADDISON N. CLARK
Oakland, California

WHEN cares beshroud me like a pall
And days are gray with myriad ills,
I turn my back upon it all
And seek my cabin in the hills.

'Tis there I find my antidote
For worry of the sort that kills —
Heartache and strife are both remote
From that sweet refuge in the hills.

Within its walls true peace I find;
Each restful day and night instills
New strength to cope with humankind —
Strength born of God's eternal hills.

O Friend of Mine, this word to you
As Summer brings her endless thrills:
Would you your shaken faith renew?
Then build a cabin in the hills!



Frank Hill and daughter, J. Lou, examine old hand-forged horse and ox shoes found among the ruins of Shakespeare.

They Live in a Ghost Town

By NELL MURBARGER

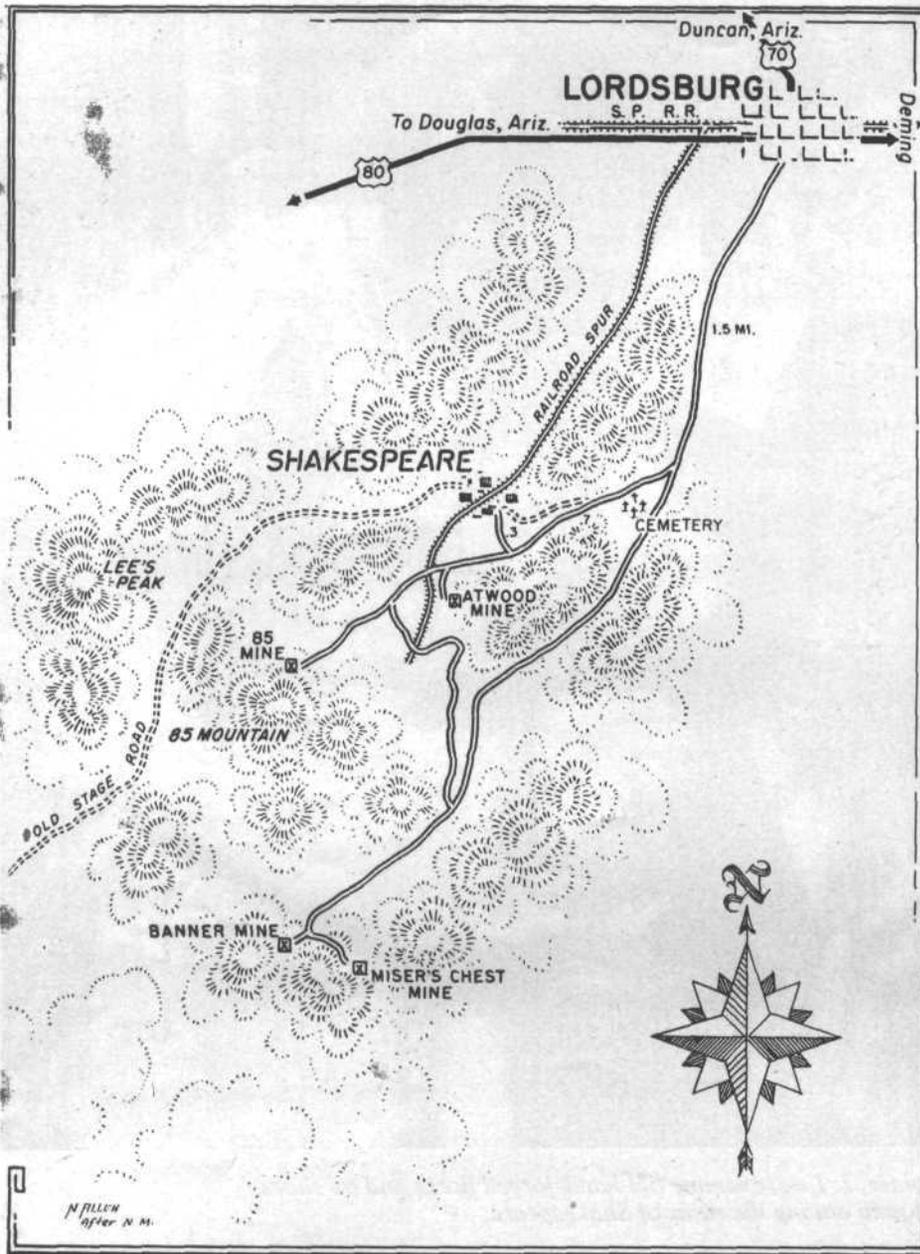
Traditions, legends, history and ghosts—in addition to Frank and Rita Hill and small daughter—are now the occupants of Shakespeare, New Mexico. But this ghost town of the hill country has known three booms, each time has been reclaimed by the desert. Now another drama is being enacted in this same setting as a resourceful family is making a happy home amid the ruins of a colorful frontier mining town.

OUT IN THE HILL COUNTRY which lies southwest of Lordsburg, New Mexico, Frank and Rita Hill and their lively 10-year-old daughter J. Lou are now the owners and sole occupants of what was once the largest city in New Mexico.

Where 3000 miners and frontiersmen and their families once lived, the Hills now make their home in an old adobe store building, one of the few habitable structures still standing among the ruins of Shakespeare. It was here that I came to know Frank and Rita.

The Hills are friendly people. Frank, now in his fifties, came to southwestern New Mexico 40 years ago because his home state of Texas "was getting too dawg-gawn tame."

There was nothing tame about New Mexico when he arrived there. Having lived on the range he soon found work—cowpunching, breaking horses, in soil conservation, the Indian service, finally as a rancher with his own herd. He and Rita own the Lazy FH ranch—"just a little place," he explains, "about 16 sections."



Rita is a college girl. She went to universities in New Mexico and Arizona, and for a time in Mexico City. She was in pictures in Hollywood for a little while and served several tours of duty as a school teacher before she met Frank.

The home in Shakespeare was Rita's idea. She first saw the ghost town 14 years ago when she was out on the range hunting stray horses. She was intrigued by the tumbled-down buildings, and more so when she learned something of the history of the place. She induced Frank to rent the long-vacant mercantile store which they still occupy. As soon as circumstances permitted they bought the town as it stood; lock, stock and barrel—traditions, lore, history and ghosts included.

"If any town ever had a right to ghosts, it is Shakespeare!" laughed Rita, who has interviewed old timers of

the area until she knows the history of the place in detail.

"Here at the corner of the store," she went on, "stood the corral gate where they hanged Roger Black. 'Arkansas' Black they called him. With his snappy black eyes, curly black hair and black mustache, I guess Arkansas cut quite a gallant figure. At least it was gallant enough to involve him with a married woman.

"Rough as the town was, adultery and horse stealing were two things it wouldn't tolerate. A citizens' committee speedily took Arkansas in hand, put a noose around his neck and strung him up to the crossbar on the stage company's corral gate. After giving his neck a good stretching, they let him down and told him to take that as a warning and get out of town.

"Arkansas was stubborn. They strung him up again. Three times they

swung him on the rope. Each time they let him hang a little longer, but still Arkansas refused to leave. The fourth time they let him dangle until he quit kicking and then the vigilante foreman ordered them to turn him loose.

"'He's too damned good a man to hang,' he declared. 'That other bird'll just have to take his wife and get out!'"

As we wandered through the peaceful street which long ago echoed the rumble of ox-drawn freight wagons, the crack of bull whips, the lusty shouts of muleskinners and the clatter of Concord stages, Rita Hill told us the story of this strange camp which boomed three times, under three different names, and three times returned to desert.

A fine spring of water brought the first white men to the site of Shakespeare. Dixie goldseekers, on their way to California in 1849, made the spring a stopping point. Wagon emigrants camped here in the '50's. Then came the stages of the Butterfield line. Despite nearly 20 years' use by many travelers, the campsite remained without official recognition until 1867 when the National Mail and Transportation company succeeded the war-suspended Butterfield line.

Nowhere on the National route was there another stretch so hazardous as that from Mesilla, New Mexico, to San Simon, in what is now Arizona. Not only was this rough country but it was the stronghold of the Apaches. So two alternate routes were established through this section in addition to the main line.

The regular route passed near the present site of Lordsburg and on through Doubtful canyon. When a raiding party was known to be lurking in that vicinity, the stage could be routed either by Leitzendorfer's well and through Granite gap, or by way of the spring in the Pyramids (now Shakespeare) and through Stein's pass.

The new stage station at Pyramid spring was named in honor of General Grant. Johnny Evenson, who had helped lay out the route, remained as station agent.

"Even before 'Uncle' Johnny's arrival in 1867 there were buildings here," said Mrs. Hill. "No one knows who built them. Mexicans perhaps, or possibly Confederate soldiers billeted here during the Civil war."

Then W. B. Brown came to the recently established stage station. He was more interested in the mineral possibilities of the region than in his job as government surveyor.

He spent several weeks in the sur-

rounding hills gathering ore samples. He took them to San Francisco where he showed them to William C. Ralston, California banker.

Ralston had already taken millions from Nevada's Comstock lode, but the rich ore in the lode appeared to be running out and when Brown's samples assayed 12,000 ounces of silver to the ton of ore, the banker was ready to invest.

With Brown as guide, Ralston's claim-staking expedition arrived at Grant early in 1870 and laid out the Virginia mining district, named for Virginia City, Nevada.

After filing on many claims in the area, Ralston sent representatives to Europe to contact potential investors and the New Mexico Mining company was capitalized at 6,000,000 pounds.

Word of the fabulous "new Comstock" spread rapidly and the first boom was on. Application had been made for a postoffice at Grant, but before its authorization in December, 1870, popularity of the Civil war hero had been eclipsed, temporarily, by that of the California financier. Citizens of the boom camp magnanimously voted to change its name to Ralston.

Even as the famous Nevada discovery which preceded it, this "second Comstock" offered scant opportunity to the man with pick and pan. The ore was difficult to work and much of it low grade. Only occasional pockets proved as rich as Brown's samples. But hopeful emigrants, lured by promise of well-paid jobs in the Ralston mines, continued to swell the camp's population.

Soon after operations had started, a legal sharpshooter made the allegation that under New Mexico territorial law, the Ralston claims had been filed illegally and therefore all were open to re-filing.

Claim jumpers went into a frenzy. Injunction suits were filed right and left and over the field spread a web of litigation. Not a carload of ore could move nor a tunnel be driven until the legal ownership could be determined by the courts. The case dragged on.

Former assay office, built prior to 1867 when stage station was established at the present site of Shakespeare.

Former Stratford hotel. Second story of adobe brick and frame added to lower story of "puddled" adobe in the 1870's.

Former Smythe, Long & Price mercantile store—now the residence of Frank and Rita Hill and their daughter.



Miners, thrown out of work, sought employment elsewhere. The boom collapsed, the town died. Only a few die-hards remained to await the camp's revival.

They had not long to wait. The next time it was diamonds.

Ralston's diamond boom found impetus in the West's Great Diamond Hoax of the 1870's. Two miners, Philip Arnold and John Slack, one day appeared at the Bank of California in San Francisco with a small bag of diamonds to check for safekeeping.

As they had astutely anticipated, the report reached Ralston immediately. He wanted to know more. The men refused to divulge where they had found the stones. "Maybe Arizona, or Colorado . . . maybe Wyoming. Who can say? On the desert it is difficult for a man to know his exact location . . ."

When Tiffany's pronounced the stones genuine and appraised the lot at \$120,000, a stock company was immediately capitalized at \$10,000,000.

At that time there was no manner in which claim might be filed on a gem deposit, and until Ralston could have enabling legislation pushed through Congress, the location of the discovery was held in deepest secrecy. In that secrecy lay inspiration for Shakespeare's second boom.

Because the Bank of California financier who was leading figure in the diamond deal, had heavy property interests around the New Mexico town which still bore his name, the public eagerly accepted the rumor that scene of the secret diamond discovery was at Ralston.

Almost overnight the defunct silver camp burgeoned into a frenzied diamond camp with 3000 persons milling the streets.

"Acres of diamonds, large as pigeon's eggs!" flew the grapevine report. "Emeralds the size of gooseberries! Rubies and topaz like marbles . . ."

And the influx multiplied.

Then the stampede collapsed. It was discovered that one of the diamonds bore the marks of a cutting wheel. Strange field this, which produced not only rough diamonds but also gems partially faceted!

Arnold and Slack made their getaway, the richer by \$650,000 in advances. The company folded. Ralston personally assumed all losses.

At various times Colorado, Arizona and Wyoming have all laid claim to the stage setting for the great diamond hoax, but so far as New Mexicans are concerned the famous field was, and always will be, at the foot of Lee's peak, a couple of miles west of Shakespeare.

Whether Ralston was or was not the scene of the swindle, at least it was the scene of the boom. After the bubble burst, her 3000 people disappeared like mist over the Sahara.

Act III of this Shakespearean drama had as its star Colonel John Boyle of St. Louis. Arriving on the scene in the early '70's the colonel discovered what he claimed were valuable ore deposits, and taking a cue from the Midas-fingered Ralston, proceeded to issue stock certificates in a big way.

Lest potential investors be prejudiced by the town's two previous mining fiascos, Colonel Boyle succeeded in having its name officially changed from Ralston to Shakespeare.

A pair of excitement-hungry brothers, Walter and Richard Hart, Yale graduates and scions of a wealthy Connecticut family, came to open the Atwood and Yellow Jacket mines and stayed to operate Shakespeare's leading assay office. Many other business houses were established, including the two-story hotel built by Colonel Boyle and named the Stratford.

Most colorful period in Shakespeare's checkered career was in the early '80's. Indian raids were then at their worst, with Victorio and Cochise leading their renegade Apaches in a frenzy of death and destruction. Shakespeare found protection in houses built of adobe with walls several feet thick and small windows which could be closed with heavy shutters. Each householder kept a pile of rocks to reinforce these shutters whenever Indian attack threatened. Stages often were waylaid and drivers slain, and it is said that the incoming mail was occasionally so soaked in blood the addresses on the letters could not be read.

Shakespeare at this time had neither church nor school and its nearest approach to a fraternal organization was the Shakespeare guards, one of New Mexico's first National guard units. The town also had a Law and Order league.

In the Grant house, an early-day restaurant, Rita Hill pointed out to us the rafter from which Russian Bill and Sandy King were hanged in 1881.

By shooting up the town twice in one week, Sandy had incurred the displeasure of the Leaguers, who charged him with being "a damned nuisance"—a capital offense in Shakespeare's legal lexicon.

When the committee appeared at the jail to remove Sandy from custody, they found the sheriff had also a second prisoner—a handsome, debonair young chap with taffy-colored hair—who had been in possession of another man's mustang. Horse-stealing being another prank frowned upon by Shakespeare, this second prisoner was

invited to accompany Sandy King. A few minutes later, both were swinging from the Grant house rafter.

The young man who had played too free with another's horse had come to Shakespeare from Animas valley, where the only name ever heard for him had been Russian Bill. Shortly after the double-hanging, inquiry was received from the consul general's office in St. Petersburg concerning Lieutenant William Tattenbaum of the Imperial White Hussars. The adventurous young officer, stated the consul, had been traveling incognito in the West when last heard from. His mother, the Countess Telfrin, of the Czarina's court, was anxious for his safety.

The photo enclosed for purpose of identification was that of the yellow-haired young man, so recently buried in Shakespeare's boothill.

In addition to Grant house, buildings still standing at Shakespeare include Colonel Boyle's old Stratford hotel, its lower story still virtually as rugged as the day it was built. While the front of the hotel is of adobe brick, its sides and rear portion are of puddled adobe and rock; this having been one of the mysterious old buildings already abandoned when the stage station was first established more than 80 years ago.

Across the street stand three or four other buildings including the assay office opened by the Harts and the old general store where the Hills now reside. Only these flank the main street of what formerly was a busy frontier mining town.

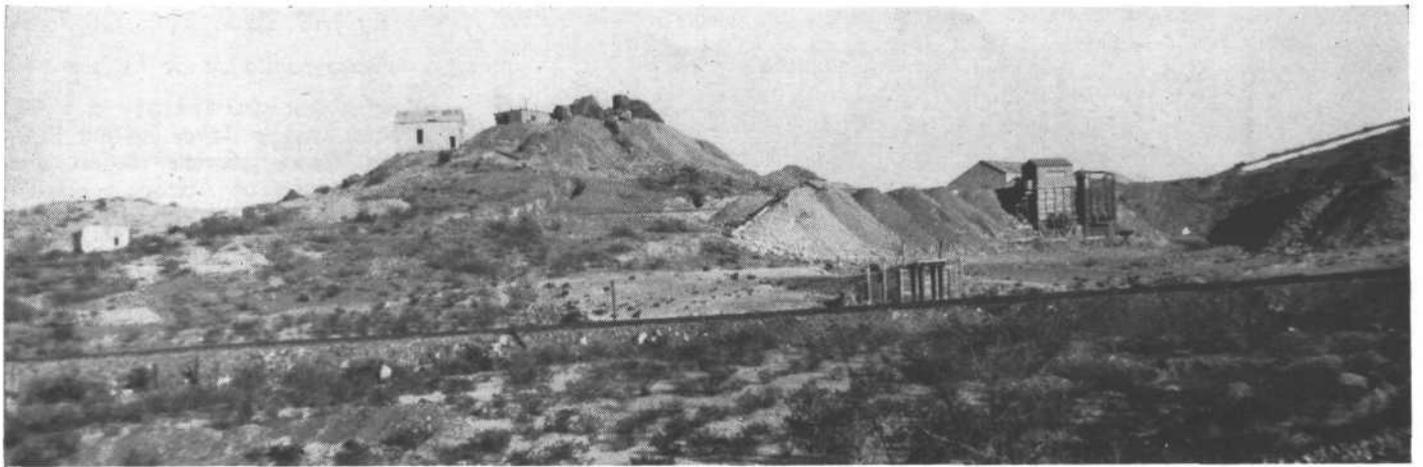
Completion of the Southern Pacific railroad through southern New Mexico in 1881 ended the boom-town career of Shakespeare, whose population gradually filtered to Lordsburg on the main line, two miles distant.

Even after the decline as a business center, Shakespeare's mines have continued to produce through most of the years since their discovery.

The Atwood, opened by the Harts in the early '70's, was mined intermittently until 1931 when it closed, to reopen during the war. Now owned by Augustine and Morningstar, it has a daily production of two or three carloads of ore carrying values in copper, silver and gold.

The 85 mine, located in 1885 by Capt. Sam Ransom, was long one of the best producers in the area and during its career is said to have delivered \$17,000,000 in ore. It is now owned by Phelps Dodge corporation; and when taken over by them several years ago was said to be the deepest mine in the state.

Banner mine, nearby, was acquired by the Banner Mining company in 1936 and since then has produced 1,-



Atwood mine, producer of low-grade copper, silver and gold ore since 1870, and still going strong.

500,000 tons of low-grade copper ore.

Thirty-five years ago a spur track was laid from Lordsburg to the 85 mine. One train daily—consisting of an engine and one to five ore cars—still clatters over the line. Its present freight: ore from the Atwood and concentrates from the Banner and Miser's Chest.

In its course the little train bisects old Shakespeare from stem to stern, cutting through the foundations of former stores and homes, and rumbling over the site of the infamous old Roxie Jay saloon and gambling hall, whose mahogany bar was made in St. Louis and, together with the magnificent back mirror, was hauled west by ox teams. When the old palace of pleasure was razed after the town's abandonment, its lumber was reportedly used in building the Christian church at Lordsburg.

At present, all the old buildings are serving the Hills for storage purposes and other ranch needs.

"Probably our stallion, Sealark, is the only animal in the world with a private fireplace!" laughed Mrs. Hill.

The fireplace, she went on to explain, is in one of the old puddled-adobe buildings with yucca ceiling, now being used as a stable.

It is the dream of the Hills eventually to restore Shakespeare's buildings as nearly as possible like the old days; basing such restoration on early photos of the town and verbal description, which Mrs. Hill is collecting from those few remaining old-timers who "knew her when."

Meanwhile, ranch work never finds the Hills so busy that they won't cheerfully drop everything to show a visitor through the place and relate to him the Drama of Shakespeare—the town that boomed three times and three times died.

Prizes For Desert Pictures . . .

. . . Monthly Contest Announcement

Many of Desert Magazine's readers are amateur photographers and it is mainly to give recognition and encouragement to this hobby that the magazine staff each month offers prizes for the best photographs submitted. When non-prize winning pictures are returned to the photographer, the judges' reasons for rejection are enclosed. This is offered as constructive criticism—and amateurs who are seeking to improve their pictures generally appreciate this information.

The monthly contests are open to all photographers regardless of where they reside, but the pictures must be desert subjects: wildlife, human interest, canyons, sunsets, Indians, landmarks, etc. Unusual subjects are especially desired.

