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Desert

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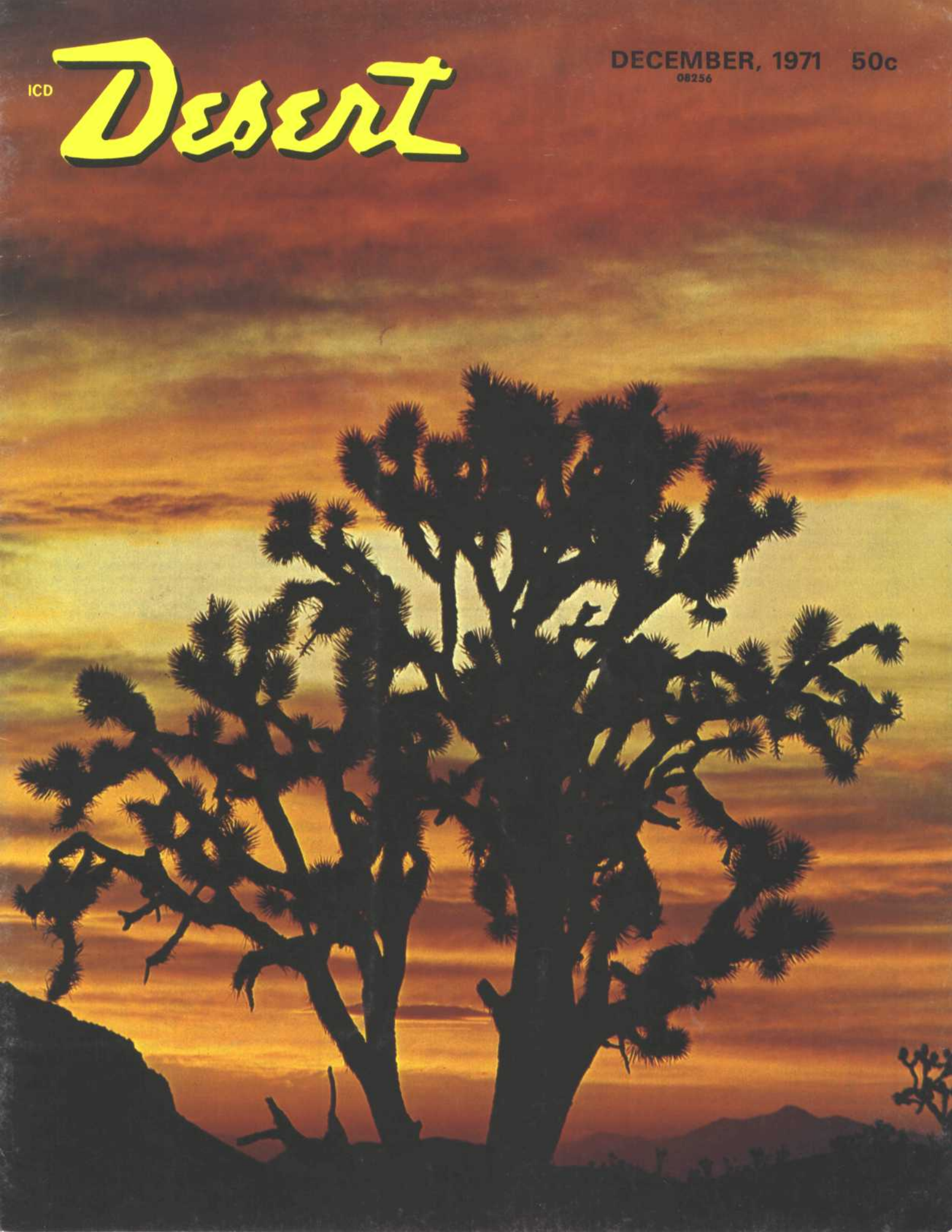

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Desert MAGAZINE

Volume 34, Number 12 DECEMBER, 1971

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For our Christmas Issue we selected David Muench's brilliant photograph of a Joshua Tree silhouetted against a desert sunset. The tree is named after the successor of Moses as it appears to be lifting its arms to Heaven —as it may well be in a plea to the Higher Authority to help protect the beauty of our deserts.

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A Peek in the Publisher's Poke

THE DESERT TORTOISE, which has survived for thousands of years but today is in danger of being destroyed by the white man's civilization, is getting a helping hand in his struggle for survival.

A novel experiment is being conducted in California's Mojave Desert where the reptile's ancestors once roamed during the dinosaur era and where several hundred tortoises are believed to live at present.

Four tortoises have been captured and outfitted with electronic beepers and then relocated in an isolated section of the U.S. Navy's nearby China Lake Station. The operation is being carried out by the California Division of Highways in cooperation with the Navy, State Department of Fish and Game, University of California and local Boy Scouts.

It resulted when construction of a freeway was started. Biologists say the increased tortoise mortality rate is due to them being run over on the freeways which they continually cross in search of sparse dietary vegetation.

Initial plan was to build a tortoise fence along the freeway but it was discarded when research proved the reptiles have an uncanny way of either climbing over or digging under obstacles in their way. So the white man decided to round up all the tortoises in the area and transport them to a safer environment.

The four tortoises outfitted with electronic gear are the advance party of the major migration. Armed with homing devices Navy personnel will tune the reptiles in periodically throughout the winter to check on their welfare and ability to adapt to their new location. The beepers affixed to the shells of the tortoises are sensitive to light and will not transmit when their bearers hibernate, burrow in during the day, or even when they roam at night. This factor will extend life of the micro-battery powered system until next spring.

John Dow and Peter Goodman whose parents are employees at China Lake Naval Station assist in putting electronic devices on two tortoises before releasing them at their 'home away from home.'

Meanwhile, the search continues for other tortoises which are being tagged and transported to the safety of China Lake Naval Sation. So, thanks to the white man, we may continue to quote that "the voice of the turtle shall be heard throughout the land."

One word of caution. Because they are an endangered species, it is unlawful to remove a tortoise from his habitat. If you find one on the highway, take a stroll through the desert and put him back in a safe place—away from the highway—but don't take him home.

And, to see how tortoises settle their differences refer to Hans Baerwald's *Desert Life* photo feature on page 33.

The staff of *Desert Magazine* wishes each and every one of you a Most Merry Yuletide Season and a Happy and Prosperous New Year!

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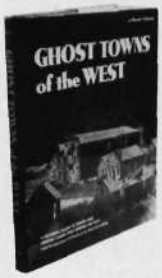
Book Reviews

by Jack Pepper

GHOST TOWNS OF THE WEST

By the Editors of Sunset Books



This reviewer does not often use superlatives, but after reading *Ghost Towns of the West,* I can state it contains the most comprehensive and finest collection of both historic and present-day photographs of America's dramatic mining era ever published.

The book has been three years in the making during which time the editors of Sunset Books examined an estimated 50,000 historical prints before selecting the ones published.

As the historical photographs were being selected, Writer-photographer William Carter, in a special camping vehicle, traveled more than 30,000 miles and took more than 10,000 photographs for the present-day presentation. His black and white photographs with his accompanying text, coupled with the historic prints, creates a living testament to the men and women of this exciting era of Western Americana.

The book employs a unique editorial structure that compares the past with the present and provides a detailed as well as an overall picture of this period of our history. The value of the book is not in listing all of the ghost towns of the West, but in selecting those which best mirror the rise and fall of the mining communities.

Another factor which contributes to the publication is the way the editors describe the cause and effect, motivation and way of living of the protagonists. Chapters on subjects such as boarding houses, land grabs, mining camp finances, newspapers of the era, violence and civic order, transportation, relations with the Indians and even the cost of living complete the overall picture of those "rowdy, reckless and raucous boom years."

Detailed maps along with artist illustrations of the types of mining equipment with descriptions of how they were used enhance the graphic presentation. William Carter and the editors of Sunset Books are to be congratulated for creating this living portrayal of one of America's most exciting eras which changed the history of the world.

Large 11x9 format, heavy slick paper, hardcover, 255 pages. Special advance price of $9.95 until December 31. Regular price after December 31 will be $11.75.

SELDOM SEEN SLIM

By Tom G. Murray

Seldom Seen Slim, last of the Death Valley single-blanket jackass prospectors, died in 1968 and was buried in a little cemetery near bleak Ballarat, which had been his home for most of his 81 years.

Although during his latter years Slim liked to show the casual visitor around Ballarat, he was very selective as to his "friends" which could be numbered on the fingers of his two gnarled hands. One of these was Tom G. Murray who also knew Shorty Harris and Death Valley Scotty. (See Murray's famous pictures of "Scotty" in the November '71 issue.)

Like the other single-blanket jackass prospectors, Slim drifted into Death Valley from the east via other mining areas looking for gold and silver. Some found bonanzas and — like Shorty Harris — then sold them for a pittance, while others merely eked out a meager living. But they all stayed and died in the land they loved. Few retained their legal names. Slim's was Charles Ferge.

Although titled *Seldom Seen Slim* and giving an intimate view into the pros-

pector's life, the book covers much more. It is a potpourri of vignettes, poems, tales and photographs of the Death Valley old-timers. Included are tales of the Wildrose Kid, Jim Sherlock, Chris Wicht, Silent George, Shotgun Mary and Harry Oliver, "the old mirage salesman" who published the famous *Desert Rat Scrapbook*.