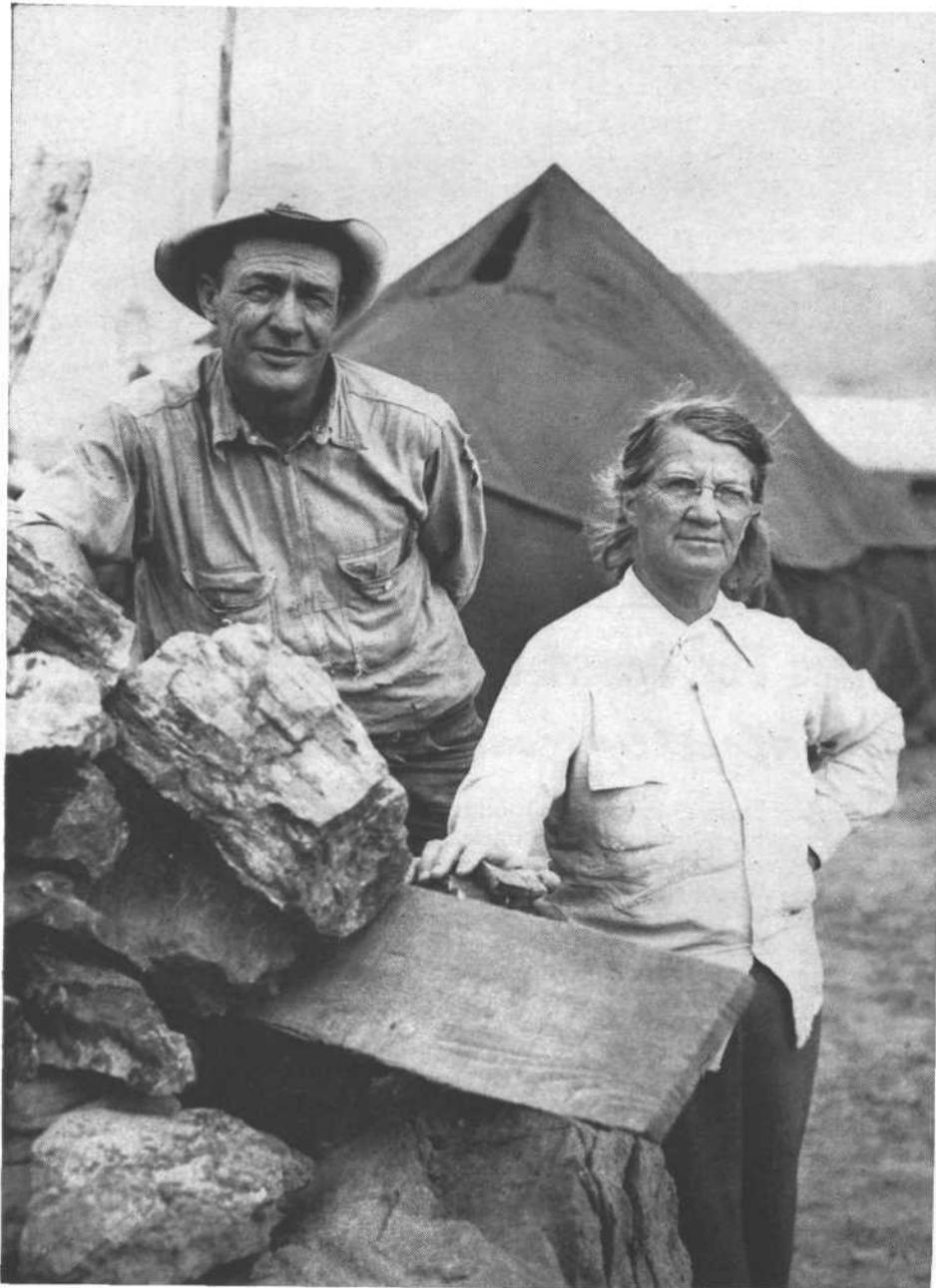
Entries for this month's contest must be in the Desert Magazine office, Palm Desert, California, by August 20, and winning prints will appear in the October issue. Pictures which arrive too late for one month's contest are entered in the next. First prize is \$10.00; second prize, \$5.00. For non-winning 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



Maggie and Riley Baker beside a stockpile of petrified wood that runs 3% carnotite.

Uranium Strike . . . in Petrified Wood

She was only an amateur prospector. She did not even know what uranium ores were like — until a few months ago when she answered an advertisement in *Desert Magazine*. And now she and her husband are mining carnotite "so hot it would wreck a Geiger counter." Here is the story of one of the most amazing mineral strikes in recent years — made by a woman who was looking for green petrified wood.

By JAY ELLIS RANSOM

Photographs by the Author

ONE WARM SUMMER DAY in 1947, Mrs. Maggie Baker left her Badger Creek service station five miles southwest of Arizona's Marble Canyon lodge and rode out on the rugged bajada below the Vermilion Cliffs. A rockhound for 50 of her 55 years, Maggie, as she is known throughout the Grand Canyon country, kept her blue eyes open for likely specimens. For about a mile and a half she travelled toward a ragged break in the massive sandstone barrier that parallels the Colorado river below Navajo bridge.

High above, she could see the sheer wall of the Supai Red Beds, locally called the Chinlee formation, and above this ancient sedimentary deposit, white Coconino sandstone rimmed the sky.

Intending to water her mount at a spring near the head of a barren wash, Maggie dismounted. Then as she was leading the horse up a steep climb, she caught a glimpse of what appeared to be an outcrop of green petrified wood. Feeling that perhaps she had stumbled upon something of more than passing interest, since green wood is comparatively rare, she began hunting for more. Her excitement rose as she discovered many beautiful specimens, some of them almost turquoise in color. Moreover, on both sides of the draw she saw scores of huge petrified logs jutting out of the muds and clays.

"That's a lot of worthless wood," she was thinking, her eyes roving in search of the green stuff. "It's a wonder all of it couldn't be gem quality." To her prospector's eyes the immense array of stone tree trunks appeared unmarketable because they were a dull dark gray and streaked with dingy yellow. Here and there seams were filled with strange needle-like masses of jet black fan-shaped crystals. Obviously, none of it would polish.

Gathering a few pieces of the unusual green wood, Maggie Baker returned to her service station and said to her husband: "Riley, I want you to stake out a claim up where I found this wood."

From her saddle bag she produced her samples and showed Riley the rich blue-green gem rock. "I'm going to send some of this out to Flagstaff and have it made into buttons. There's a lot more, too. If you stake it out, we can have it registered."

Riley Baker, a gaunt man of 43, fingered his wife's specimens, eyeing her quizzically. "Honey," he said, "there's all kinds of petrified wood in these formations. Ever since I've been running cattle up around that spring

these last ten years, I've seen whole forests of petrified wood that's been washed out of the Chinlee formation. Why do you want to stake a claim on it? You know we'd have a hundred dollars worth of assessment work to do on it every year to keep it?"

"You just stake out that claim, Riley Baker! I've got a hunch about that canyon. I don't know what it is but I want a claim up there."

Maggie got her claim. The buttons came back from the rock shop polished to a beautiful glowing green in which specks of canary yellow glistened like gold.

Maggie and Riley Baker came to Houserock valley in 1932 and took up an 80-acre homestead at Badger Creek, Arizona. They planned to run a few head of stock on the open range there. Riley explained it simply:

"I figured that range was worth about four head of stock to the section, and there were plenty of unfenced sections lying around that region. It wasn't a bad deal. To me nothing tastes better than range bred beef."

Five years later Riley built the Badger Creek service station. But tourists were few and business never was highly profitable. They sold the station in May, 1948. Riley wanted to buy somewhere else. But they were in no hurry to leave, and Maggie kept thinking about that green petrified wood.

"I just sort of kept feeling drawn to that canyon," she laughed self-consciously. "I don't know why. I liked the gem rock of course, but I had a feeling way down inside that maybe there was something else."

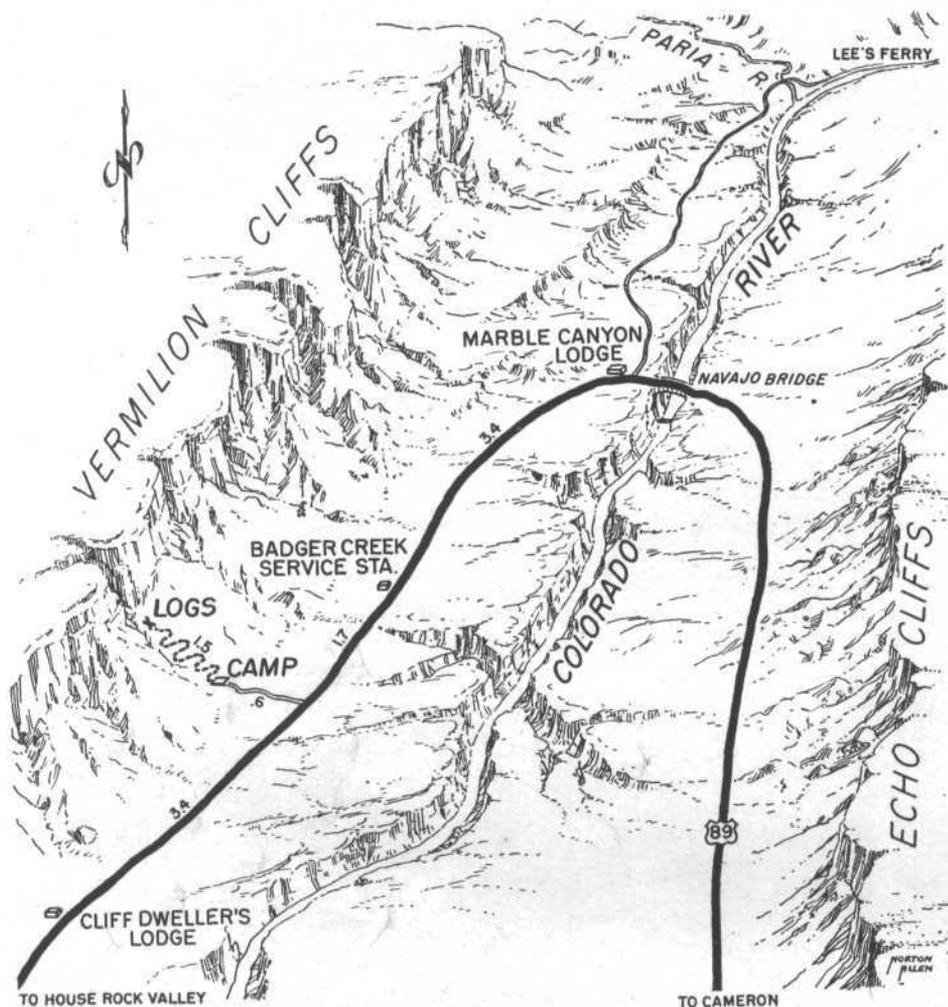
In January of this year, Maggie saw a carnotite advertisement by Jay G. Ransom in *Desert Magazine*. Merely to see if perhaps Mr. Ransom might not want to purchase a few pounds of the green wood, she sent him a sample. He wrote back immediately that she should have the gem stuff tested for uranium, it being his belief that the yellow streaks might be carnotite. Then it was that Maggie remembered the hundreds of tons of dark gray logs streaked with canary yellow. She admits she was rather excited over the prospect.

"Riley," she told her husband, "what if that stuff should be carnotite wood? We'd have a fortune, wouldn't we—a rockhound's dream come true? Let's not waste any more time! We'll have it assayed at once."

Maggie has dauntless energy. Whatever she wants done, she gets done now, and there's no fooling around about it. The first specimens of the gray wood she sent to Ransom. The next ten pounds she expressed to an assayer in Flagstaff.



Vermilion Cliffs carnotite wood discovery, showing pieces of broken logs scattered about. Left to right: Riley Baker, one of the owners, Bill Hostetter, packer, and Jay G. Ransom, father of the author, whose tip led to the identification of the ore.



Many thousands of *Desert Magazine* readers have traveled this highway connecting the South and North Rims of Grand Canyon without suspecting that in the arid rocks at the base of Vermilion Cliffs lay a great pile of petrified logs rich in uranium ore.

"The stuff tested so high in uranium oxide," Maggie exclaimed, "that the first thing we knew, government investigators had come out with Geiger counters to survey the whole discovery field. They wouldn't answer any of our questions, except to say that the stuff was too 'hot' for their counters — it would wreck them!"

Charles H. Dunning, secretary of the State Department of Mineral Resources in Arizona, told Maggie the wood seemed very highly mineralized, naming manganese, vanadium, silver, and perhaps some gold. "Any one of the lesser minerals ought to pay the cost of getting the stuff to Monticello, Utah," he explained.

When the government men had left, Maggie and Riley located three adjoining claims in order to protect their discovery. The news spread over Arizona. Claims blossomed everywhere, but nowhere else was there such abundance of carnotite wood. About

40 large petrified logs with an estimated weight of 200 tons lie on the surface. No one can estimate how much wood is buried beneath within easy reach. If the net value of \$210 a ton hazarded by Dunning should prove correct at the Monticello reduction plant, there is \$40,000 lying on the ground for the taking! Already Maggie has refused an offer of \$165 a ton "as she lies." She's not interested in money; perhaps she hasn't yet been able to assimilate the idea of such sudden wealth.

Her voice carried her convictions when she said, "If I were offered a million dollars cash, I wouldn't take it. Maybe people would think I was crazy, but I want to live there, in my own house, and I want to have the fun of digging it out myself and seeing what else there is roundabout."

The carnotite trees seemed to have weathered out of the Supai Red Beds and been deposited helter-skelter in a

mud slide by water action. Several large sections of the so-called Chinlee formation have sloughed down from their original position, being nearer the valley floor and the highway. Erosion started to undermine the logs and might have removed them entirely, had not the direction of the wash taken a sudden turn, wearing away on a different course and leaving the exposed logs as Maggie found them. A short distance above is Dutchman's Spring serving as the water supply for local cattle. If Maggie's claim warrants the building of a pipe line, this spring will also serve as a potential source of cool, clear water.

Since mid-May, Maggie and her husband have been camping at the foot of the wash about two miles from their old service station on U.S. Highway 89. Maggie's aunt, Mary Marly, is helping with the camp duties and the cooking while Maggie's daughter Barbara, age six, keeps the whole camp in good humor with her antics. They live in a three-room trailer and an army tent in which there is a butane range and refrigerator. Seven-year-old Nicky Patch, Mary's grandson, adds his bit to the camp merriment.

Since news of the discovery has circulated through Arizona and Utah, visitors make their appearance daily. Most of them are rockhounds in search of cabinet specimens. As Maggie puts it: "I don't much care if the find doesn't prove out. I'd just like to gather it and sell it for specimens. It's something people like."

Mining, if one can call it that at this stage of the game, is all hand work. Mostly, it is simply knocking the petrified logs apart with a sledge hammer, and loading 100-pound wooden boxes with the "ore," two boxes to each of their seven burros, packing it down a mile-and-a-half trail—very steep in places—to their camp where they are currently stockpiling it. During the month they have been working, Riley and Bill Hostetter have loaded and packed down more than 17 tons, according to Riley's personal estimate.

In this connection, Riley and Maggie are fortunate in having an old-time friend from the early days helping them. Bill Hostetter is truly the last of the Arizona wild horse hunters, and he knows horse, mules and burros from hee-haw to hoof, having spent most of his 55 years working them.

"Some folks say a burro can pack 500 pounds and make five trips a day," Bill explained thoughtfully. "Maybe so, but Maggie'd sure give us hell if Riley and I tried it. Besides, we all take a pretty dim view of such slavery."

He went on to elaborate on Riley's personal philosophy with respect to

his pack animals. "We load them light and make only two trips a day. We're usually all finished by one p.m. That way, our burros will last as long as we do. It's a tough job at best, packing ore!"

Moreover, burros don't come wild these days. Somebody owns every jackass in the desert country and their value is relatively high. "I paid as much as \$25 apiece for these canaries," Riley grumbled while unloading ore at the camp. "We sure don't figure to work 'em to death at that rate. They're too hard to replace."

He went on to explain that there were a lot of half wild "canaries" over in Verde valley. "The only trouble with trying to round 'em up," he went on, "is that there's a tough inspector there who knows only one motto: 'You gotta show a bill of sale from their owners before you ever load one.' You know, a man can get himself sent up to the pen just as quick rustling Rocky Mountain canaries as he can for stealing cows. And every one of those 'wild' burros is branded, but it's the devil's own job to find their owners!"

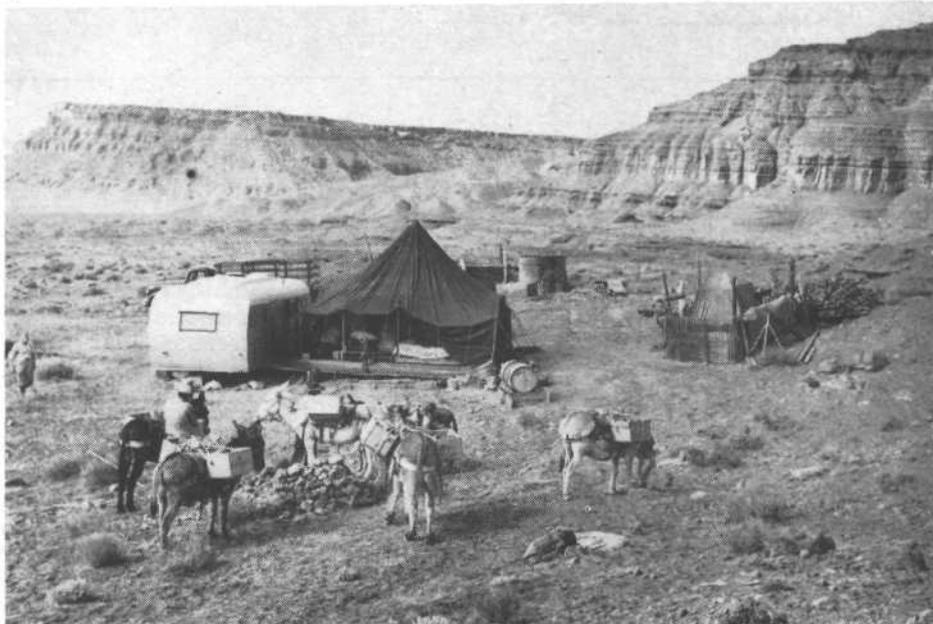
Today, there are very few burro pack trains left in America, even in the remote mining districts of the West. Everything has gone into machine production. That's what makes the Baker's claim a unique adventure. Every day the burros faithfully clamber a mile and a half up the canyon, and return loaded with ore, picking their sure-footed way past clumps of purple sage, pungent shepherd's tea, and sandstone boulders down into the valley made famous by Zane Grey in his "Riders of the Purple Sage." Visitors who hopefully make the long climb to the "forest" of carnotite logs exclaim over the panoramic vistas around every turn of the trail as if they were the first ever to have been in the region. As it did for Zane Grey, Arizona's fantastic beauty is like a tonic in the blood of all who view it.

At the present time Arizona ranks second place in the production of uranium ore, Colorado being first. But according to Charles H. Dunning,

Top—Bill Hostetter, left, and Riley Baker are doing all the packing. They load 200 pounds on a burro and make two trips daily.

Center—A train of seven burros is used to pack the petrified wood 1½ miles to the nearest road.

Below—Baker campsite where Maggie and Riley Baker are living in a trailer as they mine their uranium "ore."



TRUE OR FALSE

You have to know your desert well to score high in this test—but you can learn much from these questions and answers even though you do not make a top score. There are no trick questions. The answers have all appeared in *Desert Magazine* at one time or another. 12 to 15 is a fair score, 16 to 18 is excellent. For a better score than 18 you are entitled to the rank of Sand Dune Sage. Answers are on page 33.

- 1—Rattlesnakes are most vicious when the weather is cold. True..... False.....
- 2—Wild burros were roving the Southwestern deserts when the Spaniards first came to this region. True..... False.....
- 3—Ballarat is a famous ghost mining town in Nevada. True..... False.....
- 4—Some of the Pueblo Indians of the Southwest still use a stone metate for grinding meal. True..... False.....
- 5—Shipaulovi is the name of a Hopi Indian town. True..... False.....
- 6—The desert mesquite tree sheds its leaves in winter. True..... False.....
- 7—Bright Angel is the name of the trail leading to the summit of the highest mountain in United States—Mt. Whitney. True..... False.....
- 8—Carnotite, the ore from which comes radium, uranium and vanadium, is yellow. True..... False.....
- 9—Commercial salt was being recovered from the floor of Salton Sea sink before a break in the Colorado river filled the basin in 1905-6-7. True..... False.....
- 10—Small power boats operate regularly on the Little Colorado river between Cameron and Winslow, Arizona. True..... False.....
- 11—The Bill Williams river is in Arizona. True..... False.....
- 12—Cochise was the name of a famous Navajo Indian chief. True..... False.....
- 13—The Sangre de Cristo mountains are visible from Yuma, Arizona. True..... False.....
- 14—Chuckawalla lizards were eaten by desert Indians. True..... False.....
- 15—The Casa Grande ruins in Arizona were built originally as an army fort during the Apache raids. True..... False.....
- 16—Desert lilies grow from bulbs. True..... False.....
- 17—Azurite is a form of iron ore. True..... False.....
- 18—The Seven Cities of Cibola according to legend were located in what is now Cibola valley along the Colorado river north of Yuma. True..... False.....
- 19—Among the peaks visible from the Colorado desert of Southern California, San Geronio is the highest. True..... False.....
- 20—U. S. Highway 50 crosses the Green river in Utah at the town of Green River. True..... False.....

Maggie's new discovery when combined with several recently discovered deposits in the general region of the Navajo reservation, may push Arizona into the lead. Present Arizona output is around 200 tons a day, compared with Colorado's 250 tons.

Uranium ore is now mined by the Vanadium Corporation of America from several sites in the northeastern part of Arizona on the Navajo reservation, the ore being trucked to reduction plants operated under the supervision of the Atomic Energy Commission in Utah and Colorado. So prevalent is the belief among geologists that immense undiscovered sources of uranium underlie much of the region,

that the AEC is planning an extensive diamond drilling campaign for the whole reservation in 1951.

From where Maggie found her prize uranium wood—the best so far submitted to Mr. Dunning's office—it is only a mile or two to the western side of the Painted Desert and the Navajo reservation. Indeed, there is a constant small trickle of Navajo boys and men coming in to ask for jobs.

Until mid-June the Bakers have not been able to ship ore, having to wait for a permit since it is illegal to transport more than five pounds of carnotite, even as specimens. At best it is a long haul to Monticello by paved highway via Gallup, New Mexico. The al-

ternative route through the reservation by way of Kayenta and Monument valley is very rough, subject to sudden flash floods, wash-outs, and all the mechanical hazards created by an extremely rugged topography.

But Maggie doesn't care. She stands beside her growing stockpile of ore looking out across the Colorado, contemplating how mere rocks may be changing her whole life.

"I get a little sick sometimes," she said softly, "thinking that maybe all this trouble to get the wood packed out won't be worth anything. Then when I think how much all this stuff might really be worth—why, I just get sick all over again."

But like many another old-timer who remembers the good old days when burros and prospecting went hand in hand and the Geiger counter had never been invented, Maggie and Riley like to think that there's more good stuff back in "them thar hills" than was ever mined out of them. After all, in only one small section of Arizona where one would least expect to find sudden wealth, within easy walking distance of a main paved highway, haven't they proved their point? Sometimes, at least, a rockhound's dream can come true. It did for Maggie Baker.

RICH NEW FIND AT BAKER URANIUM MINE . . .

By excavating to a depth of only 18 inches, petrified logs richer in uranium than those on the surface have been discovered at Maggie Baker's unusual "mine" where several thousand dollars worth of uranium ore lies exposed.

This newest find was revealed by J. E. January, Mrs. Baker's son-in-law, when he returned to Williams, Arizona, from site of the original discovery.

January said indications are there is a larger supply of uranium-bearing petrified wood below the surface than above.

He said that with seven burros making two trips a day, more than a ton of the precious mineral can be brought out each day.

On hand at the mine to help with the first burro pack trains, January reported some amusing sidelights. The burros were not broken, he said, when first put to work. Each animal was loaded with about 200 pounds of ore and then started down the trail.

"Such bucking and pitching in an effort to get rid of those packs, you never did see," said January. "But there was only one way for those burros to go, and that was on down the trail. After four trips those beasts settled down and now they go and come on their own."