These tales could only be told by a man who knew the old-timers by sitting around their campfire or in their "homes" swapping yarns over tin cups filled with coffee that only an old prospector could drink. Murray says one of the finest compliments Slim ever paid to him was once he drove to Ballarat to see his friend who was not at home but left the following sign on his door:

"You S.O.B. don't take anything. I might be watching."

Slick paperback, exclusive photos by the author of the old-timers, 56 pages, $3.00.

COLORADO DESERT OVERVIEW
By Wes Chambers

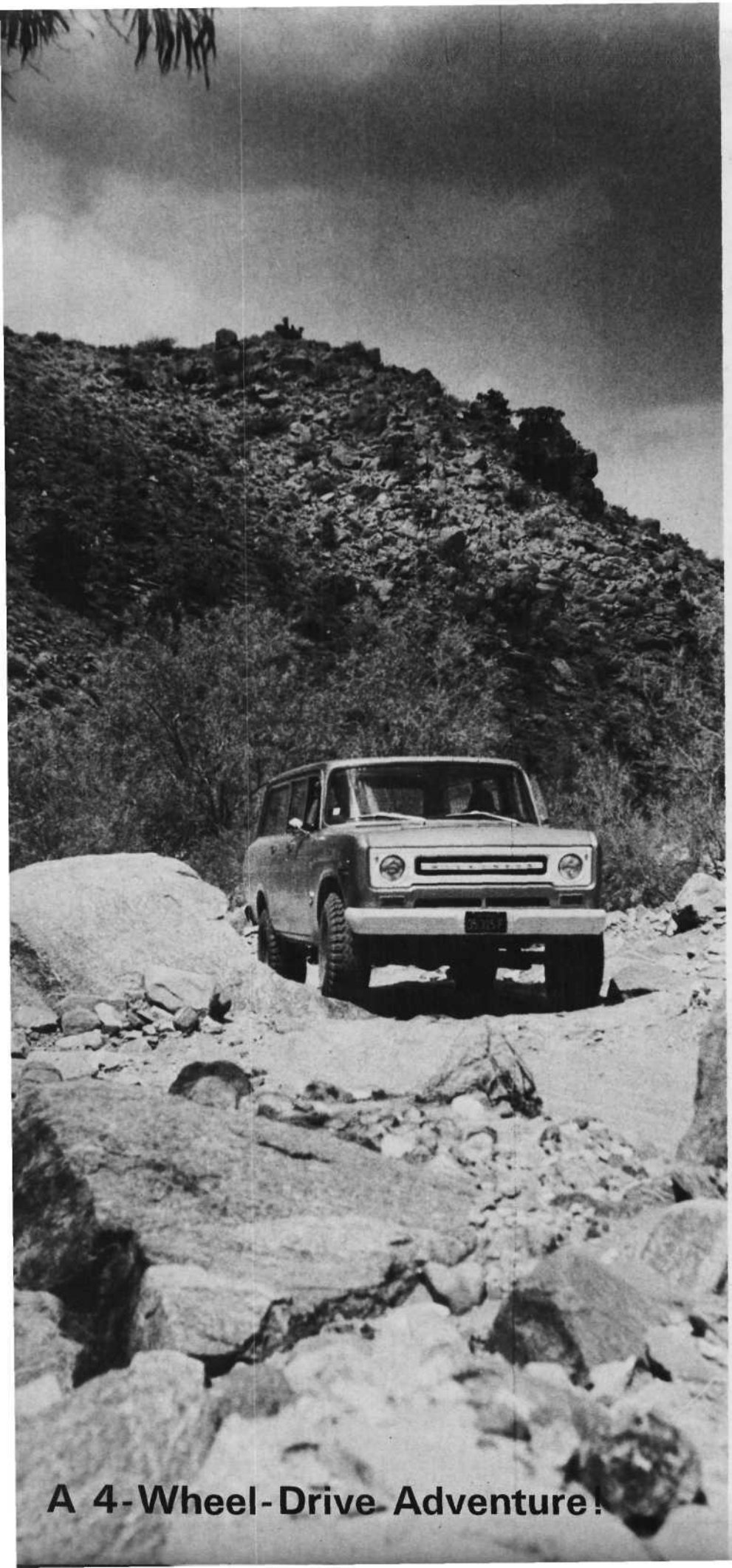
Two years ago Wes Chambers compiled an "overview" map of California's Mojave Desert area which proved to be extremely popular with back country explorers. Now he has published a similar map on the Colorado Desert.

He uses a topographic-type background showing the general layout of the mountains and deserts over which he has placed in detail places and roads as guides to points of interest. He designates highways and paved roads and unpaved roads and jeep trails.

What makes the map valuable is the overlay of historic routes and trails—such as the Butterfield, Bradshaw and Government Routes—and the location of wells (most of which are now dry) and historic sites along these trails which are not shown on regular maps.

The map features ghost towns and mining camps, Indian sites and petroglyphs, geological features, scenic areas and areas for exploration. Boundaries are from the Mexican border to the northern part of Joshua Tree National Monument and from Banning and Ramona east to the Arizona side of the Colorado River.

As the author states, the map does not take the place of topographical maps, but armed with both, the explorer should have an excellent shot at arriving at his destination or following the trails of the Old West. Heavy paper, folded to fit in glove compartment, $3.00.



Relics of Rattlesnake Canyon

by Van P. Wilkinson

RELICS LURE as many folks into California's wilderness today as did the precious ores of the 1800s. To get a piece of the action then, the needs were demanding and basic: a weatherproof disposition, an impenetrable faith against stark wilderness, and an inventive craftiness to second-guess nature. Today, it's a mite simpler: a topographical map, an off-road vehicle, and a slight case of frenzied persistence.

Rattlesnake Canyon is a handy one-day hunting ground for the slightly-more-than-motivated. Here, you'll find noteworthy mining remains, a scattering of solder-top-age cans and purple glass, and many short 4WD excursions to seldom visited wild areas.

Historically, the San Bernardino Mountains were prospected and mined over a hundred years before the gold migration to the Mother Lode in 1849.

Indians and Spanish found in the San Bernardinos not only beauty and shelter, but trading commodities such as furs and minerals.

Holcomb Valley gold, discovered in the early 1860s, created some new geographical problems peculiar to this northeasterly mountain location. The great Mojave Desert trough of Victor, Apple, Lucerne and Johnson valleys was closer than the southwesterly mountain slopes into the "civilized" basins of San Bernardino, Redlands and Riverside.

While selecting appropriate shipping routes from the Big Bear Lake vicinity, trailblazers and last-chance prospectors joined forces in the 1860s and began serious exploring and mapping of the canyons east and north down to the desert flatlands.

Like all venturers, these men named areas as often by whim as by rationale. Rattlesnakes are common in high desert canyons leading into the mountains, and there are no less than three canyons and three springs in this region which still bear that viperous name. The Rose Mine is located in another Rattlesnake Canyon (Burns Canyon to Pioneertown); the Balanced Rock Mine east of the Old Mormon Trail is located near another Rattlesnake Spring (between Apple Valley and Fawnskin).

By 1870, the Black Hawk and Silver Reef Mining Districts had been established just a few miles west of Old Woman Springs. It is safe to assume that the initial digs in our Rattlesnake Canyon were made between 1860 and 1880. Generous samples of pre-automation cans and shallow tunnels marked with hand-hewn primitiveness hint at this.

Getting into Rattlesnake Canyon today is not altogether simple. The westerly entrance, via Old Woman Springs, is through private property and prohibited. On Old Woman Springs Road toward Yucca Valley a set of telephone poles flanks the road on the north side. At one point about three miles east of Old Woman Springs there is a support pole on the south side of the road, where the asphalt curves. At this bend, where a taut cable crosses over the road, is the dirt road leading southwesterly into the Bighorn Mountains.

Gentle, dipping and dusty, this road covers some four miles across the alluvial fan toward the mouth of Rattlesnake Canyon. The trail narrows and winds

Once used to haul ore from the wooden chute (above) the old wagon road is now covered with weeds and shouts of the wagon masters are no longer heard. Looking west toward the Bighorn Mountains (below) are seen the shaft, headframe and tailings of the mining operation. Photos by the author.