Joe H. Herrera, artist, dancer, interpreter of the ancient culture and religion of his people.

Dancing Indians Are His Subjects

By W. THETFORD LeVINESS

Photographs by Anne Forbes

IT WAS IN JULY, the day of the annual corn dance at Cochiti—a Keres-language Indian pueblo of northern New Mexico—that I first saw Joe H. Herrera. Joe was leading the Turquoise group in their dance. Several days later I met him with his attractive wife Julia at the opening of an art exhibit in Santa Fe. Joe was one of the artists whose work was being shown. My first contacts gave an insight into the character and personality of this 28-year-old ex-G.I.—dancer, artist, interpreter of the centuries-old culture of his people.

Joe's painting is linked to the ceremonial life of Cochiti as surely as the rituals themselves reflect the deep roots of the pueblo's faith. Joe dabbles a bit in landscapes and portraiture—a strictly "Anglo" experimentation; but practically all his serious painting is taken from the great dances that are basic in the social structure of his pueblo. He paints dance figures, individually and in groups. He does Buffalo, Deer and Corn dancers in abundance, and occasionally he will do an animal or two. He finds an ever-increasing market for his product in art

Nearly 2000 years ago the tribesmen of the Southwest were weaving crude designs into the baskets which served as household utensils. Today these same designs in refined form are being preserved and interpreted by artists of the New Mexico Pueblos. Outstanding in today's generation of Pueblo artists is Joe H. Herrera of Cochiti. This story, by a writer who knows him intimately, reveals the centuries-old influences which have moulded both his character and his work.

galleries from coast to coast and among the many out-of-town visitors who flock to his studio in the heart of old Santa Fe.

Few Indians have had a better background for art than Joe H. Herrera. His mother is Tonita Pena, of San Ildefonso. Early in the 1920's she was a leader in the movement to place traditional but relatively unknown Pueblo paintings before the public as water colors. Tonita began tutoring Joe when he was very young. When, as a teenager, he went to the U.S. Indian School in Santa Fe, he already showed prom-



Portrayed without background or foreground, this painting by Joe Herrera is typical of Pueblo art. Seemingly two-dimensional, it shows close attention to detail. Religious and ceremonial themes predominate in Joe's work.

ise as an artist. He studied under such noted teachers as Dorothy Dunn and Geronima Cruz Montoya.

Even the war proved a boon to Joe's art. He enlisted in the army shortly before Pearl Harbor, and showed special aptitude for radar work. He flew with radar units throughout the Caribbean sea, was stationed a while in Puerto Rico, and helped shuttle vital war supplies from Brazil to North Africa. He saw many parts of the world before V-J day. This gave him insight into the cultures of many peoples — and an even greater appreciation of his own. All this time he continued painting. Between watches and radar calls he would sketch the kivas and costumed ceremonial figures of his pueblo. He gave instruction in painting to other service men, and on week-ends in Puerto Rico he helped arrange exhibitions of art work by himself and his buddies at local museums.

Joe signs his paintings "See-Ru," which in Keres means "Blue Bird." The use of this name identifies him with the Pueblo tradition.

Pueblo art may be traced to the designs found on baskets of the prehistoric tribesmen of the second century A.D., who are believed to have preceded the cliff dwellers and the Pueblo peoples. Some of the same designs are found on later-period pottery.

About the tenth century, the ancients abandoned the protective canyons and spread through the upper Rio Grande region where they still reside. For perhaps the first time, they drew life-size figures of their townsfolk in full costume and color. Eighty-five layers of such figures, some as thin as onion skin, have been taken from the walls of a single kiva at Kuaua, a pueblo ruin near Bernalillo, New Mexico, abandoned in the fourteenth century. It is

believed these murals were painted over with each new ceremony which took place within.

The quiet changelessness of Pueblo life through the centuries is strikingly shown in the similarities between these Kuaua murals and the paintings of present-day Pueblo artists such as Joe H. Herrera. Joe has painted on the walls of the Turquoise kiva at Cochiti, but only Indians are allowed to see the interiors of kivas in use in that pueblo today.

The ancient Pueblo peoples did their designs on utensils or walls that served a useful purpose at the time. They never considered their work commercially valuable, because to them value has always been measured in the things of the spirit. Paintings and fragments that have survived represent an art created without the profit motive and without regard for the wishes of a purchasing public. It is this spiritual concept that Joe has inherited and brought up-to-date in his work.

Until recent years, Indian Bureau policy was directed toward the suppression of ancient ways. This was true especially in the Great Plains, where whole settlements were uprooted and moved. Rituals such as the Kiowa Apache Sun dance were branded as pagan. Christianity was forced upon children in boarding schools far from home. The sedentary pueblos escaped much of this harsh treatment because they had their own day schools and because the Franciscan missionaries had never made them accept Christianity to the exclusion of their own rituals. As late as 1928, however, art students at the Santa Fe and Albuquerque Indian schools were prohibited from painting from aboriginal subject matter.

Just prior to this, in the years following the first World War, Anglo-Ameri-

can cultural groups began to encourage Pueblo artists to paint. Some had never thought in terms of portable art — paintings that could be carried around. But many took it up enthusiastically, and promising talent was revealed. Private organizations sponsored and arranged exhibits. In the past quarter-century, Pueblo Indian paintings have been shown in many of the great galleries of the United States and in foreign countries as well.

Tonita Pena — Joe's mother — was one of the noble few who helped elevate Pueblo painting to the place it deserved. From Taos to the Hopi villages of Arizona, more and more Pueblo men and women took up painting. Some have made it their careers. Tonita married into Conchiti, south along the Rio Grande from her native Idefonso. Although she raised a large family she never gave up painting. She has won high honors with her water colors — figures, groups and paintings which depict fundamentals of ceremonial life in the pueblos. Her work is at a premium today, since for the past year she has been in declining health.

Together, Tonita and Joe follow a tradition which began with the second century of the Christian era. As interpreters of the prehistoric way of life, they constitute one of the most unique mother-son teams of artists living today.

In general, Pueblo painting is characterized by flat decoration; figures are portrayed without background or foreground. Seemingly two-dimensional, they show the artists to have paid close attention to detail. Techniques and colors resemble those of the Orient. Pueblo paintings lack perspective in the non-Indian sense, but this accentuates the figures as no other method can. Color blending is innate and thorough. Great emphasis is placed upon representational exactitude.

There allows few outside influences to creep into his paintings. He gets his paper, white and in colors, through the Santa Fe Indian school. He experiments with backgrounds of various colors for effect. Gray and blue he finds more adaptable to certain figures and groups than the much over-worked white. He also uses Shiva water colors in tubes — chemical products manufactured by his friend Ramon Shiva, of Santa Fe and Chicago.

Joe's paintings include few animals or birds. He doesn't create stylized, composite mythical creatures out of elements of Pueblo design — such as serpent motifs or cloud and rain symbols seen so much in works of many Pueblo painters. Seldom has he used

these elements even for decorative borders or conventional Nature patterns. He believes that such symbolism should be confined to the dress of the figures he is portraying—"where it is in life and where it belongs in painting," he says.

Joe and I have taken many trips together since the day we met in 1947. We've covered much of New Mexico, northern Arizona and southwest Texas; we've even been to La Boquilla, in southern Chihuahua, Mexico. Most of our trips are to Indian dances in outlying pueblos—the Hopi Snake dance, the Laguna Corn dance, and the San Felipe Crane dance are but a few we've attended. Often his wife Julia goes along, and sometimes they'll bring their little boy Sonny, now four years old. Julia is a native of Laguna, a pueblo west of Albuquerque. She is a graduate of a Los Angeles business college and is now an office clerk in a Santa Fe curio shop. As for Sonny—his real name is Joe H. Herrera Jr.—they are raising him true to the Pueblo tradition. He already knows several of the Cochiti dances, and has appeared publicly in them in full costume.

Joe lives his Pueblo religion so thoroughly he feels destined to interpret it with his brush. He paints with a self-assurance that seems to emanate from the Pueblo spirit-world itself. He is limited only by age-old unwritten Pueblo custom. He cannot, for instance, paint masked figures of his own pueblo, because masked dances at Cochiti are not open to the public. And he won't do masked figures of any other pueblo. He won't even paint the unmasked ceremonies of another pueblo unless Cochiti holds such dances occasionally. About these matters Joe is careful, ethical, traditional. For the same reasons, he won't paint the scenes of ceremonies now extinct in the pueblos.

Within these limitations, Joe H. Herrera has become widely recognized among Pueblo painters today. He has won several awards and has been cited in many reviews. He has held one-man shows in Santa Fe, San Francisco, San Antonio, Dallas, and has exhibited with other Pueblo painters in other cities. In 1948 his "Buffalo Dance," a large group water color, won the first purchase prize of \$250.00 for the Southwest region in the third annual exhibition of American Indian Painting at the Philbrook art center in Tulsa. He thinks Indian art has a bright future, so long as it remains purely Indian, aloof from non-Indian influence.



" . . . a Man-from-Mars appearance." This close-up of the Jerusalem Cricket explains where the author got his description, reveals why so many people regard the harmless desert dweller with superstition and fear.

Jerusalem Cricket, Weird but Harmless

By WELDON D. WOODSON
Photo by the Author

LAST SUMMER I stopped at H. A. Brown's Jungle Park store in Gila Bend, Arizona, and introduced myself.

"Come over here," Brown said, "I have something that will interest you."

And there on a bulletin board, along with clippings of many other oddities, was a picture of myself with a tarantula spider on my right cheek. Years ago the picture had appeared in a national magazine.

"Hundreds have looked at it and said that either the man is crazy or awfully brave," Brown laughed. I explained I was neither, that the tarantula won't bite unless tormented, and that its bite is less painful than a bee sting.

"You may be right about this t'rantler. But how about the 'Child of the

Desert?' That critter is deadly poisonous," interjected one of those who had been listening to our conversation.

Actually, the "Child of the Desert" goes under as many aliases as a Chicago gangster. The Mexicans know it as *Nino de la Tierra*, which means "Child of the Earth." It has also been labelled "Baby-face," or "Baby of the Desert." All these titles have been given it because it allegedly looks like a newly-born human infant. Nevertheless I feel that no self-respecting mother would acknowledge that her own child possessed such a grotesque appearance.

Another name for this sand cricket—and that is what it is, of the *Stenopelmatus* genus—is *Mata Venado*, or, translated, "Kill Deer." Strangely, the Mexicans sometimes refer to the vinegararoon by the same name. Many

speak of it as the "Potato Bug." But Jerusalem Cricket is the common name accepted by scientists.

I was not surprised that my Gila Bend friend believed it to be dangerous. In Utah, Nevada, New Mexico, Arizona, the Colorado and Mojave deserts of California—wherever I have traveled over the desert country I have listened to tales of terror in regard to it.

In previous issues of Desert Magazine letters from readers have expressed interest in the Jerusalem Cricket. One writer described it as a doll-like animal, about three or four inches in length, that walked on all fours. It has a head and face, the reader stated, like that of an infant. It was claimed to be more poisonous than a rattlesnake, but harmless unless molested.

Contemporaries aren't the only ones who have looked upon this tiny desert prowler with awe. One tribe of Indians believed that it brought death to man, when he might have been immortal. Another explained that it acquired its bald head when, as it grieved over the death of one of its many children, it stuck its head in a bed of hot ashes and singed off all its hair. Since that tragic moment, all of its descendants have come into the world with shorn heads. To some Indians, it is known as Old Man Baldhead.

One glance at it reveals why Indians, Mexicans and white settlers have attributed such direful things to it. Truly, it has a bald head. As for the sheath back of its head, that suggests the shoulder pads of a football player. The striped body looks like a prisoner's uniform. The cumbersome, prominently jointed legs remind one of a mechanical man. These features, together with the long feelers that project from a corner of each of its large, beaded eyes, give the cricket a Man-from-Mars appearance.

Actually, this resident of the desert is harmless. Laboratory dissections show that it lacks a sting, fangs or poison glands. I have explained this upon various occasions to my Mexican friends. They listen courteously, then shake their heads. They fervently contend that its bite will cause excruciating pain. They often blame the death of a cow or horse on it.

When I say that it is harmless, I mean to a human being. In its world it can hold its own with those desert creatures recognized as poisonous. Should it encounter a scorpion, it will attack it and prove the victor as the scorpion repeatedly strikes at it with its poison-tipped tail. It can even put up a staunch battle against the tarantula, although the latter, should it gain

the strategic position, will in time kill the cricket.

You may wonder just what kind of formidable weapon it owns. As it goes into combat, it opens wide its huge jaws or mandibles, clamps down, and tears apart its tormenter. Its bite is the eerie sensation you experience as you pick one up in the palm of your hand; then summarily drop it. It is pugnacious but desires to be let alone. It cannot break through your skin. Scratch the sensitive palm of your hand with your finger nails and you will realize just how it feels to be nipped by a Jerusalem Cricket. It can bring you neither pain nor poison—nevertheless it may give you an uncomfortable feeling to handle one of them.

Its diet consists of potatoes that grow in the field, as well as the roots of many desert plants. Its penchant for potatoes was once tested by natural history students of Albuquerque, New Mexico, high school. They kept one alive several years in a small cage with a bed of sand, which they occasionally dampened. They fed it raw potatoes and other fleshy plant tubers. As it feeds, you can hear the click of its mandibles.

Even so, it is not entirely a vegetarian. Should there be a lack of fresh live food, it will even resort to carrion. It relishes angleworms, grasshoppers, termites and other soft-bodied insects.

Its life cycle begins in the spring. At that time it mates. The white sperm sac of the male is clasped and torn off by the vulva of the female and carried for several hours. Once the nuptials are over, the female may kill and devour her spouse. In this respect, she resembles the disreputable black widow spider. She subsequently lays small masses of oval white eggs in nest-like holes in the sand. When they hatch, they appear just like their parents—only miniatures.

Should you wish to make a first-hand acquaintance with the Jerusalem cricket, look for it during the spring, summer and fall. In day time, push over stones. When you discover one under a rock, it forthwith shoves its head down into the earth. It uses this part of the body as a hoe, its short, powerful feet as trowels. As you peer at it, it digs itself out of sight.

There, underground, its feelers warn it of any natural enemy that tries to attack it from the front. Two finger-like protuberances extend from its rear, and these, also, are sensitive to touch. Thus it has both front and rear bumpers.

It is a creature of the night, and shuns daylight. At night or early morning, search for it by means of a flashlight in paths and roads. In the dust, you will be able to make out its trail—

like that of a small snake, for it drags its body. On each side of the hollow that it has etched out as it scurries along will be its hieroglyphic-like footprints. When you have run it down, stop and behold it as it races out of your reach with quick, jerky strides, twisting its head from side to side as if sniffing like a pointer pup.

It has another accomplishment. It can sing. It does not produce the lyrical qualities of the katydid, but sing it can. The Jerusalem Cricket's music sounds like—well, rub two pieces of sandpaper together and you have it. The inner side of its hind legs has a roughened surface, the abdomen, short spines. These rubbed together give that sandpaper effect.

The Jerusalem Cricket is one of my favorite desert denizens. I know it to be harmless to man and I am amused when I watch a 180-pound tenderfoot as he comes upon it for the first time—not more than an inch and three-fourths in length, but one of the ghostliest looking contraptions that ever walked the face of the earth.

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INDIAN BUREAU PERSONNEL TRANSFERS ANNOUNCED . . .

Three personnel changes in the Bureau of Indian Affairs have been announced by Interior Secretary J. A. Krug and John R. Nichols, commissioner of Indian Affairs.

New general superintendent of the Navajo Indian reservation at Window Rock, Arizona, is Allan G. Harper, Billings, Montana. Harper succeeds J. M. Stewart who has been appointed state director of the California agency at Sacramento. Harper was assistant regional director of the Indian Bureau at Billings.

Named as general superintendent of the boarding school to be developed at the former Bushnell army hospital at Brigham City, Utah, is George A. Boyce. He was formerly director of schools on the Navajo reservation in Arizona. Two thousand Navajo children will eventually be taken care of at the school. Mrs. Hildegard Thompson will succeed Boyce as director of Navajo schools. She has had broad experience in the work.

Returning to the Bureau of Indian Affairs as executive officer is William Barton Greenwood. Prior to 1943 he had been chief administrative officer and assistant commissioner in the bureau. In his new position Greenwood will be in charge of budget, finance, property management, plant construction and maintenance, personnel activities.

Desert Garden Without Soil

By VERNIE G. REAGLES

Photographs by Harlow Jones

WHEN MIRA AND BERT COFFIN came to the desert some years ago in search of health and a way of life which would give them peace and freedom, they selected Twentynine Palms, California, as their future home.

They looked about for work which they could do together, which would be profitable, and which would become a stimulating goal for mental and physical effort.

They had become interested in Hydroponics—that newly developed science of growing food with chemicals rather than soil. The Twentynine Palms desert seemed to be the ideal place, since it provided both a favorable climate and an ample market for their products.

And so they set about planning a garden that would be different from most gardens. It would be a challenge to their skill and patience—and perhaps their pioneering in this field would be helpful to others.

Bert had done considerable research in the new science. He had learned that plants derive their food from the medium in which they grow—and that through experiments conducted at various universities and laboratories the names of the chemicals and minerals which served as plant food are well known. Plants given these foods do as well or better than those grown in the soil of ordinary gardens.

The necessary chemicals are added to water, and the roots of the plant exposed to the solution, resulting in rapid growth, greater production and in some instances a finer quality of product. It was found that only one-tenth the water and one-fifth the area was required to produce up to ten times the yield. The desert land, with its limited water supply, seemed a logical field for this kind of gardening.

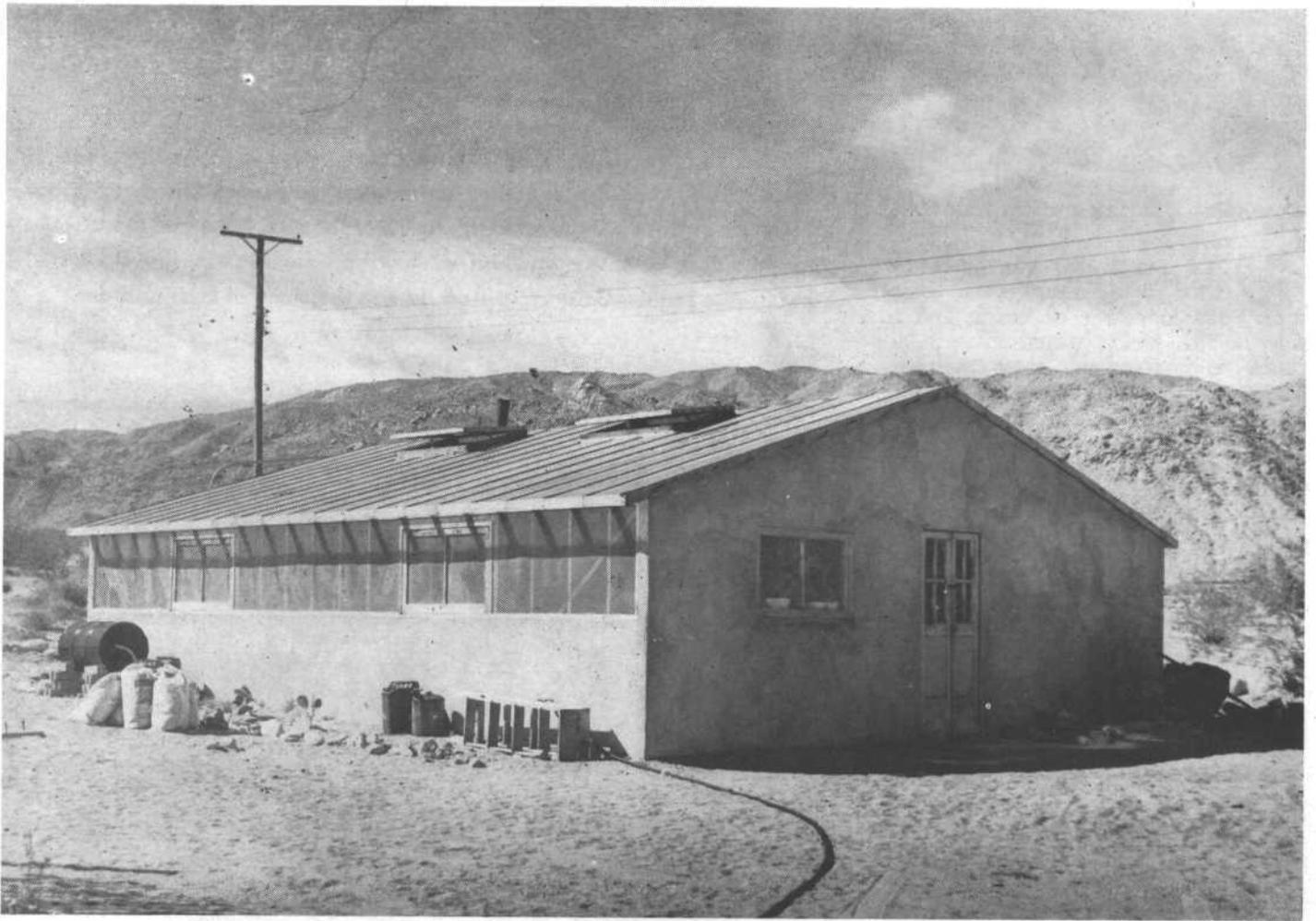
This is the science called Hydroponics. A variation of the same general idea is called Neutroponics. In this process sand and gravel (or both) are added to the tanks as inert media for better support of the roots. This makes it possible to aerate the roots periodically by draining the solution from the tanks. The value of this method is that it serves to draw the air down through the roots.

During the war, soil-less culture be-

During the war Uncle Sam made great progress in the science of growing food plants in chemical solutions—in places where soil was lacking and water was at a premium. After the war Mira and Bert Coffin experimented with this method of food production on the desert at Twentynine Palms, California. And here is the story of their success.



Mira Coffin picks tomatoes in her soil-less garden at Twentynine Palms.



Where the Coffin experiments have been conducted just outside Joshua Tree National Monument.

came well established on Ascension island in the south Atlantic where the Air Transport Command established an important re-fueling station for planes crossing from Natal, Brazil, to the west coast of Africa.

Ascension island is of volcanic origin, having neither sand nor gravel—only cinders. But cinders proved a satisfactory inert media and huge tanks were established here to grow fresh vegetables for air force personnel.

Wake Island supplies fresh vegetables for Clipper plane passengers and employees by this method, and some of the armed forces in Japan are fed in the same way. The Army is teaching the method to the Japanese.