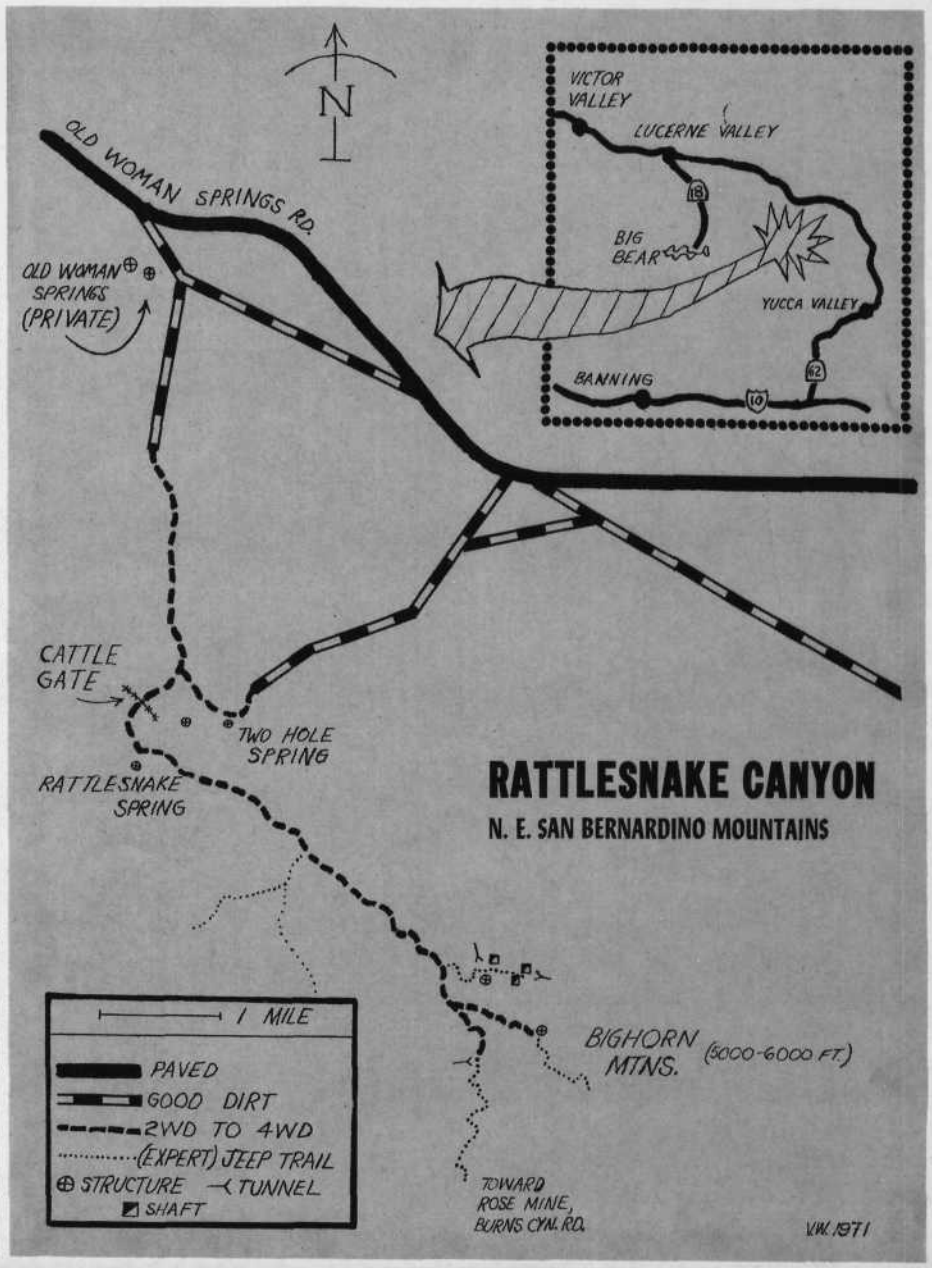
Scattered debris is all that remains of what was once a prospector's home in Rattlesnake Canyon.

near two private corrals at Two Hole Spring. Then, abruptly, the road dives into the rocky, sandy wash of the canyon. From here to the major mining area (some five miles), it's either high-clearance 2WD with non-slip differential or 4WD. Why? Because the tracks follow the granular riverbed and at times over breadbasket-sized boulders.

You'll know you're on the right path when you reach a cattle gate at the canyon mouth. A sign reads, "Close Gate." Please do so—stray cattle yield lost revenue and irate ranchers.

Not more than 200 yards on up the southwesterly side of the canyon is Rattlesnake Spring, surrounded by a cattle shed and feed supplies. It was in this area that a couple of glaring bulls blocked the path of our truck while protecting a wary herd. Be careful.

The road dodges and cuts along the wide canyon floor for about two miles, narrow and sandy enough in many places to prohibit campers. Great banks of



quartz sediment and loose conglomerate choke the canyon's south side in a few places as the Bighorn Mountain slopes begin to near the road. The northerly canyon banks show random mineral prospects and dune-buggy scars.

Mica, quartz-veined granite and schist are common ingredients along Rattlesnake Canyon's steep sides. Multi-colored quartz specimens lay eroded in various sizes, good for rock gardens or the rock tumbler.

Some three miles from the gate, the canyon walls move in and the road worsens. The tracks bend in several S's; in this spot, rainfall or flooding would erase the path and trap a vehicle.

Then, the canyon widens at a gentle cluster of desert willows. Up the northeast canyon bank is a narrow 4WD trail leading to several shafts tunnels and collapsed out-buildings of the central mining activity. One quarter of a mile further up the canyon, another, almost identical trail (but wider) leads in the same direction to a flattened prospector's shack.