Mira and Bert read everything they could find on the subject and corresponded with scientists in the United States and Canada. Finally they were ready to start their Magic Garden. G. K. Allen of Victoria, Canada, was a valued adviser. He drew their blue prints and furnished them with a special formula for this climate. Carl Malitor of Palm Beach, Florida, was another correspondent who supplied information of practical value.

They selected land up the slope near the south border of the Joshua Tree National Monument overlooking Twentynine Palms. Up the old trail, which is now a paved highway leading to the Monument, they hauled their high hopes and their materials, establishing themselves in a comfortable trailer house, and the garden began to take form. They built four concrete tanks, each 25 feet long, three feet wide and eight inches deep, three feet off the floor to save stooping in caring for plants.

Solutions are mixed and stored in two underground sumps and pumped up through the sand and gravel to feed the plants. The shelter for all this is a skeleton-like structure covered with a plastic screen which admits light and violet rays but keeps out wind, insects and infra-red rays, making it possible to maintain a uniform temperature. The thermometer never falls below 60 degrees Fahrenheit and humidity is maintained at about 50. This is controlled by automatic installation.

It has been found that anything from peanuts to orchids may be grown in this manner and, whereas the scien-

tists in the laboratory developed a special formula for each specie of plant, the amateur found he could grow different kinds of plants side by side in the same bed with the same food and care.

The Coffins started operating October 1, 1947, with one tank of tomato plants, one tank of Kentucky Wonder beans and cucumbers, and a week later a variety tank of celery, broccoli, onions, radishes and turnips.

In one month the beans had climbed seven feet to the roof and were running across the top on wires. The cucumbers were nearly there and had large buds, and the tomatoes, three feet high, were blossoming. They had green onions and radishes in mid-December, ripe tomatoes by Christmas and other vegetables soon afterward.

To finance themselves and their Magic Garden during its development, Mira and Bert took other work but found time to relax and enjoy the beauty of their hillside home. They made plans for expansion as the demand for their produce grew. Their hopes grew higher and they felt that they were coming into their own in

health and peaceful living. Their adventure was succeeding.

Then Bert became ill and after long months he died in January, 1949.

Mira is carrying on alone and the success of her garden is a tribute to her courage and fortitude. She is very busy during weekends showing her garden to visitors from out of town and answering the many inquiries.

The science classes from the local high school make the Magic Garden one of their field trips. She is receiving more and more mail inquiring about the operation and how to start such a project.

It is a picture that must be seen to be appreciated. Tomatoes tall and thrifty climbing to the ceiling and branching off on lateral supports, hanging full of clusters of fruit in varying stages of growth and ripening. At one end of the greenhouse is a smaller tank of the loveliest celery one could hope to see—crisp, crunchy, clean. She is growing vegetables free of dirt and insects, and without spraying. The sand and gravel are treated to prevent any foreign substance growing.

This is one of the first plants of its kind to be built and operated in the desert, although because of almost constant sunshine and the abundance of violet rays, the desert offers many advantages for such an enterprise.

This is, indeed, a venture with a future and for the future.

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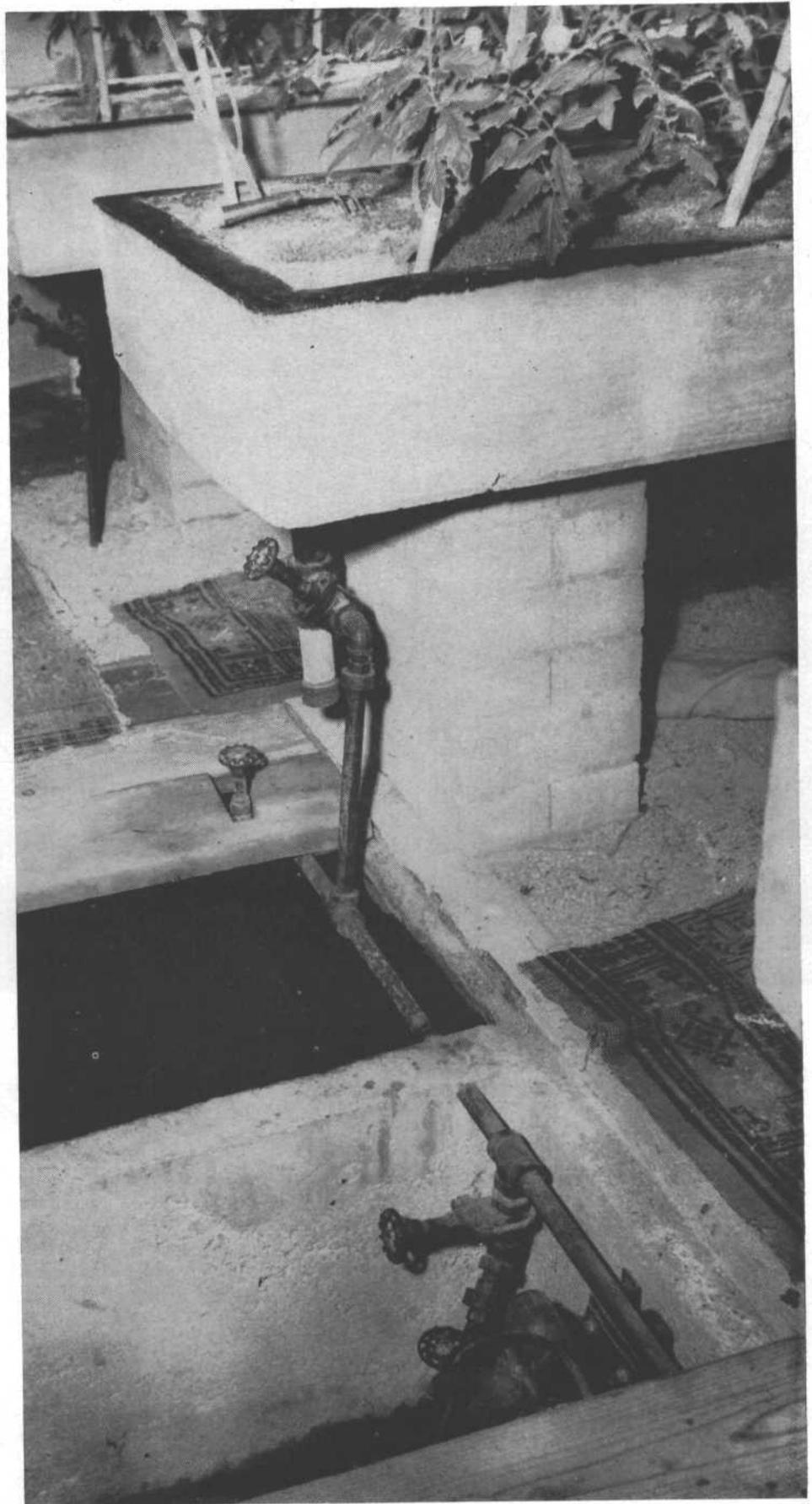
SCIENTISTS INVESTIGATING DANGEROUS DESERT CAVERNS

A vast network of caves and tunnels that honeycomb a 5000-foot limestone peak in the Providence mountains near Essex, California, is being investigated by 10 young scientists who seek to map what may prove to be the deepest and largest caverns in California.

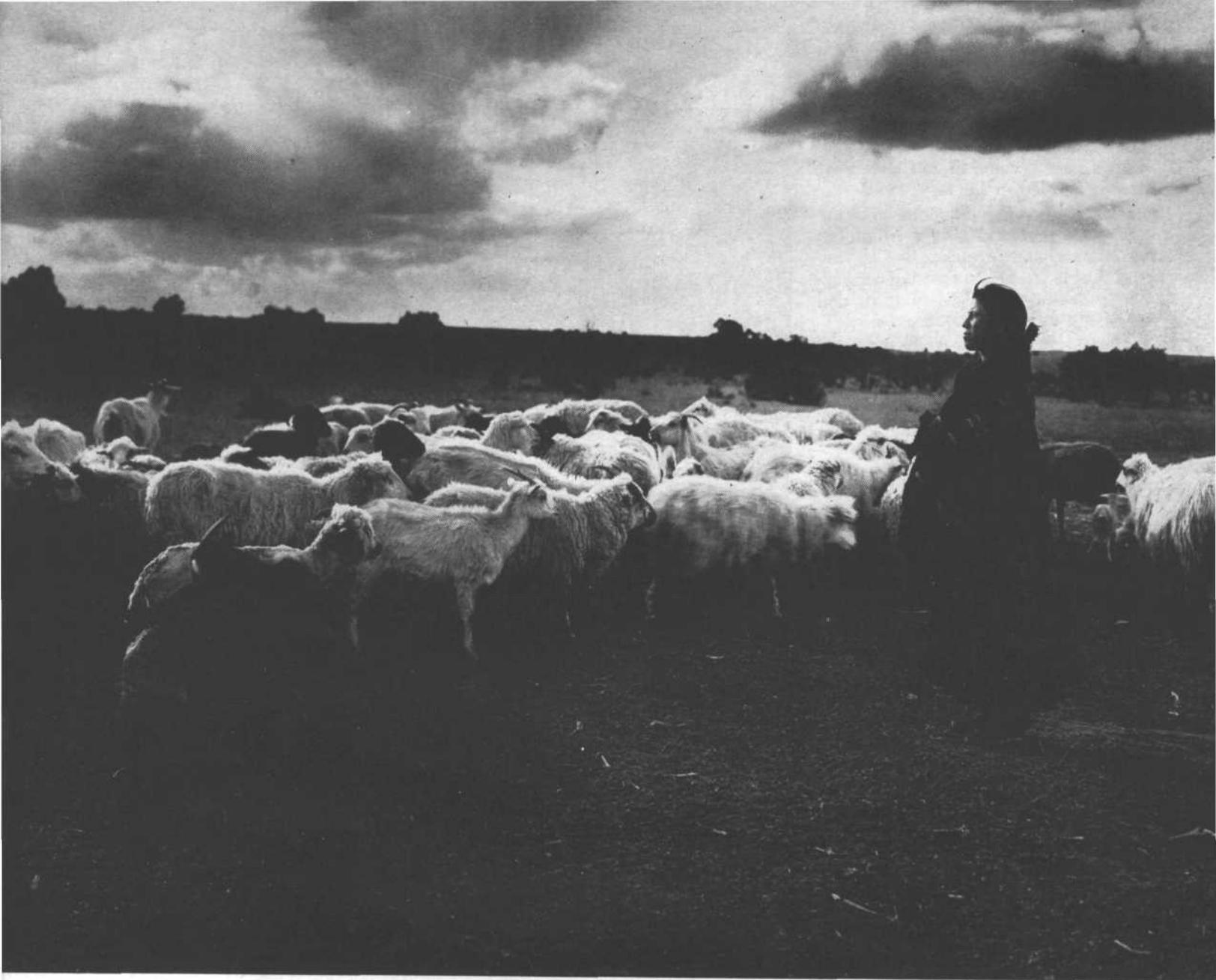
The men are members of the Southern California Grotto of the National Speleological society. They bring knowledge, equipment, experience, enthusiasm to the dangerous job of plumbing these subterranean depths.

Cave entrance is 1000 feet above base of the peak. Jack Mitchell, veteran prospector, discovered the opening 15 years ago, nearly lost his life trying to explore it.

But the modern-day explorers are equipped with proper tools, ropes, cable, oxygen, a generator, winches, food, water, bedrolls, helmets equipped with carbide lamps, portable telephones.



Showing the detail of the tank construction in the Coffin Neutroponic gardens. The chemical solution is kept in sumps beneath the floor, to be pumped into the growing tanks as needed.



Navajo shepherdess. Will Pennington photo.

Indian Country Trek . . .

Among those who travel the Southwest, the term "Indian Country" is now in common usage. It refers to that broad plateau region in northeastern Arizona, northwestern New Mexico and southwestern Utah where are found the Navajo, Hopi and a score of other tribes — and also where cliff dwellings and other prehistoric ruins are evidence that this has been the home of desert tribesmen since ancient times. Morgan Monroe's story will bring pleasant memories to those who already have traveled this region — and will serve as an authentic guide for those who are yet to make the journey into this fascinating region.

By MORGAN MONROE

ONCE AGAIN Dorothy and I were off on our annual outing — and this year it was to be a return over what we term the "Indian country circuit." We think it is one of the most fascinating trips in the Southwest.

The circuit begins at Gallup, New Mexico, in August, with the great

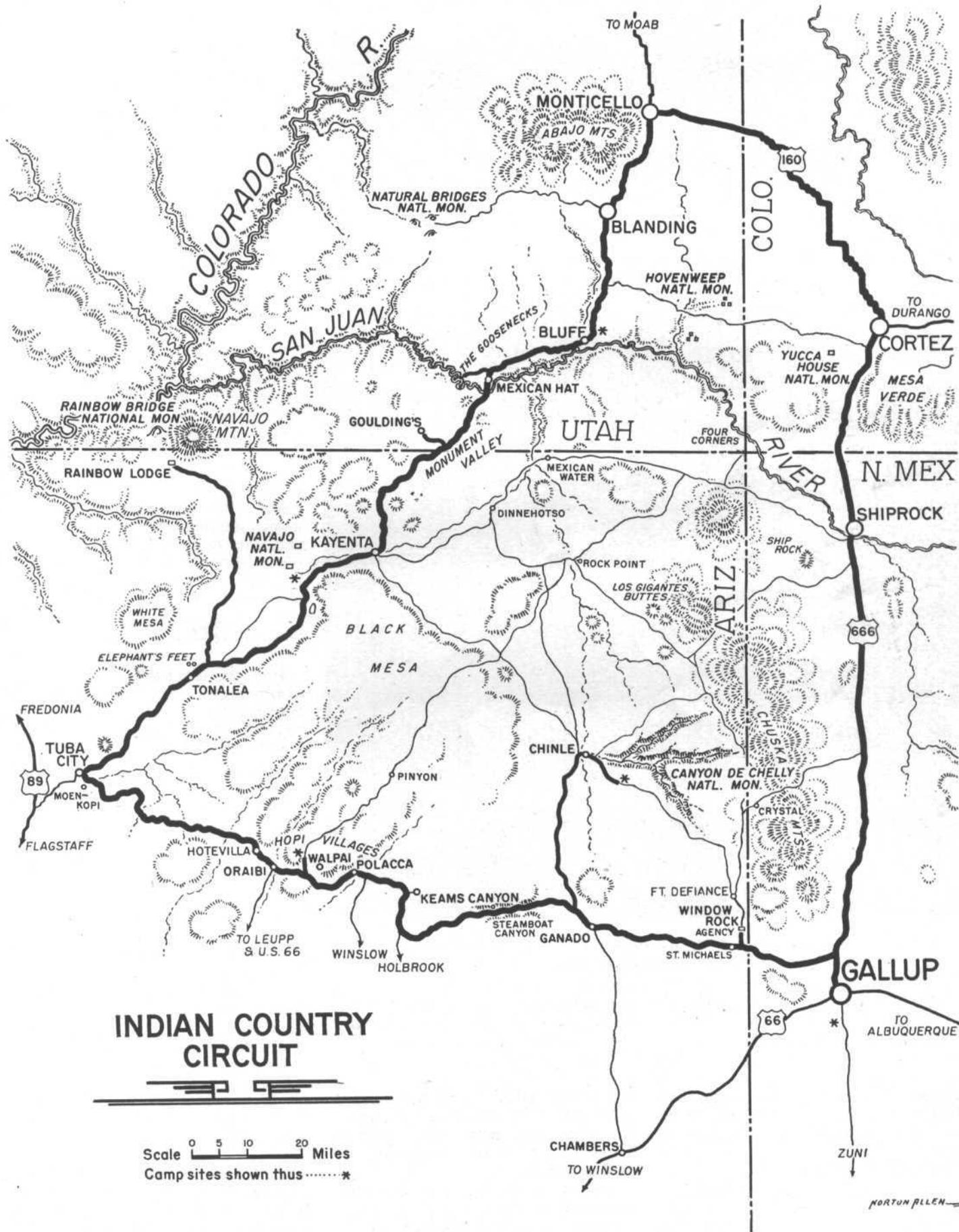
Inter-Tribal Indian Ceremonial, swings west to the high Hopi villages in Arizona for their amazing annual snake rituals, then northeast into the heart of Navajoland, through incomparable Monument valley and terminates in the southeastern corner of Utah.

In its 375-mile length from Gallup to Monticello and thence 170 miles

back to Gallup the road forms a great triangular loop around the famous Four Corners — where Colorado, Utah, Arizona and New Mexico meet.

In less than 550 miles the trip offers more unspoiled rugged country, more interesting personalities in an isolated region, more superb photographic possibilities and more outdoor adventure than any similar distance we've ever traveled.

Thrown in as dividends are hundreds of absorbing geological and archeological sites, a mysterious "lost" silver mine, fine rock and mineral specimens, opportunity to study at first hand two colorful southwestern Indian tribes and, to top it off, a delightful mile-high desert climate.



INDIAN COUNTRY CIRCUIT

Scale 0 5 10 20 Miles
Camp sites shown thus * * *



In a remote canyon in the Navajo National Monument in northern Arizona are the cliff dwelling ruins known as Keetseel.

As Dorothy often says, "That trip has everything — with lots of extras!"

Gallup at Ceremonial time is a riot of color — Indians, traders, tourists, artists, photographers and ranchers, where sleek eastern station wagons rub fenders with dusty desert jeeps. As we inched through town on the way to our campsite Dorothy stared and said, "Just look at all those Indians!"

Navajos, Hopis, Zunis, Apaches, people from the pueblos of Jemez, Santa Clara, Taos, San Ildefonso, Laguna, Cochiti and Tesuque mixed along

the streets with Sioux from South Dakota, Utah Paiutes, Colorado Utes and Cheyennes from Wyoming.

This year the 28th annual event is scheduled for August 11-14 under the competent guidance of M. L. Woodard, Inter-Tribal Ceremonial secretary, whose personal efforts are largely responsible for the world's greatest Indian spectacle.

As we headed for our first night camp a few miles south of Gallup off highway 32 in the direction of the Zuni reservation we passed many Na-

vajo covered wagons. All of them were loaded to the hubs with Indians arriving for the Ceremonial.

We had just finished cleaning up camp after dinner when, through deepening dusk across the high mesa, there came the haunting, never-to-be-forgotten sound of chanting Navajo voices.

Singly first — then suddenly in pairs, dozens, scores — brilliant desert stars knifed through the night's gathering canopy as we settled down, listening to the far-away voices intoning their ancient healing chants.

We were keeping another rendezvous with adventure on the Indian country circuit.

Neither of us spoke as a golden moon arched above the pinyon tree that marked our camp. The Navajos still chanted when our sleeping bags finally claimed us. The last thing I remember was Dorothy's sleepy voice mumbling, "Turn off the moon — it's staring at me."

Gallup's Inter-Tribal Ceremonial is unique. It is the only event where most of the major southwestern Indian dances, chants and songs may be seen and heard with so little effort for spectators. Throughout the four-day Ceremonial afternoon and evening performances are presented. For picture making afternoon shows are best, of course, but evening performances are more spectacular because they take place against backgrounds of huge log fires that add much to the primitive atmosphere.

Here one sees symbolic pueblo eagle dancers, the stately parade of Zuni maidens balancing beautiful pottery ollas on their dark heads, awesome Apache devil dancers, the weird Navajo fire dance and many others.

More than 3,000 Indians gathered as we entered the Ceremonial grounds the following night. Against dark outlines of rocky mesas that surround the nation's Indian capital hundreds of tiny cooking fires flickered before covered wagons thick with the dust of reservation trails.

Stirring tom-tom beats throbbed out across the moon-flooded desert night, recalling ancient rites, deep-seated in their appeal and significance to the 18 tribes represented there. Giant fires leaped to life in the arena and another Inter-Tribal Ceremonial was on.

When we left Gallup for Ganado, Arizona, several days later the stand of fat pines that line the first few miles of the St. Michaels-Tuba City road gave little indication of the mesa-studded, wind-carved desert country that lies beyond. As we stopped to fill a water bag (always carry water in the Indian country) at Hubbell's trading post in Ganado I unpacked the photographic equipment we had stowed away after



Apache Devil dancers who take part in the annual Ceremonial at Gallup, New Mexico. Photo courtesy New Mexico State Tourist Bureau.

the Ceremonial. I knew that from there on the cameras would work overtime.

Never make the Indian country circuit without plenty of film — black and white and color. Those on their first trip often are amazed at the amount of film they use — but it's that kind of country. Go prepared; you may not find your favorite brands of film after leaving Gallup.

And here's a tip: when shooting color in the sun remember that Indian country light is of extremely high actinic quality. It fools you; often it fools good exposure meters unless used carefully. Lens openings one-half stop smaller than normal with color is a safe bet. If your basic sunlight exposure is, say, 1/50-second at f6.3 try f8 instead. Chances are you will like the results better. Black and white films, with their greater latitude, are not so critical, but cutting down a bit with them will avoid burned out highlights.

Hubbell's trading post at Ganado is one of the best known in the Indian country. It is said to be the oldest continuous business operation in Arizona. The Presbyterian mission hospital across the road is where Dr. Clarence Salsbury has become famous for

his humanitarian work among the Indians.

After reducing tire pressures 25 per cent for the stretches of soft sand ahead we were off again and soon reached the fork where the Chinle road branches toward Canyon de Chelly, a 36-mile side trip well worth the time for an overnight camp — more if you can spare it.

One of our most unusual and least visited National Monuments, Canyon de Chelly includes the spectacular gorge for which it was named and its tributaries, Canyon del Muerto and Monument canyon. For miles the three form a series of deep gorges in the red sandstone of Defiance plateau, their sheer walls a thousand feet high in many places. Remains of prehistoric Indian dwellings cling to the walls with apparent disregard for gravity.

Canyon de Chelly plays a major role in Navajo legend and it was in the vast canyon that Kit Carson's men rounded up 7,000 Indians for removal to the Bosque Redondo in New Mexico on what history recorded as the Navajo "Long Walk." If you visit this beautiful spot — and you should — make it a point to meet "Cozy" McSparron, one of the delightful personalities

found in odd places all around the Indian country circuit.

Bound for the Hopi snake ritual, we plunged down the floor of Steamboat canyon, so named for a large rock formation seen on the right at 68.6 miles, crossed the eastern boundary of the Hopi reservation, and bounced down another long grade into Keams canyon, named for Thomas Keam, an early Indian trader.

"Don't forget — doughnuts!" Dorothy warned.

At the Keams canyon trading post is a Hopi cook (I hope she's still there) who makes the lightest, most delicious doughnuts we've ever tasted anywhere. After four of them with coffee we coaxed her into packing us another dozen for breakfast at camp the next morning and took off.

Arizona's Hopi villages are right out of a fairy tale. They rest atop three rocky mesas that jut down toward the Little Colorado river from the Navajo country which surrounds them. Springing suddenly from the plateau hundreds of feet below, they contrasted sharply with the canyons we had just come through.

On the First Mesa (the three are known as First, Second and Third, or

Oraibi, mesas) perch Polacca, Hano, Sichomovi and Walpi—the “sky village” where the ten-century-old snake and antelope ceremonies may be seen this August.

Walpi, most picturesque of the 11 Hopi villages, is a subject that challenges many artists and photographers. It rests precariously on the narrow tip of steep rock that marks the southern limit of First Mesa, appearing like an ancient castle in the azure desert sky.

The Hopis are Arizona's only pueblo Indians. They number about 4,000 and are known to have inhabited their lofty mesa-top villages for more than 1,000 years. Their unusual society, organized on the clan system, recognizes descent on the mother's side in each family.

Shy but friendly people, Hopis are

preoccupied with their many sacred ceremonies, centering around various rites designed to bring life-giving rain. The antelope and snake rituals, or dances as they are commonly known, are the most impressive (*Desert, Aug. '48*).

These ceremonials are so gripping that many desert lovers return year after year to witness them. If you are attending your first snake dance bear in mind that you are welcome—but not invited. Remember also that you are a guest on private property—that applies all over the Indian country—and act accordingly.

It is foolish to attempt descriptions of the dramatic antelope and snake rituals. They are emotional experiences to which no two people react quite the same. To fully appreciate their beauti-

ful primitive meaning and the ancient faith they represent you must see them for yourself.

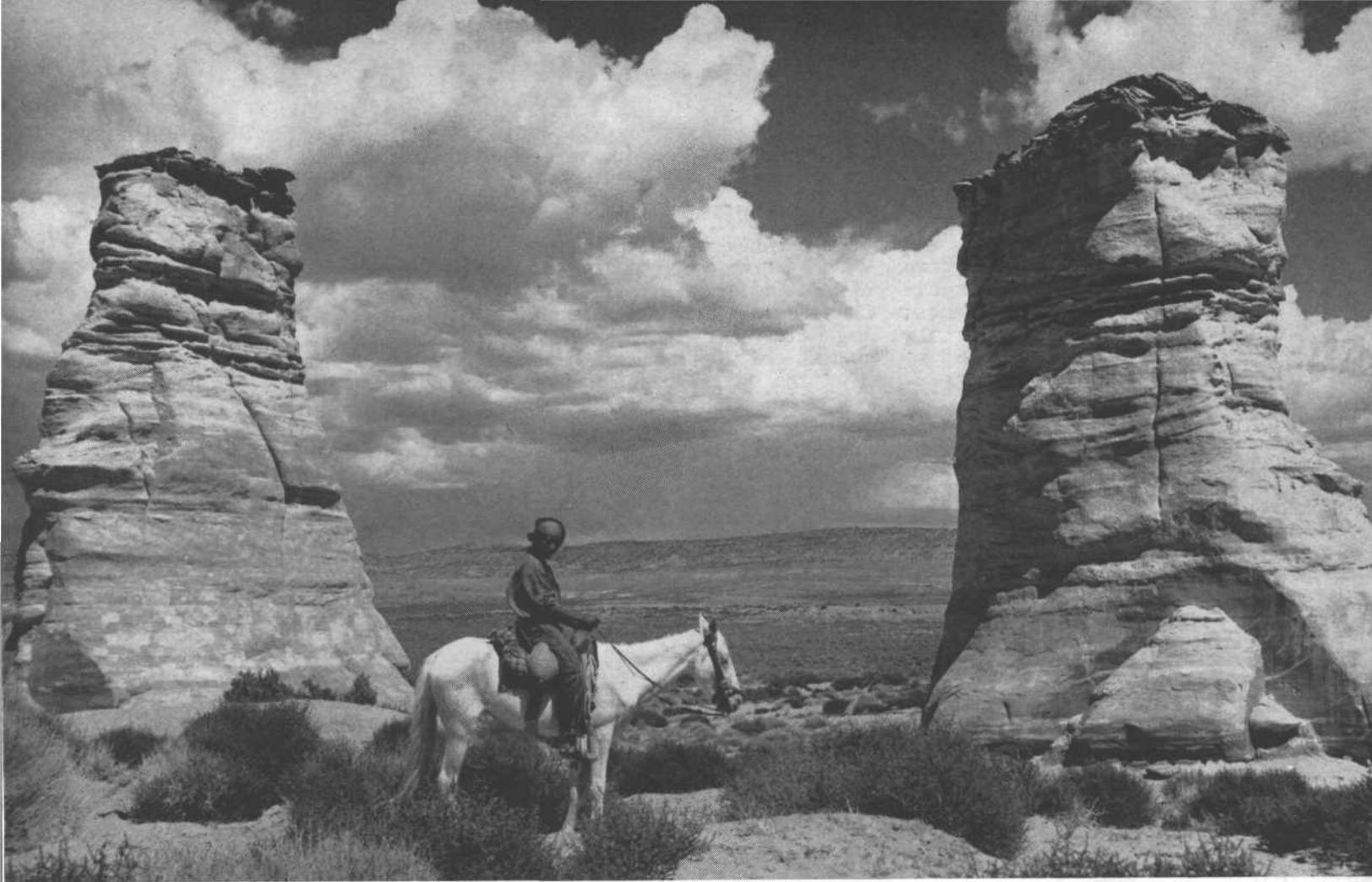
There are few good campsites on the rockbound Hopi mesas. Our favorite spot—because it offers the shade of fine, gnarled junipers—is just off the road to Pinyon, which branches north from the main route at a point 10.7 miles west of Walpi.

At the snake ceremonials we met friends from all over the desert country last year as we pulled in. “It's the old snake dance reunion,” Dorothy said, waving as familiar heads popped out of nearby tents along the Pinyon road.

Science says there can be no connection—and who am I to argue the point—but more often than coincidence can explain, a downpour follows the rain-seeking snake dance. If this

Hopi women are expert craftsmen both as weavers and as pottery workers. Lena Blue Corn, on the left, is one of the most famous of the pottery makers. Photo by Frashers.





This is Navajo country. These columns of eroded sandstone, known as the "Elephant's Feet" are seen along the road north of Tuba City. Photo by Joseph Muench.

happens, stay in your mesa-top camp until the road dries out — seldom more than a day later.

Crisscrossing the 66-mile stretch of road between Walpi and Tuba City are some of the most dangerous washes in the Southwest. When dry they cause no trouble, but running full after a downpour they have swept heavy cars along like twigs. So play safe if rain comes. It will not last long. Spend the extra time learning more about the charming Hopi people and their ancient villages. Indian service employees and traders will know when the road is again safe for travel.

At 180.5 miles we reached Tuba City, important Navajo trading point established in 1877 by Jacob Hamblin, now headquarters for the west Navajo jurisdiction. Rockhounds and those interested in prehistoric reptile life should make the short side trip to the dinosaur tracks and Devil's Pumpkin Patch between Tuba City and U. S. 89, north of Cameron.

There two natural wonders may be seen just across the road from each other. The enormous three-toed imprints in white calcareous sandstone are estimated by some scientists to have been stamped a hundred million years ago by dinosaurs. Directly over

the little knoll across the road an unusual display of conglomerate geode-like rocks closely resemble petrified pumpkins. Many rockhounds have been rewarded with interesting specimens while prowling the area.

Another striking example of rock artistry is the Elephant's Feet, just north of Tonalea on the way to Kayenta. Large columns of eroded sandstone to the left at 206.9 miles are almost perfect duplicates of king-size elephant feet and legs.

Navajo National Monument, west of the main route between Tonalea and Kayenta (entrance road well marked) is another "must" side trip. Beautiful, somber Betatakin ruin in the Segi branch of Laguna canyon is one of the finest archeological sites in the West. Jimmy Brewer, Monument custodian, and his hospitable wife Ida will bid you welcome. An able archeologist and man of many hobbies, Jimmy knows the Indian country like the back of his hand. It is customary to partially repay the Brewers' hospitality by asking when you leave if there is mail you can take into Kayenta for them.

The massive rock formations that have made Monument valley the background for eight major motion pictures began looming up just past Kayenta.

Brilliant-hued monoliths stretched to the horizon in every direction, more grotesque and fascinating with every mile we traveled toward what is perhaps the most isolated but best known location in the Indian country — Harry Goulding's Monument valley trading post.

Harry and his wife "Mike" (*Desert, Aug. 48*) are as much parts of Monument valley as the eroded buttes for which it was named. It would not be the same without them. We spent several days with them, exploring in Harry's specially equipped desert station wagon, visiting Navajo friends, inspecting old Indian ruins, studying petroglyphs and burning up enough film to stock a small photographic shop.

We had a long visit with "Big Boy," the jolly Navajo who taught the Gouldings his difficult language in return for English lessons when they first came to the valley 24 years ago. "None of us were very sure what we were saying," Harry related of those early days when they were living in tents while building their trading post, "but we had a lot of fun, often sitting up half the night making funny noises at each other and laughing."

Monument valley is our nomination for America's most photogenic spot.

Many artists and photographers visit the Gouldings to try their hands at the stark drama and bizarre coloring nature has created there.

And somewhere in a hidden canyon known only to the Navajo people is a rich "lost" silver mine that only two white men have seen—at the cost of their lives. In 1880 two prospectors, Mitchell and Merrick, stumbled on the fabulously rich mine, said to yield almost pure silver.

They brought out all the high-grade ore they could carry, returned for more. But their every move was watched by unseen Indians who attached sacred significance to the silver deposit from which they made ceremonial jewelry. The prospectors never returned from their second trip. They were attacked near a large butte that today bears Mitchell's name because he died instantly beneath it. Mortally wounded, Merrick struggled on to another butte about three miles away, where his pursuers later found his body.

The second butte was named Merrick. Between the two lies one of our favorite Monument valley camping spots. With our fire casting leaping

black shadows that danced a ghostly tableau on the massive rocks we talked far into the night of Mitchell and Merrick and the lost mine that yields almost pure silver.

While running down the Mitchell-Merrick story we once talked with an 89-year-old prospector in Durango, Colorado, who showed us a sample of magnificent silver ore he said Mitchell brought back from his first Monument valley trip. "I sure wanted to get a look at that Indian mine," the old timer said, "but I had a pretty fair gold claim up near Hesperus peak in them days and couldn't get away right then. After I heard what happened to them fellers I figured it was a good thing I couldn't!"

We had hoped to spend some time with Norman Nevills, the celebrated "white water" boatman of the San Juan and Colorado rivers, but he was not at his Mexican Hat lodge when we arrived. We left our regards with his mother and went on to the Goosenecks of the San Juan, where the tortured river makes a series of symmetrical bends through the bottom of a 1,200-foot canyon.

Our next camp was at Bluff, Utah, where we enjoyed the simple warm hospitality of the Rev. H. Baxter Liebler

(Desert, Oct. '48) at St. Christopher's Mission to the Navajo, an Episcopal outpost in the tradition of the old Spanish missions.

Father Liebler and his loyal little band of unpaid assistants are doing great work among an isolated group of Navajos whose living conditions were among the worst on the sprawling reservation before he established his mission. Under trying primitive conditions he, Brother Juniper, Helen Sturges and others at St. Christopher's have accomplished seeming miracles for those they serve—additional examples of the forceful, magnetic personalities found in the Indian country.

We hated leaving them, but time was running out and several basket-maker ruins west of Blanding remained to be photographed before turning homeward at Monticello.

As we reluctantly drove away from the little stone and 'dobe chapel, where a crude but sturdy wooden cross stands imaged against the rugged canyon background of St. Christopher's, Dorothy looked back a long time. Finally, almost in a whisper, she said, "I want to make this trip each August as long as we live."

Yes, we'll be back on the Indian country circuit again in August.

Log

- 00.0 Gallup, New Mexico.
- 8.0 Junction of U.S. 666 with N.M. 68, turn left (west).
- 21.3 Arizona line.
- 25.4 St. Michaels.
- 54.6 Ganado (trading post; gas).
- 61.0 Junction with Chinle road (Canyon de Chelly 36.1 miles).
- 76.2 Steamboat Canyon.
- 102.1 Keams Canyon (trading post; gas).
- 114.1 Polacca-Walpi (antelope and snake dances).
- 120.4 Mishongnovi (antelope and snake dances).
- 127.7 Oraibi (trading post; gas) CAUTION! Check road ahead.
- 136.0 Hotelvilla.
- 178.1 Moenkopi.
- 180.5 Tuba City (trading post; gas) 10.2-mile side trip to dinosaur tracks and Devil's Pumpkin Patch.
- 203.9 Tonalear (trading post; gas).
- 206.9 Elephant Feet (left).
- 209.8 Junction with Rainbow Bridge Lodge road. (Lodge 54.3 miles).
- 234.5 Junction with Navajo Nat. Mon. road. (Betatakin 16 miles).
- 254.6 Kayenta (trading post; gas).
- 273.5 Utah line.
- 278.2 Junction with Goulding's road (trading post; gas — 2 miles).
- 301.0 Mexican Hat (trading post; gas).
- 304.5 Junction with Goosenecks road (Goosenecks 4.8 miles).
- 315.4 Snake Canyon.
- 327.7 Bluff (stores; gas) St. Christopher's Mission.
- 353.5 Blanding (Natural Bridges Nat. Monument 51.1 miles).
- 374.9 Monticello (Arches Nat. Monument 60 miles north; Mesa Verde Nat. Park 70 miles east on U.S. 160).

Hard Rock Shorty

of Death Valley



"Huh!" said Hard Rock Shorty as he unscrewed the cap on the battery of the dude's shiny new car.

"Dry as a bone. No wonder she wouldn't start. Things get that way out here 'n Death Valley. This desert air really is dry—most o' the time, that is. But when it gets humid, mister, it's the derndest humidity yuh ever seen.

"Like two weeks ago, when that wind come up outa the southeast. Pisgah Bill and me had been settin' out here on the porch nice and comfortable in the shade with the thermometer right at 120. About noon we felt that damp wind begin to blow and we knowed we wuz in for it. It was the worst humid spell I've saw in 40 years.

"See that pup lying over by the wall? Well, I lost his mother durin' those three bad days, and durn near

lost the pup too. When they'd open their mouths to pant, the moisture would form on their tongues so fast they couldn't swallow it. The old dog choked and drowned right out there on that dry sand before I noticed. I got to the pup just in time. He was half dead, but I rushed him out back and hung him on the clothesline, head down, and the water run out of his mouth as fast as it formed on his tongue. He hung there for two days before I dared take him down.

"But inside the house it was worse. When I got up early the first mornin' I shet the windows and doors tight like I allus do against the heat. About ten o'clock in the mornin' Pisgah Bill come over and we went inside to get a drink o' cool water and eat some salt. We'd been sweatin' so hard we'd lost 15 pounds apiece. The store was still full o' that humid air, an' when I opened the ice box the cold air hit that wet air, condensed the moisture, and we had a cloudburst right there in the room.

"Afore I could git the door open the water was up over the counter. It rained a half hour, ruined ten sacks o' flour, four sacks o' beans—an' if Bill an' me hadn't been derned good swimmers we'd a drowned."

Underground Voyage in the Nevada Desert

By S. M. WHEELER

AN underground voyage in the desert? The reports could not be wrong—yet as I stood in the yard of the Nevada state highway department at Elko in the early

hours of that clear August morning I had my doubts. The small wooden boat we were to use on this strange adventure was being loaded on a trailer.

The Nevada state park commission had asked me to explore and report on

In Nevada's Elko county a great stream of water gushes from the hole in the side of a mountain. Early day explorers told strange tales about this subterranean stream, and at least one man lost his life in attempting to penetrate the dark passage. The writer of this story was sent by the Nevada park commission to learn the truth about Cave creek cavern—and here is his report.

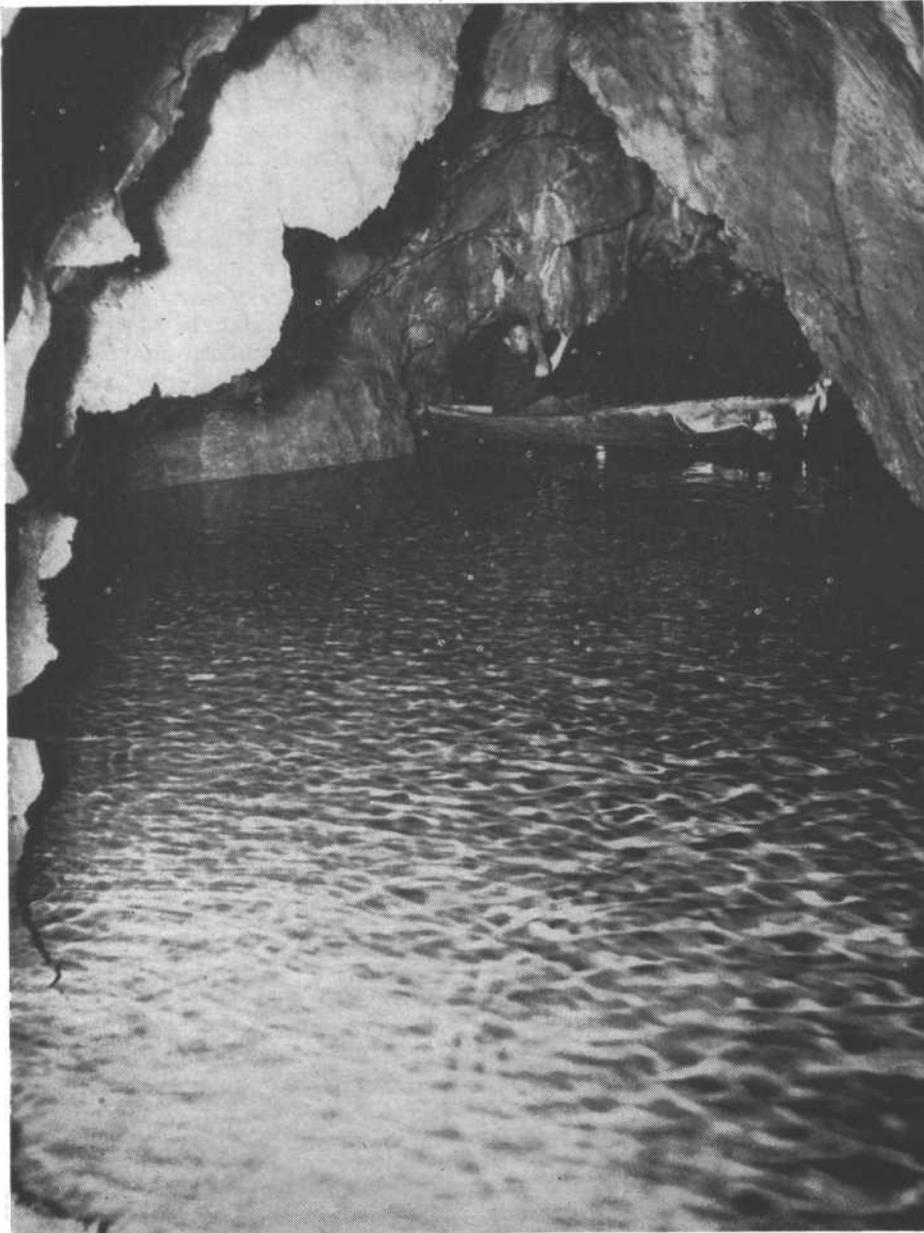
a cave located at the base of the eastern slope of Ruby range in southwestern Elko county. My companions were H. B. Harris who had been in the cave previously, and J. J. Gregory who had resided for years on a ranch near the cavern.

According to my information, a subterranean stream flowed from the mouth of the cave, a stream known as Cave creek. It first came to my attention while delving through the files of Nevada newspapers at the state library in Carson City. I came across a Well's high school girl's prize essay published in the *Elko Independent* of June 9, 1931. She had taken this cave as her subject.

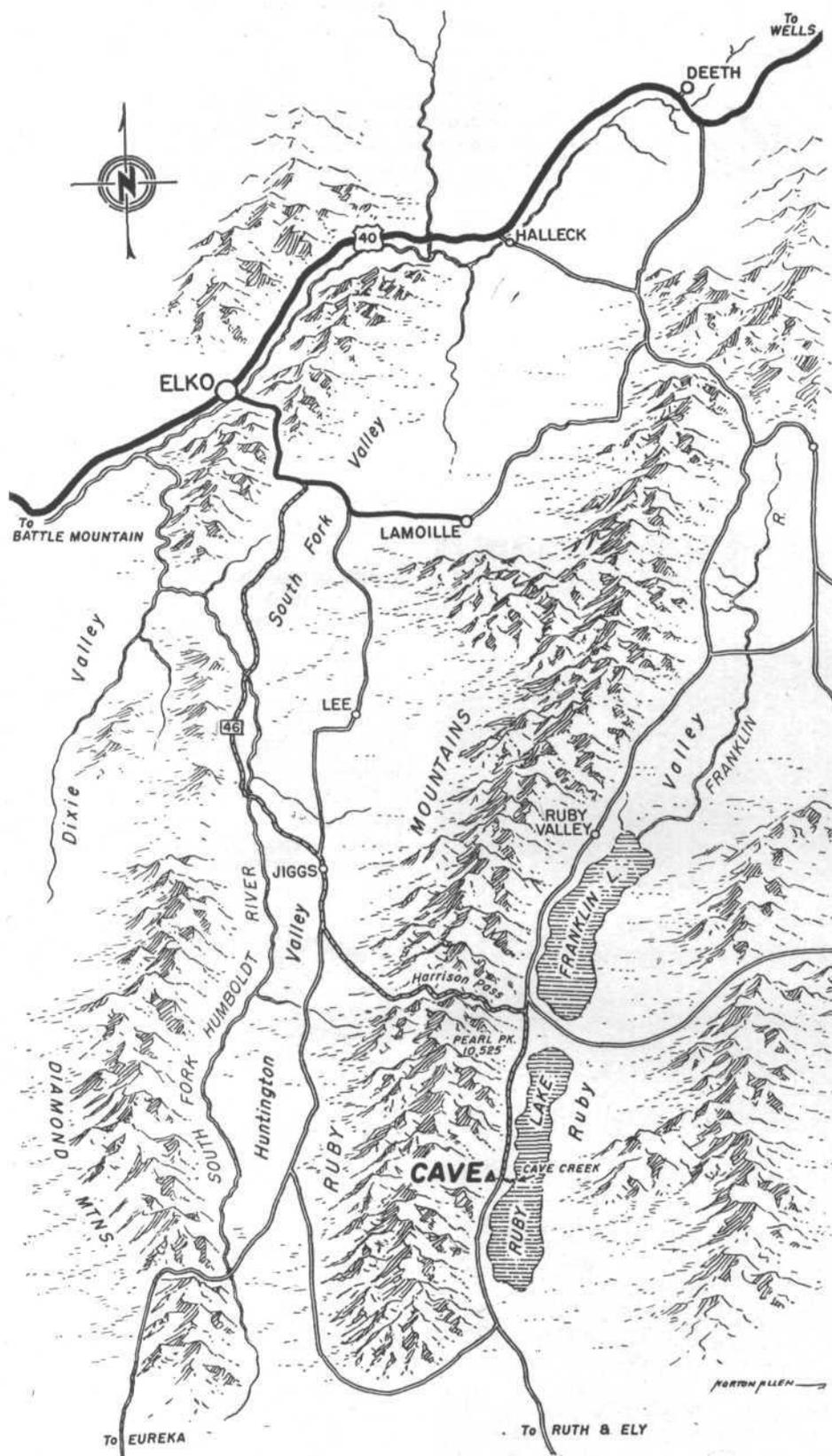
From other sources I gained additional data. In the *United States Geological Exploration of the Fortieth Parallel* (1877) the following reference was made:

"It is noteworthy that in this heavy and elevated limestone mass running streams are entirely wanting. The water, however, reaches the surface along the base of the range in numerous springs extending from Hasting's to Fremont's (now known as Harrison) pass. These springs supply Ruby lake. They are all clear cold water, with temperatures varying from 45 to 48 degrees. Cave spring, about six miles to the south of Fremont's pass, runs a considerable stream, coming out directly from the limestone through an opening sufficiently large to admit a man into an interior lake-chamber 10 by 12 feet and 10 feet in height. A narrow winding channel connects this chamber with still another and larger one beyond, with its limestone floor covered with water. It is worthy of exploration, but, as far as known, has never yet been visited."