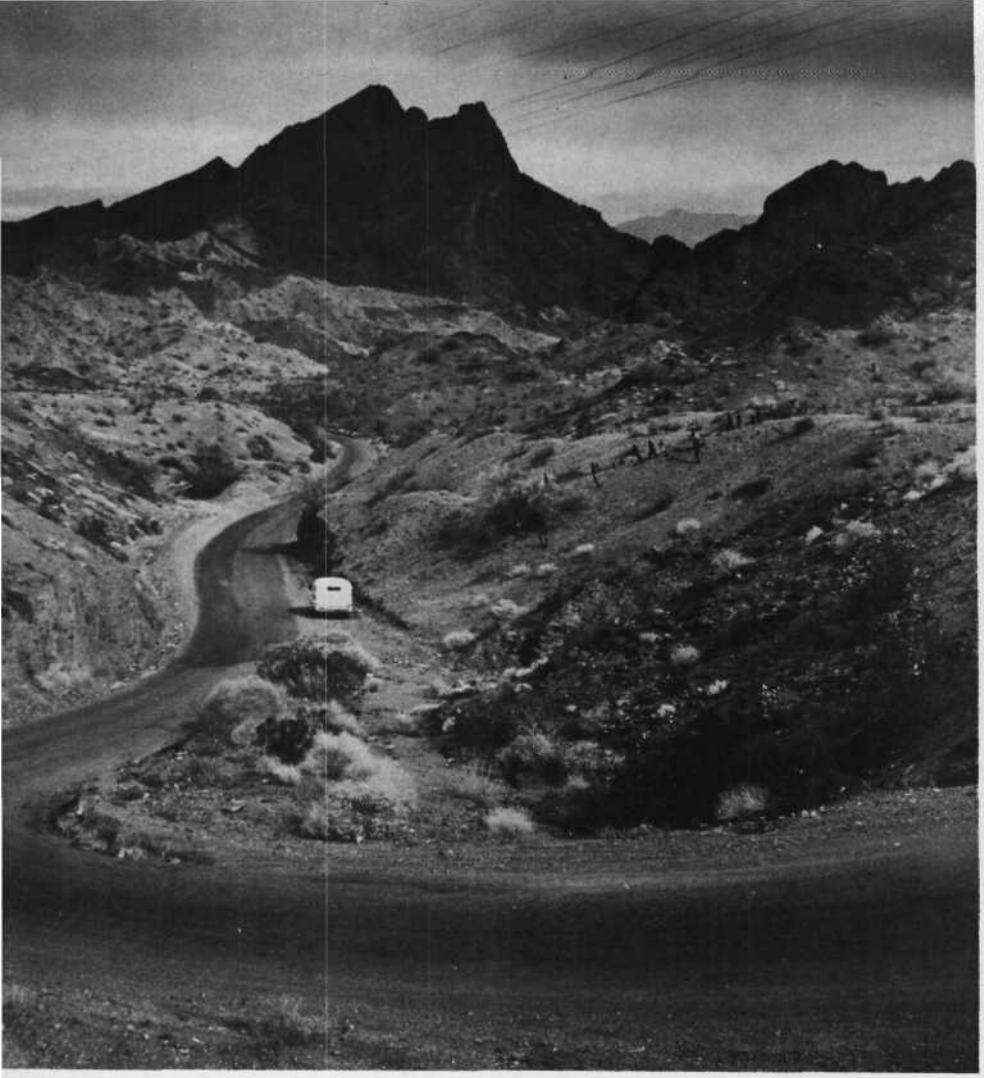
About one quarter of a mile along the canyon the road ends for all but the bravest with a very narrow 4WD vehicle; it is past this "road's end" about 200 yards that a tunnel strikes west into the canyon wall. Here, in the tailings, is a collector's "relic'in reward."