Thompson and West, in their *History of the State of Nevada* (1881), give the following highly imaginative description: "There is a subterranean lake in Ruby mountain that is the source from which flows, into the valley of the same name, the little stream known as Cow creek. The entrance to this hidden sea of the Mountain



This photograph was taken by the explorers in the fourth passage described in the story. Photo courtesy Nevada state park commission.



Gnome, is through a natural tunnel about six feet long, that is large enough to admit only one person at a time. The entrance leads to the margin of a beautiful sheet of clear, cold water 150 feet long by 50 feet wide. At its further extremity is a sandbar 50 feet

across, beyond which is a rock partition that comes down within two feet of the water's surface. Beyond this partition lies another, smaller lake, from the farther side of which leads off a narrow cave with perpendicular sides, through which the water flows

into the lake. This lake has been explored for some distance until an abrupt turn was reached, when the explorers, fearing to proceed further, returned, and left the mysteries of what lay beyond a secret still. The torchlight in passing over subterranean waters in a boat unveils a scene of weird and enchanting beauty. From the cavernous, overhanging walls, reach down immense, white, gem-decked stalactite sentinels, pointing toward the unrevealed depths of that beautiful, silent, silvery sheet of water that hides from the visitor the remains of one who lost his life in 1865, while seeking to learn these hidden mysteries. Should it not be called 'Gnome Lake'?"

We soon learned how inaccurate the above description is. There are practically no stalactites, none worthy of note, and the "lakes" are simply wide portions of the channel.

In *The History of Nevada* (1913) by Davis is the following: "Ruby valley is the longest in the state. The ranches are all along one main highway 75 miles in length. The oldest settlers now living in this valley are Thomas Short, William Griswold, and Isaac Woolverton, the latter having come in 1869. For many years Thomas Short had possession of the Cave Creek ranch in the southern end of the valley. Here a great underground lake is hid away behind the hills. A river of clear ice-cold water has cut its way through the rocks. This cave was explored very early in the settlement of the valley by a soldier who was so elated over his first success that he attempted the second time to go further into the secrets hitherto concealed from human eyes. His body was found at the opening of the entrance next day. A few years later A. G. Dawley and Thomas Short, in search of the origin of some valuable mineral they had located, attempted a thorough exploration of the cave by taking within the narrow opening material out of which to construct a boat. They passed from one huge cavern to another perhaps a quarter of a mile beyond the first opening when at last they were confronted by a large chamber resembling a pipe organ. This they termed the "Great Organ." Of late years no one has had the courage to enter. The entire cave has not yet been explored. The underground river and lake is one of the natural curiosities of the state and is of more than passing interest.

"The first white man to bring out a report of what he had seen within the cave was Hon. A. G. Dawley, now residing in Elko county."

We left Elko early in the morning of August 25 and followed the road along the south fork of the Humboldt river. After passing through Jiggs, in Huntington valley, we turned southeast at the fork of the roads and climbed over the Ruby range through Harrison pass in the Humboldt national forest. Dropping down into Ruby valley near the south end of Franklin lake, we turned south on the county road from Deeth. We drove about 12 miles and parked the cars just before crossing Cave creek, a tumbling stream which poured out of the side of the mountain and flowed a short distance to lose itself in Ruby lake which is more of a marsh than a lake.

The cave entrance was not visible from the cars, being screened by a growth of brush along the watercourse. Red pointed out the approximate location only a few yards from where we stood. The steep slope of the mountain rose majestically toward a few fluffy white clouds in a brilliant blue sky.

A short distance away we found H. H. Dill, ranger for the Wildlife service, building a small cabin. Dill had a 10-foot metal boat in the cave and suggested that we use it. We were glad to accept his offer, for the cave entrance was narrow and there might be difficulty getting our own boat through it.

Just above the water an opening about the size and shape of a narrow arched doorway led into the cave. Dill estimated the stream flow at from six to ten second feet.

We stood a minute to watch the clear cold water tumble down the slope. Then we lighted our carbide lamps and filed through the narrow passage leading back into the mountain. To avoid the strong current, it was necessary to side-step along a pole a distance of ten feet to where we found the bow of the boat wedged into a crevice.

Extending to the left of the opening by which we had entered was a low passage averaging about 20 feet wide with a vaulted ceiling rising 10 or 12 feet above the water. To the right opposite the entrance, was a small sand deposit forming a shelf against the wall.

There were no seats in the boat, so we sat in an inch of icy water in the bottom of it. We shoved off into the unknown, our lamps casting long fingers of light over the surface of the water. So crystal clear was the stream that we appeared to be suspended in space. Jagged, submerged rocks, protruding from the walls could be seen beneath the water, but the boat passed over them without even a scrape.

Paddling slowly along the channel

for about 50 feet, we came to another sandy shelf in an angle where the tunnel bent back sharply to the right. We rounded the turn and glided an estimated 70 feet to where the walls receded and the ceiling rose to form what proved to be the largest and most impressive room. It was at least 70 feet long and 75 feet wide, with its domed ceiling lost in the shadows over our heads. This probably is the room referred to by Thompson and West as "150 feet long by 50 feet wide" and by Davis as being "perhaps a quarter of a mile beyond the first opening." We failed to see anything that could be called a "Great Organ."

As we approached the far end there appeared to be no exit. However, as we drew near the end of this magnificent chamber, our attention was attracted to the only formation of note. High on the wall in the northwest corner sat a small figure resembling a Chinese god with its arms folded across its abdomen. Then our lights revealed a very shallow arch rising only a few inches above the water, below and to the left of the quaint little guardian.

As a precautionary measure, we left Gregory on a sandbar before Red and I attempted to force our way through the shallow opening. The water in places was 14 feet deep.

The bow of the boat was well above the top of the arch but by shifting our weight forward we were able to lower it sufficiently to tuck it under the rock. Then we stretched ourselves on our backs on the bottom. By pressure of our hands against the roof, we propelled ourselves along the three feet that constituted our low bridge. In making the passage there was only about an inch of the boat above the surface and we fervently hoped that the water level would not rise before we got ready to return.

Once clear, we were in an awe-inspiring channel 200 feet long and averaging about 10 feet wide. Overhead, the walls drew close together but even the powerful beam of a five-cell flashlight failed to penetrate the blackness to where they joined.

Reaching the end of this long, narrow corridor, we came to another sand shelf in an angle where the passage cut sharply to the left. This is the turn referred to by Thompson and West as the end of earlier exploration. The tunnel we were now in was very similar to the first we had passed through. The sharp shadows cast by our lamps gave us the impression of gliding through silent and deserted theatrical sets.

At the end of another 70 feet we came to the usual sand shelf and another turn, this time to the right.

One hundred sixty feet farther and we arrived at the end of our voyage. We were now over 600 feet, by boat, from the entrance.

There was no visible inlet for the water which seemed either to rise through the sandy bed or to flow through underwater channels which it was impossible to see from above. Dill informed us later that the water level remains constant and the stream apparently is fed by seepage from lakes high in the Ruby range.

We returned to the great out-of-doors, picking up Gregory on the way, after having spent about two hours underground. Following a brief warming-up period, we made two more trips to photograph and map the cave.

Although the ranch where the cave is located was taken over by the federal government in 1937 as a bird refuge, there is no provision here for visitors and until such time as safety precautions have been arranged unofficial explorers are requested not to attempt the subterranean passage.

• • •

FERNANDEZ AMENDMENT WILL IMPROVE SCHOOLS

Approval of an amendment to the proposed \$90,000,000 rehabilitation program for Navajo and Hopi Indians, an amendment offered by Representative Fernandez of New Mexico, is a step toward recognition of Indians as citizens and represents a major victory for the Navajo council in its fight for accredited schools on the reservation, council leaders believe.

The bill and amendment have been approved in committee at Washington.

Fernandez' amendment provides that all Indians in the Navajo and Hopi reservations shall be subject to laws of the state and shall have access to state courts "in the same manner as any other citizen."

The amendment also provides that state curricula shall be installed and followed in the Navajo schools. If the bill becomes law, Indian educational policies will be written into the law for the next 10 years instead of being dictated by the Indian Bureau education department in Washington, now headed by Dr. Willard Beatty.

• • •

Camping Fee Policy Opposed . . .

Opposition to the new forest service policy of charging camping fees in public campgrounds has been expressed by the newly-organized Arizona Northland Association of Chambers of Commerce. Senators McFarland and Hayden of Arizona have been asked to investigate legality of the ruling.

Desert MAGAZINE

CLOSE-UPS

"Our nomination for the world's most fascinating region," says Morgan Monroe, "is the area bounded by the continental divide, the Tehachapi mountains in California, the great Salt Lake desert, and the Mexican border. That's our beat and we love it." Dorothy Monroe, who collaborates with her husband on many of his writing assignments, shares his enthusiasm for the desert Southwest.

Morgan's story, "Indian Country Trek" takes readers of this issue of *Desert* over a loop trip which includes contact with Indians, traders and missionaries in the most colorful region of the continent.

The Monroes are writers and photographers who carry their bedrolls when they travel. "We are nomadic by nature," says Morgan, "willing to trade a house for a pair of sleeping bags on the desert at any time on the slightest provocation — and we do."

At one time they published their own newspaper in an eastern state, but the lure of the West finally brought them to New Mexico and until recently Morgan was on the staff of the Hobbs Daily News-Sun. Recently he left his position to devote all his time to freelance writing and reporting, and to a book about the Southwest which is now in preparation.

Last year the Monroes collaborated on a series of illustrated feature stories, "What Is the Navajo Problem," which were given wide circulation and brought hundreds of offers of relief for the critical Indian situation.

Two of Monroe's stories won Associated Press "top ten" honors in Colorado last year. One was a series on prospecting and mining radioactive minerals in the Colorado plateau area.

Dorothy is 38, Morgan 40, and they have been married 17 years. Their hobbies are anthropology, archeology, rocks and minerals, Indians, and any phase of outdoor life in the Southwest.

• • •

Like many other magazine writers, Nell Murbarger began her journalistic career on a country newspaper. But towns—and even cities—are too small for the gypsy spirit of this young lady who grew up on the midwestern plains made famous by Wild Bill Hickok, Calamity Jane and Deadwood Dick.



Morgan and Dorothy Monroe, pictured above inspecting carnotite samples near a trading post on one of their Indian country trips. Carnotite is the yellow mineral that yields uranium oxide and vanadium.

And so she gave up a promising newspaper career to roam over the western country and write magazine articles about its history, wildlife, frontiersmen, landmarks and scenic beauties. She travels alone much of the time and camps wherever she happens to be when the sun goes down. She has camped in nearly every county west of the Rocky mountains.

Her home base is Costa Mesa, California, but more than half the time she is out in the open country—the cow country, the mining camps, ghost towns, deserts and mountains. And it was on one of these trips that she gathered the material and took the pictures for the story of Shakespeare, ghost mining camp of New Mexico, in this issue of *Desert Magazine*.

Miss Murbarger is a member of the Las Vegas, Nevada, gem and mineral

club, and often accompanies the club on its annual cross-country field trip. While her livelihood comes from her western articles, she turns to poetry for relaxation.

• • •

W. Thetford LeViness, whose first *Desert Magazine* article, the story of the Indian artist Joe H. Herrera, appears in this issue, lives in Santa Fe, New Mexico, where he serves as roving reporter for several eastern newspapers.

LeViness was born in Baltimore in 1913 and after doing undergraduate work at St. John's college won his master's degree at Columbia. He came west to Santa Fe in 1939, and has a wide acquaintance among the artists in New Mexico.

Exploring caves has for many years been both the hobby and duty of S. M. Wheeler, who wrote this month's story of his underground voyage at Cave creek in Nevada.

Wheeler served for several years as archeologist for the Nevada state park commission and in that role was active in the excavation of many sites in Nevada for archeological purposes. He was the discoverer of Etna cave south of Caliente.

His interest in archeological work dates back to 1933 when as a young West Point officer he was assigned to duty with the CCC then engaged in recovering artifacts and prehistoric data at Lost City near Overton, Nevada, before the site was inundated by the waters of Lake Mead.

M. R. Harrington of Southwest museum, was in charge of the Lost City excavations, and it was through his association with Harrington that Wheeler became interested in archeological work. Later he studied for two years at the museum.

Wheeler is 47 years old, and is an American citizen although born in Canada. He was a member of the West Point class of 1926, and later resigned his regular army commission and accepted a reserve appointment. He served nine tours of active duty with the CCC between 1937 and 1939.

The Wheelers make their home in North Las Vegas where Mrs. Wheeler is dietician at the Clark County General Hospital.

• • •

"It took two years to decide that I liked California," writes Vernie G. Reagles to the *Desert Magazine* staff, "but only one trip to the desert to fall in love with its pastel hills and purple shadows."

Miss Reagles is a nurse, and when *Desert's* editors accepted her story "Desert Gardening Without Soil," she wrote: "The thrill of a lifetime—my first check for a magazine article."

She was graduated from the Illinois training school for nurses many years ago, and served in France during World War I and later in the army of occupation in Germany. Since then her professional work has taken her to many states—and finally to California and a sojourn on the desert at Twentynine Palms. It was there she became acquainted with Mira Coffin and her chemical garden, and secured the material for the story which appears in this issue.

"Out on the desert," she wrote, "I took a new lease on life and thought it would be fun to write of some of the wonderful people and the interesting things they do."

June Cover Contest Winners Announced . . .

Readers of *Desert Magazine* may look forward to some beautiful covers in the months ahead—most of them selected from entries in the June Cover Contest.

First prize was won by Don Ollis, Santa Barbara, California, with Martha Burleigh, Glendale, California, taking second place, but there were so many unusually good photographs submitted that the Contest judges chose five other photos for Special Merit awards.

Don Ollis, whose name by now should be familiar to lovers of Southwest photography, took first place with his unusual picture of a Navajo shepherdess with her goats, taken in Monument valley, Arizona. Choosing a not uncommon subject, Ollis with unusual treatment has achieved a striking photograph admirably suited for cover reproduction. He took the picture in May of this year with a 4x5 Speed Graphic, using 5" Ektar lens, Super XX film; 1/50 second at f.11.

A beautiful view of Havasu Falls, in Havasu canyon, Arizona, won second prize for Martha Burleigh. It was chosen because of its composition, scenic

beauty and adaptability for use as a cover illustration. Camera data: taken at 1:30 p.m. with Eastman Medalist camera; Ansco Supreme film; 1/100 second, f.11.

Future issues of *Desert Magazine* will also carry cover photos by those who earned Special Merit awards. They are:

Walter Pittenger, Tucson, Arizona; *Beauty Among Thorns*.

Nicholas N. Kozloff, San Bernardino, California; *Desert Snow*.

Don Ollis, Santa Barbara, California; *Mojave Asters*.

Harold O. Weight, San Diego, California; *Chuckawalla*.

Don Ollis; *Sunrise in Monument Valley*.

Some excellent photographs had to be passed over by the judges because they did not meet specified cover requirements. Some were horizontal prints, instead of vertical; others would not accommodate the Magazine's masthead.

Desert's annual cover contest will be held again in June of next year.

FIRST SOCIAL SECURITY PAYMENTS TO INDIANS . . .

Payment of social security benefits to reservation Indians, long a controversial issue in New Mexico and Arizona, has apparently been settled with New Mexico making the first actual payments and Arizona prepared to follow suit.

Carrying out provisions of an agreement reached several months ago in Santa Fe, New Mexico's welfare department mailed out first 100 checks totaling \$1200. Welfare Director Murray Hintz said the checks went to aged, blind or dependent children. Under the Santa Fe agreement, needy Indians have been added to New Mexico's welfare rolls pending passage of legislation to take care of them. The agreement provides that the interior department's Office of Indian Affairs is to help the Indians as much as its funds will permit. New Mexico and Arizona have agreed to supplement federal payments with necessary amounts.

Indian office funds are exhausted for this fiscal year and the states are now meeting the deficit until new federal funds are available, a federal security agency official explained. However, Welfare Commissioner Harry

Hill of Arizona said his state cannot pay any Indian claims until the Indian service first makes its payment so that amount of the state contribution can be determined. Discrepancy in these two positions was not explained.

TRUE OR FALSE

Questions Are on Page 14.

- 1—False. Rattlers are sluggish when the weather is cold.
- 2—False. Burros were brought to America by the Spaniards.
- 3—False. The ghost mining town of Ballarat is in California.
- 4—True. 5—True. 6—True.
- 7—False. Bright Angel trail goes from the South Rim to the bottom of Grand Canyon.
- 8—True. 9—True.
- 10—False. The Little Colorado at Cameron is dry much of the year.
- 11—True.
- 12—False. Cochise was an Apache chief.
- 13—False. Sangre de Cristo mountains are in New Mexico.
- 14—True.
- 15—False. Casa Grande pueblo, now in ruins, was built by prehistoric Indians.
- 16—True.
- 17—False. Azurite is a copper ore.
- 18—False. According to legend, the Seven Cities of Cibola were in New Mexico.
- 19—True. 20—True.

MINES AND MINING . . .

Clark County, Nevada . . .

How much is uranium ore worth? That is almost like asking how long is a piece of string, but three old-timers of the Gold Butte mining district in Clark County can give you a definite answer. They are being paid \$2.50 a pound. Bill Garrett, Art Coleman and Bob Perkins have for some time been mining a uranium-bearing ore known as samarskite which runs 10 to 11 per cent uranium—by far the richest uranium ore yet found in Nevada. They sell it to the Fisher Research Laboratories at Palo Alto, California. The three live on a small ranch near their find and mine the ore as they find time. There is not a large supply of the mineralized material. Normally ore this rich in uranium would bring from \$700 to \$900 a ton. But the research laboratory is paying for it at the rate of \$5000 a ton. It is used in connection with the manufacture of Geiger counters and other equipment used in prospecting for and testing uranium ores, minerals and precious metals. A sample of samarskite if placed in direct contact with a Geiger counter will burn out the tube in short order. It is a black mineral, heavy, could easily be mistaken for pitchblende.—*Tonopah Times-Bonanza*.

Tombstone, Arizona . . .

Famed Tombstone, one-time rip-roaring boom city of the old Wild West and known as "the town too tough to die," may witness a revival of mining activity. At least the famous old camp is due for a good going over by geologists and modern prospectors. An option has been granted Alexander M. McDonald, Salt Lake City, by the Tombstone Development company, owners of most of the property on what is known as "the hill." If geologists' reports are encouraging, drilling will follow.—*Tombstone Epitaph*.

Wickenburg, Arizona . . .

A location on Calamity wash near Wickenburg is being considered as site for a proposed 200-ton ball type mill operating on the flotation system and designed to handle the full output of copper ore from Camp B mine on Constellation road, and also available for custom milling. Edward T. Webb and H. K. Thomas outlined their plans for the proposed mill at a recent meeting with leading business men of Wickenburg.—*Wickenburg Sun*.

Goldfield, Nevada . . .

Additional copies of Albert H. Fay's "Glossary of the Mining and Mineral Industry" are now available for distribution by the Bureau of Mines. This mining dictionary contains some 20,000 definitions of mining terms—standard, technical and purely local terms. Copies may be obtained for \$1.75 from: Superintendent of Documents, U.S. Government Printing Office, Washington, D. C.—*Goldfield News*.

Ely, Nevada . . .

Ending 12 years of continuous underground operations, the Consolidated Coppermines corporation at Kimberly was to halt work June 30, according to General Manager E. J. O'Connor. The official said the mine is closing because underground operations cannot be continued "under present market and operating conditions" without financial loss.—*The Eureka Sentinel*.

Battle Mountain, Nevada . . .

Rich manganese dioxide ore has been located and is being developed in Pershing county by Bill Parsons, well known miner. A sample submitted to a Reno assayer showed 82.5 per cent manganese dioxide content. The deposit is located on the ridge of the Sonoma range between Grass valley and Buffalo valley, is difficult to reach.—*Battle Mountain Scout*.

Randsburg, California . . .

The Desert Museum at Randsburg is being rapidly expanded so that it is increasingly valuable to miners, prospectors and rockhounds. New specimens are being added continually to the ore collection, and new maps and reports are available in the reference library. It is claimed that both old-timers and inexperienced prospectors, as well as gem collectors, can learn much of practical value by visiting the museum.—*Randsburg Times-Herald*.

Moab, Utah . . .

Suspended in January because of heavy snow, work has been resumed on a group of carnotite mines near Moab on Polar mesa. Had and Glen Lile are leasing the group from the U.S. Vanadium corporation. A road to the property has been opened.—*Inyo Register*.