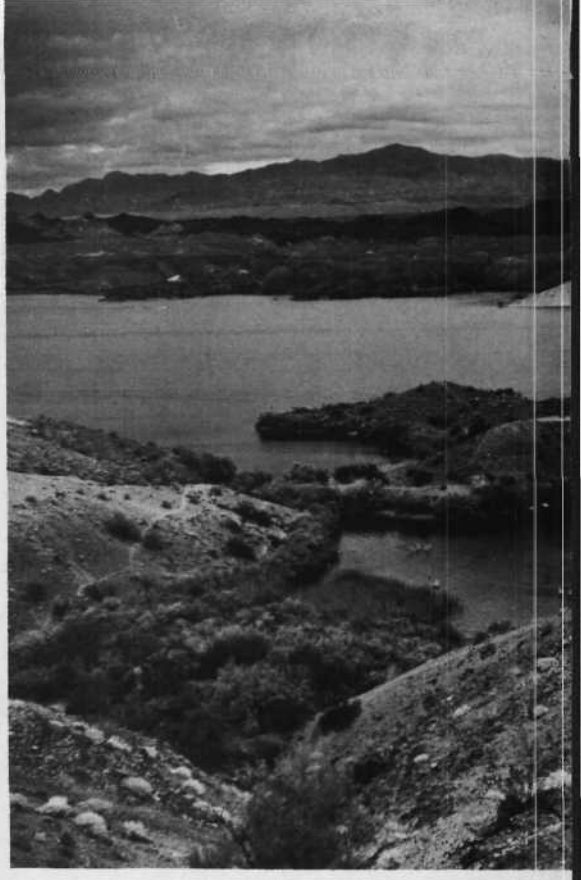
The tailings of the 80-foot tunnel are small, but the abundance of undisturbed cans amidst the debris is amazing. Evidently, those who made it this far in the past were not after relics, just cattle or adventure.

However, the dumps and discards at the area of major activity have been partially investigated. The shafts were probably started in this region before 1900, but have been worked on and off since then—deepened and reinforced. The tunnels at this site are relatively new, and a nearby claim indicates that someone was still investing money in Rattlesnake Canyon as late as 1967.

A steep trail leads south from the flattened prospector's shack, presumably paralleling the canyon trail to Mound Spring and the Rose Mine region. This is the direction from which explorers came in the 1860s. Another trail, marked on the map, heads southwesterly from Rattlesnake Canyon up a subsidiary wash toward Granite Peak. Neither of these is for amateurs.

Whether you find in the Bighorn Mountains a chance to test your off-road navigation, or whether you find a relic to add to your collection, there's one certainty: you'll be bitten by the lure of Rattlesnake Canyon. □





A good road leads through a variety of country (left) along the eastern edge of the Whipple Mountains near Lake Havasu and Parker Dam. Photos by Jerry Strong.

PARKE

by Mary Frances Strong

Desert Magazine's Field Trip Editor explores the byways along the 15-mile segment of the Colorado River known as The Parker Strip. Rugged mountains, back country roads, bottle and gem collecting and year-round climate make it an enjoyable weekend safari.

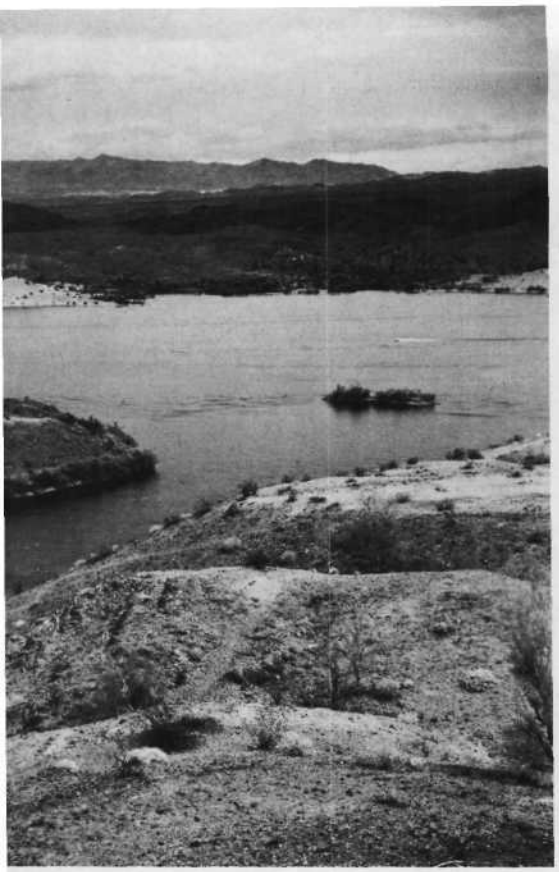
EXITING FROM Havasu Lake via Parker Dam, the mighty Colorado River flows placidly to Headgate Dam where its waters are impounded to form Lake Moovalya. This 15-mile segment of river is known as the Parker Strip and provides one of the finest recreational areas in the southern desert.