Tombstone, Arizona . . .

The biggest pumping station in the world, installed before the turn of the century, was examined here recently by geologists of the Anaconda Copper company. It still is located on the 600-foot level of the Boom shaft, where it pushed to the surface as much as 7,000,000 gallons of water in one day. The pumps in the Boom mine were in operation until 1911. The huge pump forced water to the surface in a 14-inch column.—*Tombstone Epitaph*.

Farmington, New Mexico . . .

Oil development in the San Juan area has been climaxed with a new oil strike at Boundary Butte, when English No. 4 hit oil at around 1500 feet. Earlier in the year No. 2 encountered the same oil pay. No. 2 has been producing 50 barrels of oil daily. No. 4 is expected to exceed this production. No. 3 encountered a flow of water, but English No. 1 is the deep test that developed 30 million cubic feet of natural gas, and is shut in awaiting building of a big pipe line before going into production.—*Times Hustler*.

Austin, Nevada . . .

A two-stamp mill has been installed in Kingston canyon by Philip and Louis Meyer, "the mountain boys," to work a claim at an elevation of 8,600 feet. They last worked the claim by hand two years ago, but the rock is hard, working it by hand is too slow to be profitable. The ore is free milling, however, and with the stamp mill they expect to obtain and ship gold in paying quantities, reducing the ore on the spot to eliminate heavy freight costs which eat up profits at many mines.—*Reese River Reveille*.

Flagstaff, Arizona . . .

Possibilities for the finding and production of uranium in northern Arizona are "enormous," according to the state department of mineral resources. The department includes in the "hot" area: Ash Fork, Seligman, Williams, Flagstaff, Winslow, Holbrook and Kingman. A lack of state funds is retarding the development program.—*Coconino Sun*.

Important mining industry problems, both in the economic and legislative fields, will receive serious consideration by leaders in the metal and non-metal mining industries when they gather in Spokane, Washington, September 26-28. The meeting is sponsored by the American Mining Congress.

HERE AND THERE . . . on the Desert

ARIZONA

Pliocene Age Bones Found . . .

FLAGSTAFF—Bones of pre-historic animals have been excavated in the white sandstone walls of Slate creek near Walnut Grove, southeast of Prescott, by members of a paleontological expedition sponsored by the Museum of Northern Arizona and the Arizona State museum. A party of five under leadership of Dr. Charles A. Reed has uncovered bones of a small type of camel, a primitive horse and a dog-like animal, all of Pliocene age—or roughly seven million years old. They serve to date strata formed during an early stage of development of the Colorado plateau. The site near Walnut Grove was discovered last fall by Robert Ray Vyne of Prescott.—*Gallup Independent*.

Navajos Ask for Priest . . .

ST. MICHAELS—Hundreds of Catholic Navajos and other Indians settled along the Colorado river are pleading for a brown-robed priest to live among them. A letter to the superior of the Franciscan Navajo mission at St. Michael said in part: "Some of us have been here for two years without attending church. We feel an urgent need for our religion. We beg you to do everything you can to send us a priest." It is impossible at the present time to fill the request, Franciscan missionaries say. "We simply do not have enough padres to keep abreast of increasing demands on this 30,000-square mile (Navajo) reservation," said the Rev. Elmer Von Hagel, O.F.M.—*Gallup Independent*.

Lifting Liquor Ban Decried . . .

WINSLOW—Removal of the ban on liquor sales to Indians would be "almost criminal in nature," in the opinion of Roman Hubbell, Indian trader in the Navajo country. Hubbell has written to Albert A. Grorud, special assistant to the senate committee on interior and insular affairs, asking that the committee reconsider its approval of prohibition repeal. He said he considered the committee's action "so serious a mistake it should be rescinded." The senate committee recently approved a measure which would remove the ban on sale of liquor to Indians off the reservation, but would retain liquor prohibition within reservation boundaries.—*Gallup Independent*.

Ruins Pre-Date Coronado . . .

BENSON—Believed by many archeologists to be the Southwest's oldest mission, Quiburi mission about nine miles from Tombstone is to be marked by the Tombstone chamber of commerce. Recent excavations by the Fulton Foundation of Texas Canyon and independent researchers have laid bare ancient walls and foundations that pre-date Coronado's explorations of Arizona. When the earlier Spanish expedition into Arizona was made in 1539 by Fray Marcos de Niza, he found the area just west of Bisbee settled by friendly agricultural Indians of the Sobaijuri tribe. These people built cozy homes by excavating shallow cellars and thatching them with ocotillo wands and bear grass. They farmed along the river and at the mouths of canyons, gathered mesquite beans and edible acorns of the white oak. Pottery shards are still found in abundance in this area. Their city was called Quiburi, was located on a hill above the San Pedro river three miles north of Fairbank. Built of adobe, the city covered a hundred acres and was protected by a wall. The Sobaijuri Indians accepted Christianity and built a mission for Spanish missionaries. Later these peaceful Indians were wiped out by the Arivaipa band of Apaches, their city was razed, their farms laid waste. But the ruins of ancient Quiburi can now be visited.—*San Pedro Valley News*.

Aged Chief Drives Spike . . .

MAVERICK—Apache Indian tribal chief Tipah, 112 years of age, drove the copper spike marking completion of the McNary-Maverick 67-mile railroad. Chief Tipah was a soldier in the seventh cavalry under General Crook in the Indian wars of 1860-70. The town of Maverick, logging community in the White mountains of Arizona, is in the heart of the country which was once "no man's land" during the wars with the Apaches in the last three decades of the nineteenth century.—*Coconino Sun*.

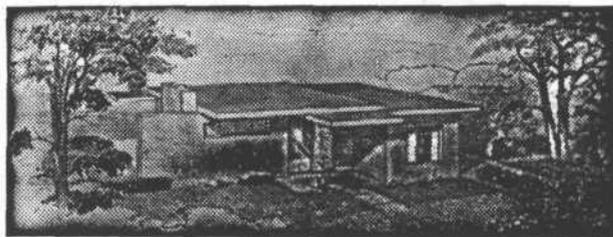
Chee Dodge Grave Marked . . .

ST. MICHAEL'S—Franciscan Fathers at this key Catholic Navajo mission have placed double-markers over the grave of the late Henry Chee Dodge, renowned Navajo tribal leader buried at nearby Government cemetery. The gray granite monuments are inscribed in English and Navajo. Chee Dodge was 86 years old when he died January 7, 1947. A man of unusual personality and powerful leadership, he was acknowledged as the dominant influence in the widely-scattered Navajo tribe. Although the Navajo recognize no chiefs, he was called "Chief" or "Headman."—*Gallup Independent*.

Ft. Huachuca Gets Buffalo . . .

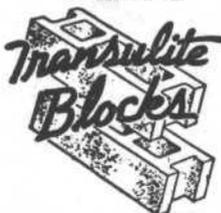
COCHISE COUNTY—One hundred thirteen buffalo have been moved from Houserock valley, north of the Grand Canyon, to Ft. Huachuca in Cochise county by the Arizona game and fish commission. Roundup of the buffalo was directed by Ranger Supervisor Ralph Morrow, Douglas.—*Mojave County Miner*.

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"PROSPECTOR'S FEET ITCH": Prospector, trained in mineralogy and geology, desires a salary grubstake for a six months' or a year's prospecting expedition, into the more remote and isolated sections of Arizona, in search of Uranium and other valuable minerals. Am equipped with a jeep and all necessary materials. Not a promoter or a crackpot, and am willing and able to work. Best of references. Correspondence invited. I sincerely believe that I can make some real money for my backer and myself. No triflers please! Address Box H, Desert Magazine.

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Horses for the Catching . . .

PHOENIX—All the horses you want are yours if you'll just go to Arizona and catch them. In Mohave county, northeast of Phoenix, cattlemen are complaining that wild horses tear down fences, mess up water holes, paw salt licks to pieces, eat off standing feed as fast as it comes up. But don't be misled by romantic stories of beautiful wild stallions. Most of the wild horses have in-bred for so long that they have very little color or conformation.

Petrified Forest Schedule . . .

HOLBROOK—Number of hours during which Petrified Forest National Monument will be open daily to visitors has been increased to 13, it is announced by Thomas E. Whitcraft, superintendent. Gates open at 6:30 a.m., close at 7:30 p.m. Because distance between gates is 14 miles, visitors are not permitted to enter the Monument after 7:00 o'clock.

WILLIAMS—At the age of 70 years, Ernest W. Ensor, who arrived at Grand Canyon National park a quarter of a century ago, has retired from the National Park service. He is known particularly for his trail building and road building.—*The Williams News*.

REAL ESTATE

LIVE ON A BEAUTIFUL San Juan island. 50 acres, 1600 feet sandy, secluded beach. You can move right in. House furnished. Price \$11,500, easy terms. Ray Tiberghien, Waldron Island, San Juan County, Washington.

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DESERT CLIMATE—Twenty-two acres wonderful producing soil, eighteen acre water right, within two miles progressive town, by main government canal. Surveyed for releveling, two-room insulated house with new lumber on ground for expanding to seven rooms, root cellar, pump house with electric pump, best of drinking water, electric range, oil heat, telephone, near school bus. Owner leaving United States will sacrifice for \$4500 cash as stands. Industrial Electric Company, Fallon, Nevada.

Hazardous Colorado Voyage . . .

GRAND CANYON—A party of five Californians has made the first motorboat downstream trip on the Colorado river from Lee's Ferry to Lake Mead. The group successfully ran dangerous Lava falls rapids, considered one of the toughest obstacles in the 240-mile trip through the Grand Canyon. Making the trip in an 18-foot modified Higgins-style boat were: Edward Hudson Sr. and Edward Jr., Paso Robles; Otis Marston and Bestor Robinson, Oakland; Wilson Taylor, Berkeley.—*Yuma Daily Sun*.

Desert Safer for President . . .

WASHINGTON—Believing that enemy atom bombs will destroy Washington and other key cities in event of war, a jittery New Yorker has demanded that the president be moved to Arizona. Other government departments should be moved to equally "safe" areas, Richard Knaust wrote in a letter to congress.—*Yuma Daily Sun*.

CALIFORNIA

Looting of Joshuas Halted . . .

YERMO—Wholesale carting off of Joshua trees and cacti by the truckloads, to be sold for landscaping across the mountains on the coast, has been halted by protests of the Desert chamber of commerce. This organization is composed of delegates representing scattered chambers throughout the desert area. This group also was successful in putting a stop to dumping of Los Angeles garbage in the Mojave desert.—*Barstow Printer-Review*.

Desert Village Tries Siesta . . .

PALM SPRINGS—A time-honored Latin-American custom—the afternoon siesta—has been adopted by retail merchants in the famed desert resort of Palm Springs. If you visit Palm Springs this summer prior to opening of the fall season, you will find virtually every store and business establishment closed from 2:00 to 4:00 o'clock in the afternoon. This innovation in Palm Springs was proposed by the Retail Merchants association. Leo Baker is president, reports response to the plan has been excellent.—*The Desert Sun*.

Death Valley Centennial Pageant . . .

RANDBURG—Another step toward staging of the proposed Death Valley Centennial pageant this November 19 has been taken by the Death Valley '49ers, Inc. The group's production committee has been authorized to contract with a nationally-known composer for creation of a symphony, the Death Valley suite.—*The Times-Herald*.

'Dud War' Waged in Desert . . .

INDIO—Four years after cessation of hostilities in World War II, a quiet but deadly "dud" war is being waged within the 9,000,000-acre confines of the California-Arizona maneuver area. It is a battle against unexploded missiles of many types, fired during the war in the desert region bordered by Yuma, Indio, Twentynine Palms, Barstow, Needles, Wickenburg and Gila Bend. Demolition crews of the Los Angeles district engineers office, department of the army, are in the field. Unexploded artillery and small arms ammunition, aerial bombs and rockets are still being found in the area—a menace to prospectors, tourists, livestock. Persons finding missiles are urged to leave them alone, but mark the site plainly and notify authorities.—*Indio Date Palm*.

Colorful Desert Figure Dies . . .

BORREGO SPRINGS—A confirmed desert rat and resident of the Borrego desert for the past four decades, Alfred A. (Doc) Beatty, 78, has passed on. Death came June 1 to the former farmer and businessman who came to love the desert so much he made it his home for nearly 40 years. Beatty had long been an interested student of the Pegleg Smith legend, had gathered all the various versions of the famed lost mine tale he could find. With Harry Oliver, Beatty took the lead in originating the annual Pegleg Smith lost mine hunt and liars' contest which is an annual January 1 event at Borrego Springs.—*The Desert Sun*.

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New Death Valley Road . . .

TRONA—The new Trona-Death Valley road is now open to travel all the way across Panamint valley. It is a state highway, is oil surfaced.—*Randsburg Times-Herald.*

NEW MEXICO

Seek Indian Scholarships . . .

WASHINGTON—A campaign to raise \$1,000,000 to provide scholarships for outstanding young American Indians is being launched by Dr. Galen Weaver, New York City, chairman of the race relations department of the

American Missionary association, Congregational Christian churches. Weaver said matching grants will be sought from colleges, foundations and from Indian tribes to swell the amount to \$2,000,000 or \$3,000,000. That sum, Weaver estimates, could provide higher education in the next 10 to 20 years for up to 400 scholastically-minded Indians. This group, he believes, would help to give the nation's 400,000 Indians their proportionate share of doctors, dentists, lawyers, professors, scientists, engineers.

New Courthouse Planned . . .

AZTEC—After more than 45 years, San Juan county board of commissioners is seriously considering construction of a new courthouse to replace the old one, "literally falling apart."—*Aztec Independent Review.*

Farmington Will Have Daily . . .

FARMINGTON—The Farmington Times Hustler, weekly newspaper of San Juan county under the same management for the past 30 years, is to become a daily newspaper probably by August 1. Orval Ricketts and G. L. Butler, editor and business manager of the weekly for more than a quarter of a century, have sold to New Mexico Newspapers, Inc. Ricketts is to remain as publisher of the daily.—*Times Hustler.*

Differences Settled . . .

GALLUP—Long-standing differences between Texas and New Mexico over division of Pecos river waters have been settled formally with signing of legislation ratifying the Pecos River compact. The measure gives consent of congress to the compact and sets forth its provisions in detail.—*Gallup Independent.*

Indian Artists Headline Fair . . .

CARLSBAD—Pop Chalee and Edward Lee, Indian husband-and-wife artist team, are headlining the Southwestern Indian entertainment in the Santa Fe Railway Indian village at the Chicago Railroad fair. The fair runs to October 2. Pop Chalee is a Taos Indian, Edward Lee is a Navajo. They sing the native songs of various tribes to the accompaniment of tom-toms. Pop Chalee also enjoys international acclaim as an artist and muralist, is the only American Indian woman artist listed in Who's Who. Edward Lee is a skilled wrought iron worker.—*Eddy County News.*

Rock Harder Than Steel . . .

HOT SPRINGS—Discovery of a new rock harder than tool steel, has been reported near here. Ed Kraul and Guy M. Shockley, Albuquerque mineralogists, announced the discovery. Shockley said the rock originally was sandstone, but that through the centuries hot mineral water washed out the sand and left the minerals. He said it will be valuable as an ornamental stone.—*Gallup Independent.*

Want to Learn English . . .

GALLUP—Members of the Navajo Tribal council have made it clear to Indian Commissioner John R. Nichols that they want the speaking and use of English to be emphasized in their schools, rather than attempting to teach Navajo children to read the Navajo language. The children can learn Navajo at home, is the contention, need to learn English correctly at school if they hope to progress.—*Gallup Independent.*

A bill providing that some 600,000 acres of land in New Mexico be held in trust for the Pueblo Indians and the Canoncito Navajo group has been approved by the senate interior affairs committee. Included is the Espiritu Santo grant, now under jurisdiction of the secretary of agriculture.

NEVADA

Fossil Find Investigated . . .

TONOPAH—Importance of a reported fossil find about 20 miles east of Tonopah is being investigated, samples of the huge bones have been sent to the Smithsonian institute and to the University of Nevada for classification. Jack Clark, miner and prospector, found what are believed to be prehistoric bones in an area which has come to be called Clark's pool. Limited to a small area, the fossils are not widely exposed, are of the color and shape of ordinary barren rock formations until dug out of the bed.—*Times-Bonanza.*

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Palm Desert, Calif.

Pyramid Indians Protest Bill . . .

PYRAMID LAKE—Issuance of patents to settlers for lands within the Pyramid lake reservation, which would be authorized if a bill introduced by Senator Pat McCarran becomes law, is opposed by the Pyramid Lake Paiute Tribal council. Avery Winnemucca is council secretary. A resolution adopted by the council points out that the reservation was set aside in 1859 for the Paiutes, and that settlers now there "have trespassed" on Indian land. The land dispute has once gone to the supreme court, the high court ruled in favor of the tribe.—*Humboldt Star*.

Another Use for Uranium . . .

TONOPAH—A uranium test is being conducted on a tomato plant by the Tonopah Times-Bonanza, Nye county weekly newspaper, which reports remarkable results. The newspaper terms the plant's growth "phenomenal," compares it with the growth of two other tomato plants which receive plain faucet water. Three tomato plants of exactly the same size were transplanted at the same time in the same soil. The plant receiving uranium water grew to fully twice the size of its companions—which were given plain every-day water. Stalk of the uranium tomato is two times thicker, leaves are larger and greener, buds formed extremely early.—*Tonopah Times-Bonanza*.

Desert Songster Dies at 20 . . .

AUSTIN—Billy the Mockingbird, who for two decades had been the pet of Mrs. Minnie Spencer and who had gained fame as an imitator and linguist, is dead. This desert songster was captured in Smoky valley more than 20 years ago. Billy could imitate the song of any wild bird he heard, learned also a few words adaptable to repetition or rhyming. The early-morning and late-evening trills of the mockingbird are a familiar sound over much of the Southwest.—*Reese River Reveille*.

UTAH

First Ascent of Agathla . . .

GOULDING'S POST, MONUMENT VALLEY—What is said to be the first successful ascent of Agathla, volcanic rock landmark near the Utah-Arizona border, was completed recently by three mountain climbers. Ray Garner, Phoenix, Herb Conn, Washington, D. C., and Lee Padrick,

Phoenix, members of the American Alpine club, made the climb. They required 25 hours for the ascent and descent, spent the night on the tiny summit. Harry Goulding, who operates the Indian trading post in Monument valley, said the three are the first to scale the lofty rock. The party used 40 pitons and one tamp-on bolt for protection in climbing the sheer 1100-foot tower which rises above a 300-foot talus slope. Agathla is a Navajo word meaning "lots of hair." It was a tribal custom to prepare ceremonial deer hides at the base of the high rock.—*United Press*.

More Field House Visitors . . .

VERNAL—Attendance at the Utah field house of natural history in Vernal State park is increasing each month since early spring. Visitors are coming from virtually every state in the Union, 10 foreign countries are represented in the guest list. When adequate road signs are placed, even more visitors will seek out the museum, in the opinion of Director G. E. Untermann.—*Vernal Express*.

Great Sale Lake Deeper . . .

SALT LAKE CITY—As a result of above-normal precipitation, Great Salt Lake is now the deepest it has been in 16 years. Past records show that depth of the lake is to a great extent dependent on the annual rainfall. Precipitation records show that Utah is now on the damp side of its regular weather cycle.—*Garfield County News*.

Tourist Traffic High . . .

SALT LAKE CITY—Utah and other inter-mountain states are enjoying tourist trade almost up to last year's record level, reports from businesses and agencies indicate. Although visitors from the Midwest are fewer, many more Westerners are touring the West this summer.—*Salt Lake Tribune*.

Historic Townsite Preserved . . .

CEDAR CITY—Plans revealed last month to preserve and restore the historic townsite of "Iron Town" are being carried out. Actual work has started, the project is being sponsored by the Cedar City chapter of the Sons of Utah pioneers. Iron Town was in operation from 1863 to 1873. Next to Cedar City itself, Iron Town manufactured the first iron west of the Mississippi river. Still standing on the site are a coke oven in good condition, a blast furnace which has been repaired, and an open hearth furnace which has to be restored.—*Iron County Record*.

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Murals for Field House . . .

VERNAL—First two of a series of six murals depicting the prehistoric life of the Uinta basin and mountain area have been placed in the lobby of the field house of natural history. The murals illustrate the fossil life of six different ages, are original oil paintings by Ernest Untermann, 85-year-old artist of the Uintas. All the six murals are to be based on fossil material which has been recovered in the Vernal area.—*Vernal Express*.

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Resourceful Young Wife . . .

VERNAL—Folks who live in isolated regions of the West are usually resourceful. This characteristic in his young wife saved the life of Frank Jenkins Jr., 19, after a gun accident in which a high-powered rifle bullet shattered his arm from wrist to elbow. The accidental shooting occurred about 5:00 p.m. at the Square S ranch on Piceance creek west of Rio Blanco, Colorado—15 miles from any settlement. Mrs. Jenkins promptly applied a tourniquet on her husband's arm, drove him 15 miles on a ranch tractor to nearest aid. An ambulance was summoned to Meeker, picked up the injured man at 8:30, by 11:00 o'clock he was in the Glenwood Springs hospital. Despite the long and rough tractor ride, the tourniquet was firmly in place, was not disturbed until the young man reached the hospital. Except for his wife's quick thinking and prompt action, young Jenkins would have died from loss of blood, doctors believe.—*Vernal Express*.

Fish Planting Program . . .

VERNAL—Utah's fish planting program is in full swing, according to R. L. Turpin, state fish and game director. All low and clear waters that can be reached are being stocked as fast as trucks can move to and from hatcheries. Tubs of fish are being carried in jeeps and by hand to remote streams which cannot be reached by truck.—*Vernal Express*.

Don't Molest Young Deer . . .

ST. GEORGE—The apparently helpless and abandoned fawn you may chance to encounter on your summer vacation trip is probably not lost nor abandoned at all. The doe is no doubt hiding nearby in the brush, too frightened to show herself. So don't pick up the young deer and take it home. It is much kinder to leave it undisturbed, and you may rest assured that in virtually all cases mother deer will speedily return and take care of her young.—*Washington County News*.

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REACTIONS TO MINE MORATORIUM ARE VARIED

Final approval of the mine assessment moratorium bill, signed by President Truman after being passed by the house and senate, has been welcomed by a majority of small claim holders in the Southwest, but has brought varying reactions from leading men both in the industry and in government.

The bill provides a one-year extension—to July 1, 1950—of the moratorium on assessment work required by law on unpatented mining claims. Claimholders, under the law, are required to do \$100 worth of assessment work each year, but the year-to-year extension has been granted since depression days. The new bill also provides that if work has already been done toward this year's assessment, it will be credited on next year's requirement.

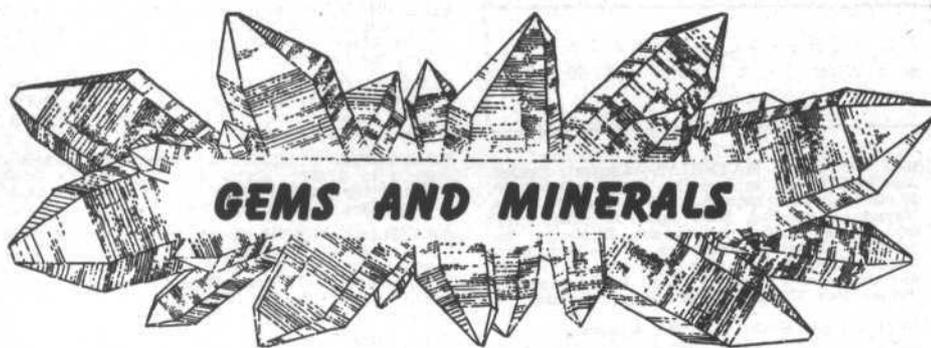
In Washington President Truman said he "reluctantly" approved another one-year extension. He explained that "shortages which motivated past suspensions no longer prevail," but said he signed the bill to allow time for re-examination and revision of mining laws. He thinks the \$100 work requirement provision is out-dated. It has remained unchanged since 1872.

Senator Malone, Republican from the mining state of Nevada, is not pleased with the bill—but his reason for disapproval differs from that of President Truman. In the senator's opinion, extending the moratorium is another step in the direction of government control of the mining industry.

Miners now can obtain a patent on their claims after completing \$500 worth of work on each claim. They then become full owners. If the government should take over, they would lose their ownership rights, Malone warns.

Many claim holders in the Southwestern mining areas cheered approval of the legislation because, they contend, it would work a hardship in numerous cases if the extension had been denied and claim owners faced the necessity of doing their assessment work before July.

On the other hand, some industry spokesmen have deplored the extension on the grounds it tends to promote delay in development of mining claims. Objection voiced by A. E. Bernard, Nevada state inspector of mines, is that the moratorium "is a great detriment to development of new mines." He explained that purpose of the law is to make a claim holder either develop his ground or leave it open for someone who has faith in the claim and will do the required work.



EAST BAY MINERAL SOCIETY INSTALLS NEW OFFICERS

Members of the East Bay Mineral society gathered at the Park Boulevard club house, Oakland, California, June 4, to enjoy the annual banquet and witness the installation of officers for the 1949-50 term. New officers are: Gerould H. Smith, president; W. C. LaRue, vice president; Scott Williams and David Grigsby, secretary; Norman Lemkau, treasurer; Ernest M. Stone, director; Gordon White, corresponding secretary; Mrs. Vadis Kilker, librarian. Retiring president Millard V. Moore presented to each of his fellow officers a fine mineral gift in token of his appreciation of their cooperation during the term. Displays of lapidary art, minerals, micromounts, cabochons, slabs and faceted gems were exhibited.

"STAUROLITE" WINNING TITLE FOR SOCIETY'S NEW BULLETIN

At the annual dinner of the Orange Belt Mineral society, held at the Derby House, Colton, Dr. Fox was re-elected president. Other officers were elected as follows: H. H. Brannan Jr., vice president; Mrs. A. B. Cyrog, treasurer; Major C. T. Kennedy, federation director; Floyd G. Mortimer, secretary; I. V. Graham, J. C. Filer, Kenneth Garner, Frederick Gros, directors. President Fox was presented with a gavel made of desert wood by R. D. Fuller. H. H. Brannan Jr. was winner of the bulletin contest, submitting the title "Staurolite."

The Orange Belt Mineralogical society was organized in 1931-32. In keeping with the early Spanish Missions tradition and history of the Citrus Belt area, a Society emblem was chosen. Recommended by a committee and adopted was the right-angle-twinning staurolite—sometimes called the fairy cross stone.

The average prospector eagerly searches for outcroppings or color when in the field, but Dr. John Herman opened an entirely new method to rockhounds when he informed members of the Pacific Mineral society how to "Prospect for Minerals by Plant and Animal Life" at the June meeting. Dr. Herman related interesting facts relative to condition of cattle, color of flowers, and vegetation growth and mineral content of soil. He suggested that rockhounds observe mother nature more closely.

An informative lecture on the topography, mineralogy and peoples of the Southwest was illustrated with pictures by E. Goff Cooke at a meeting of the Chicago Rocks and Minerals society. Miss Gloria Johnson was scheduled to narrate on "Two Girls Drive to Alaska" at the June meeting. Miss Johnson planned to show movies of the trip. Another feature of the June meeting was to be the annual election of officers.

June meeting of the San Jose Lapidary society was to be held at the De Anza hotel. Final plans for display at the Sacramento convention were to be made. Newly elected club officers are: Norman H. Pendleton, president; Arthur Maudens, vice president; Lloyd G. Mabie, secretary; David J. Burrige, treasurer. Monthly field trip was to Horse canyon.

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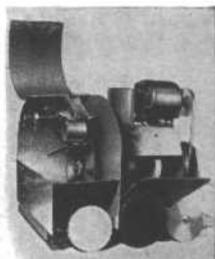
The Mojave Desert Gem and Mineral society held a pot luck dinner at the Rodeo and Riding club. Program feature of the evening was a lecture by Ray Langworthy on "The Atomic Bomb." On June 5, society members and friends were guests of Ed Morris at his Iron mine south of the Ord mountains, where Morris escorted them through the mine and explained in detail the possibilities and processes. Interesting samples of ore were collected. The group then trekked to a garnet field for specimens. On the return to Barstow several members availed themselves of the opportunity to visit the L. P. Haney copper mine.

Twenty-five members of the Geology class of Reedley college, under the direction of Vincent Evans and Rose Budin, made a nine-day trip of 2000 miles to the desert and other places of interest—Calico mountains, Death Valley, Zante's point; Zion, Bryce and Grand canyons; Amboy Crater. Mineral specimens, volcanic bombs and trilobite fossils were found.

Garland F. Payton, director of the department of mines, mining and geology, Atlanta, Georgia, discussed the functions of the Georgia Gem and Mineral society at a meeting of the Yuma Gem and Mineral society, Yuma, Arizona. The new Yuma organization now has a membership of 60. They meet the second and fourth Tuesdays of each month at the Firemen's room, City Hall, and extend an invitation to anyone interested. Field trips have been discontinued for the summer but several are on the agenda for fall.

Three-day trek of the Hollywood Lapidary society was announced a success. In the Lead Pipe area and vicinity blue agate was found and with digging, honey and fire opal. Scheduled for the June 9 meeting, Della Holbrook was to show color slides taken on various field trips.

"Tin from Bolivia", sound film, was featured at a recent meeting of the Oklahoma Mineral and Gem society. Mrs. Leona Sprinkle added to the evening's entertainment by presenting a humorous account of an overland trip to San Antonio. Anniversary party and exhibit was scheduled for June 5.



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Junior Rockhounds of Prescott have started a course in the study and identification of minerals. At each meeting a different mineral will be discussed and exhibited. Club motto "For Juniors, By Juniors" was selected as the Rockhounds claim to be the only Junior club run by juniors. On a trek to Hell's canyon rockhound members found common opal.

Importance of preserving our national forests was stressed at the June meeting of the Yavapai Gem and Mineral society. Two sound and color films—"Then It Happened" and "Everyman's Empire"—were shown by Myron H. Heyerdahl of the U.S. Forest Service, depicting the destructive forest fire in Maine in fall of 1947, also scenes from U.S. forests and parks.

At the regular meeting of the San Geronimo Mineral and Gem society various members contributed to the evening's entertainment. James Adrian gave a talk on Indian relics, and O. D. Welborn exhibited a collection of Indian artifacts representing many tribes. Beauford Hansen spoke on agate, quartz and crystals. Arkansas diamond mines were discussed by Stanton Bretschneider, and Captain Toenjes related a recent trip he and his wife and friends made to Mexico and Arizona.

Two mineralights, recently acquired by the Santa Monica Gemological society, were used for the first time to test fluorescent specimens at the opening meeting of the fiscal year. Also highlighting the evening's entertainment were colored motion pictures of Arizona, Nevada and California shown by Farroll Simmons. May field trip was with NOTS of Inyokern to Lead Pipe Springs. Scheduled for June was a trek to Horse canyon.

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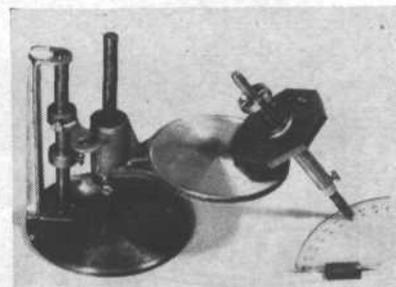
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ROCK HOUND CONVENTION TO BE HELD IN AUGUST

The 1949 convention of the Rocky Mountain Federation of Mineral societies will be held August 25-26-27, at the Knights of Columbus club, Albuquerque, New Mexico, announced Guy M. Shockley, president. Programs of technical nature are being planned. Lectures will be presented in nearly all fields of the earth sciences by national leaders of their respective fields. Social affairs are being planned that are unusual. Facilities include display room, fluorescent room, lecture hall, business room, lunches by K. of C., parking space unlimited.

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Newly elected officers of the Colorado Mineral society are as follows: Richard M. Pearl, president; Ray W. Thaler, first vice president; Chester R. Howard, second vice president; Mrs. Jeanette Haralson, secretary-treasurer; Mrs. C. R. Williams, corresponding secretary; Guy Ellermeier, Ress Philips, Mrs. Mary Piper, Miss Muriel Colburn, Harvey Markman, Mrs. Vera Hofer, trustees. They will take office in October. A three-day field trip as guests of the Canon City Geology club under the leadership of F. C. Kessler, proved entertaining and successful. Quarries in the Royal Gorge area yielded tourmaline and beryl crystals—pure feldspar, mica and quartz.

At a recent meeting of the Sacramento Mineral society members were enlightened on "What to Look For in Collecting Mineral Specimens" by Charles J. Hansen, a past president of the San Francisco society. Hansen exhibited many specimens from his private collection. Dates for a number of field trips were announced.

Bruce Taylor discussed "Mining in Korea" at the June meeting of the Long Beach Mineral and Gem society. A trek to Lead Pipe springs, Eagle Crag mountains and vicinity was well attended. Opal and blue agate and some moss agate was found.

GREETINGS FRIENDS!

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EUGENE MINERAL ASSOCIATION ANNOUNCES 1949 CONVENTION

The Northwest Federation of Mineralogical societies announces the 1949 annual convention and exhibition will be held at McArthur Court on the University of Oregon campus, in Eugene, Oregon, September 2-3-4. In accordance with the established practice of the federation, no charge is made for admission, nor to individual non-commercial exhibitors or to exhibiting clubs for space. However, all clubs, individual private and commercial exhibitors are asked to bring their own display cases if possible. Northwest Federation includes mineralogical societies in Oregon, Washington, Idaho and Montana. Others may be included from northern California, Utah and Wyoming. For exhibit or banquet reservations contact R. C. Bale, Northwest Federation of Mineralogical societies, Eugene, Oregon.

Glendale Mineral society plans to hold a show August 20-21 at Glendale Pacific Auditorium, Glendale, California. A display of rare gem sapphires will be exhibited.

Searles Lake Gem and Mineral society members invited the NOTS Rockhounds to be guests at their annual pot luck dinner June 15, at Valley Wells.

Annual June meeting and picnic of the Mineralogical Society of Southern California was planned for June 5. Display tables were to be arranged and members were encouraged to exhibit. One of the highlights of the occasion was to be a gold panning exhibition.

The San Fernando Valley Mineral and Gem annual exhibit held June 11-12 was reported an outstanding success. Mr. and Mrs. Glen Craig were in charge of arrangements. Two five-foot cases were necessary to display the prizes—there were 50.

Members of the Rock and Gem club, Fallon, Nevada, found nice specimens on a field trip in the vicinity of Frenchman's Station and Rawhide.

The Pomona Valley Mineral club met at Claremont college June 14, to hear B. W. Cohoon speak on "Collecting Rocks on the Colorado Desert." Cohoon drew a map of the vicinity and pointed out where various minerals are to be found. He also displayed specimens.

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By RANDALL HENDERSON

MANY YEARS AGO — perhaps 50,000 — a huge meteor fell on the great plateau which is now northern Arizona. It hit the earth with such force as to gouge a hole more than 1300 feet deep and a mile wide. During the intervening years the pit has partly been filled by erosion from its rim, but its floor is still 570 feet below the surface.

Dr. D. M. Barringer, mining engineer of Philadelphia, became acquainted with the great circular cavity over 50 years ago, and decided it was of meteoric origin. Many scoffed at his conclusion. But he was not easily discouraged. Over a period of 20 years he spent considerable money for surveying and drilling, and eventually established beyond question that the crater had been made by a falling mass from the skies. At a depth of 1346 feet below the south rim the drill bit encountered meteoritic material.

Because it is the largest meteor crater of record in the United States, it has for half a century been a center of both scientific and popular interest. Thousands of tourists crossing the continent on U.S. Highway 66 visit it annually. Scientific groups have explored the crater and the surrounding area where many tons of fragments from the original mass have been recovered.

The discovery and confirmation of the crater as of meteoric origin was an epochal event in man's understanding of the earth and its relation to the solar system. And it is with a feeling of regret and indignation that I have just read a letter from Dr. H. H. Nininger, a recognized authority on meteorites, (see page 2), stating that the heirs of Dr. Barringer have granted lease rights for the mining of silica from the outer rim of the crater.

It is not necessary to destroy or mar one of America's rarest natural landmarks to obtain silica. Next to oxygen, silica is the commonest substance in the earth's crust. The great sandstone beds of the northern Arizona plateau and elsewhere — millions of acres of them — run as high as 94 percent silica. It is used mainly in making glass and porcelain.

We Americans have long recognized that on our continent are certain places of natural beauty, historical significance or cultural value which properly belong to all of us. They have been incorporated in our National Park system, and we forbid their exploitation for commercial gain. No one would think of turning Yellowstone park, Carlsbad caverns or Petrified forest back to private ownership.

We have only one Meteor Crater — at least no others are comparable. It properly should be protected against destruction or disfigurement by individuals seeking only personal profit.

Meteor Crater long ago should have been reserved as

a National Monument. In the entire United States there is no natural landmark of more universal significance. Dr. Barringer deserves full credit for his original exploration work, and his heirs are entitled to reasonable compensation for their equity in the property.

But Meteor Crater properly belongs in the category of those landmarks which are preserved for the benefit and enjoyment of all American citizens, and that end can best be achieved by placing it under the jurisdiction of the National Park Service.

This will be brought about only if you and I and the others interested will expend the time and effort necessary to press the issue with our representatives in Washington. I am sure the National Park Service would welcome the opportunity to take over and manage the Crater. But the Park Service is primarily an administrative organization. The initiative for acquiring the property must originate elsewhere.

The power shovels already are gnawing at the base of the Crater — and they probably will continue until this prehistoric landmark is taken out of the hands of those who regard it only as a source of private gain.

This is written early in July. The floor of the desert simmers with reflected heat. The distant mountains are almost obscured by haze. The slopes of the nearer range are barren and forbidding, the rocks too hot for the touch of human hands. This is the desert that down through the ages men have feared and shunned.

But the desert is not always like that. The million and a half people who have accepted the challenge of this arid Southwestern land, and have come here to make their homes, have found many compensating factors.

The same sun that beats down on those who venture beyond the doors of their air-cooled homes and workshops, is also bringing fast vigorous growth to the crops that grow on millions of irrigated acres.

The blazing sun is good for humans also. When summer comes, seasoned desert dwellers change their pace. For a few months each year they renounce the driving pressure so characteristic of American commerce and industry. They relax and enjoy the pleasant evening hours that follow the heat of day. Nervous tension and high blood pressure are less common in the land of the desert sun. Radical variations in temperature are good tonic for the adaptive functions. They keep the body and mind tough and versatile. Humans grow sluggish when climate is too favorable.

None of us really likes these days of extreme heat — but few of us would trade them for the comforts of more temperate regions if it was necessary also to sacrifice the compensations we find in desert living.



TRIBUTE TO THE MEMORY OF A FAMOUS ARIZONAN

One afternoon in 1879 Buckey O'Neill rode into Phoenix, Arizona, on a burro and offered his services to the owner of the newspaper. Later he moved to Prescott where he became court reporter, probate judge, superintendent of schools, editor of the *Hoof and Horn*, and sheriff of the county. As sheriff, Buckey gained a reputation. His most famous coup, the chase and capture of four bandits who held up the Atlantic and Pacific train at Canyon Diablo, is a thrilling tale in Western history.

Buckey was a man of ideas. One of his biggest was to sell the Grand Canyon—its indescribable views. And today the Bright Angel Lodge stands on the spot Buckey selected for his office and bunkhouse. They are still in use. A commissioned officer of the Rough Riders under Colonel Theodore Roosevelt, he was killed at San Juan Hill July 1, 1898. He was 38 years old.

A few years ago Ralph Keithley stood in the Prescott, Arizona, plaza and viewed a monument—a dashing horseman astride a rearing mount. The monument had been erected in memory of Buckey O'Neill and his rough riders. His interest aroused, Keithley wanted to know more about this man. And when he found that a biography of Buckey O'Neill had never been written, he set about to do the job. After two years of intense research Keithley has written a dramatic, vigorous and impressive account of *Buckey O'Neill* who was more than a son of Arizona. He was Arizona for nearly 20 years.

Caxton Printers, Ltd., Caldwell, Idaho. 1949. 247 pps., index, photos. \$3.50.

This book may be ordered from *Desert Crafts Shop, Palm Desert, California*

STORY OF GREAT SALT LAKE TOLD IN CONCISE BOOKLET

In 1900 there were many people who predicted that the Great Salt Lake would dry up and disappear. At other times fear was expressed that in a cycle of heavy rainfall it might rise to pre-historic levels and inundate some of Utah's largest cities.

Neither of these disasters is likely to take place in our time, according to geologists and engineers. Probably it will continue to rise and fall as it has many times since it first was seen by James Bridger in 1824. At least this is the view supported by David E. Miller, assistant professor of history at the University of Utah who has just published a 42-page book, *Great Salt Lake, Past and Present*.

Prof. Miller writes in a concise manner a description of the lake today, and its pre-historic origin in Lake Bonneville. The author deals with its islands, swimming and boating, salt production and other pertinent facts of today.

Published by the author. 42 pages with illustrations. Paper cover. 50 cents.

This book may be ordered from *Desert Crafts Shop, Palm Desert, California*

A STORY OF VIRGINIA CITY AND THE COMSTOCK TIMES

Lucius Beebe, member of the editorial staff of the New York Herald Tribune, and Charles Clegg, photographer, co-authors of "Mixed Train Daily," spent the summer of 1948 in Nevada aboard their private railroad car "The Gold Coast." The result was *Virginia & Truckee*, a fast-moving historical drama of a railroad.

On September 28, 1869, Hume Yerington drove the silver spike beside the rail that was to be laid in the shadow of the Carson mint. Long cabooses with longitudinal benches and a row of magnificent cuspidors were first to roll on the rails. Then came coaches and combines. Built in one of William Ralston's carriage shops in San Francisco, they had elaborately decorated oil-cloth ceilings and red velvet seats and fancy baggage racks. Early in the 70's the first Pullman rolled into Virginia City—followed closely by an era of private railroad cars bearing the great and the near great. No short line railroad in history was as familiar to the powerful, rich and celebrated of the world as was the V&T. Its fame was overshadowed only by the names of the mines whence came the wealth it carried down to the mills located on the Carson river.

In 80 years the fundamentals of its operation never changed. In 1938 the rails between Carson City and Virginia were torn up and the railroad's great days became a memory.

Decorations by E. S. Hammack, maps and lettering by Frederic Shaw, photographs by Beebe and Clegg and rare old pictures of the past add color and nostalgia—for those days can never be again.

Published by Grahame H. Hardy, Oakland, California, 1949, 63 pps., photos, maps, biblio., table of locomotives of the V&T. \$2.00.

TWO CITY-BRED GIRLS SEEK PEACEFUL COUNTRY LIVING

Alice Marriott, author of *Maria: The Potter of San Ildefonso*, and Margaret Lefranc whose line drawings in *Maria* and other volumes have gained high praise, decided to settle in Round Valley, 20 miles from colorful Santa Fe. While struggling to remodel an adobe house, to rebuild a pump that labored to produce water from a hole clogged with sand, and to care for a visiting family of Siamese cats, they were swept into the daily activities of their friendly neighbors—Spanish-American and Indian.

Round Valley is a farming community below the Truchas peaks of the Sangre de Cristo range. "Why did we come here, and how do we live, is a simple question," says Miss Marriott, "and the answer should be simple too, but somehow becomes complicated when we try to explain. But I'll try again and see if I can make it all clear." And she does in *The Valley Below*.

The Valley Below is a refreshing experience. Margaret has contributed humorous and unique sketches that portray events. Alice Marriott, ethnologist, while delightfully entertaining weaves in a basic profound understanding of people.

The University of Oklahoma Press, Norman, Oklahoma, 1949, 243 pps., \$3.00.

Take It!

By TANYA SOUTH
San Diego, California

Then take it, whatever it is you lack,
There are no fences, no bars.
There lies the straight and narrow track,
Right to the very stars.
And heaven benign is above you bending.
With glory of Love and Light unending.

No one is specially favored of fate,
Save as he strives to attain the favor.
And they who their powers dissipate
Lose of this life its very savor.

The Story of the Comstock Lode

THE BIG BONANZA

By C. B. GLASSCOCK

One hundred and five million dollars from two mines!

That is a fabulous figure, but it is only one of the fabulous features of the story of the amazing Comstock lode, and Virginia City, Nevada. For fire, flood, battles with guns, knives and in courts, violence and intrigue, all are a part of the melodramatic history of the big bonanza.

The career of the four bonanza kings from immigrant laborers and saloon-keepers to famous figures in finance and politics, and the effect of their concentration of wealth on the economy of the Pacific coast are a part of this thrilling story. The leading characters are not always pretty, but they are authentic, human . . . rugged characters living in a rugged and violent era of the West.

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