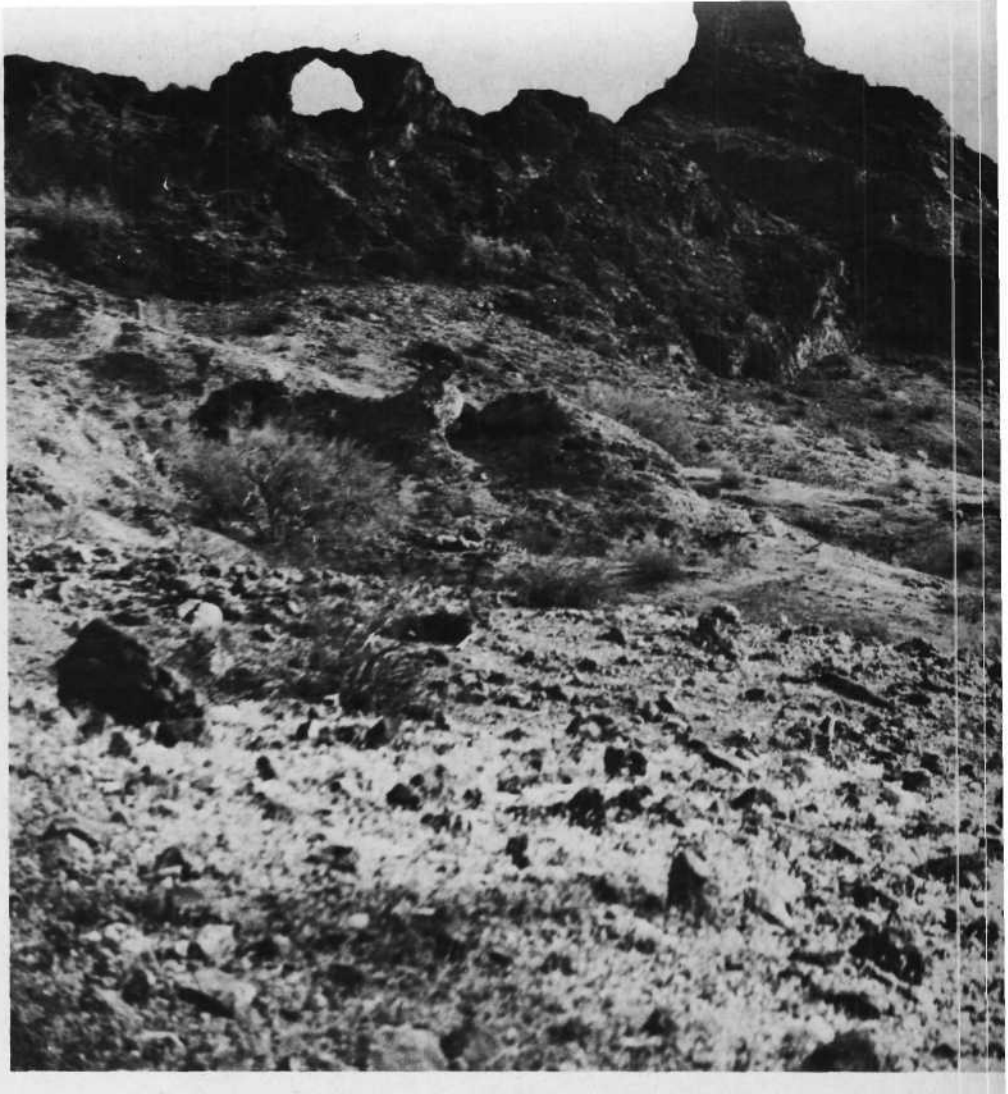
The opportunity for excellent water-skiing, boating and fishing have made the Parker Strip a busy and popular place during its long season which begins in March and reaches a grand climax over the Thanksgiving holidays.

As winter approaches the river is quiet; the camps and parks uncrowded. At this time, the Parker Strip shows its many other faces and proves to be an outstanding area for winter vacations. With a home base at one of the several dozen resorts along both sides of the river, the visitor can enjoy several interesting tours, explore the back country and old mines, ride trail bikes, fish, bird-watch or go rock collecting.

Trailer and camping accommodations are a matter of choice with facilities ranging from the simple to luxurious—all fronting on the River. We have stayed at private camps and found them friendly and helpful.

Being completely self-contained, we usually camp in a favorite spot along the river where we park our trailer under a giant, old tamarisk tree. This is permis-





Lake Havasu (above) is a complete aquatic recreational center. One of several interesting arches (right) which can be seen on the road through the Whipple Mountains.

R STRIP

sable with S/C units.

At the present time, there is only one public campground on the Strip—Empire Landing at the Crossroads. It is being developed by the Bureau of Land Management and, currently, provides only primitive sanitary facilities.

A circle tour up the California (or Arizona) side of the River, crossing Parker Dam and returning along the opposite shore, will treat you to some spectacular scenery. Through eons of time, the Colorado River has cut deep into the iron-red sediments and formed a picturesque canyon between Arizona's Buckskin Mountains and California's Whipples. Subsequent erosion has scoured an array of chimney, fortress and castle-like formations along its length. The contrast of rich, red-brown mountains and deep blue water will keep your color camera busy.

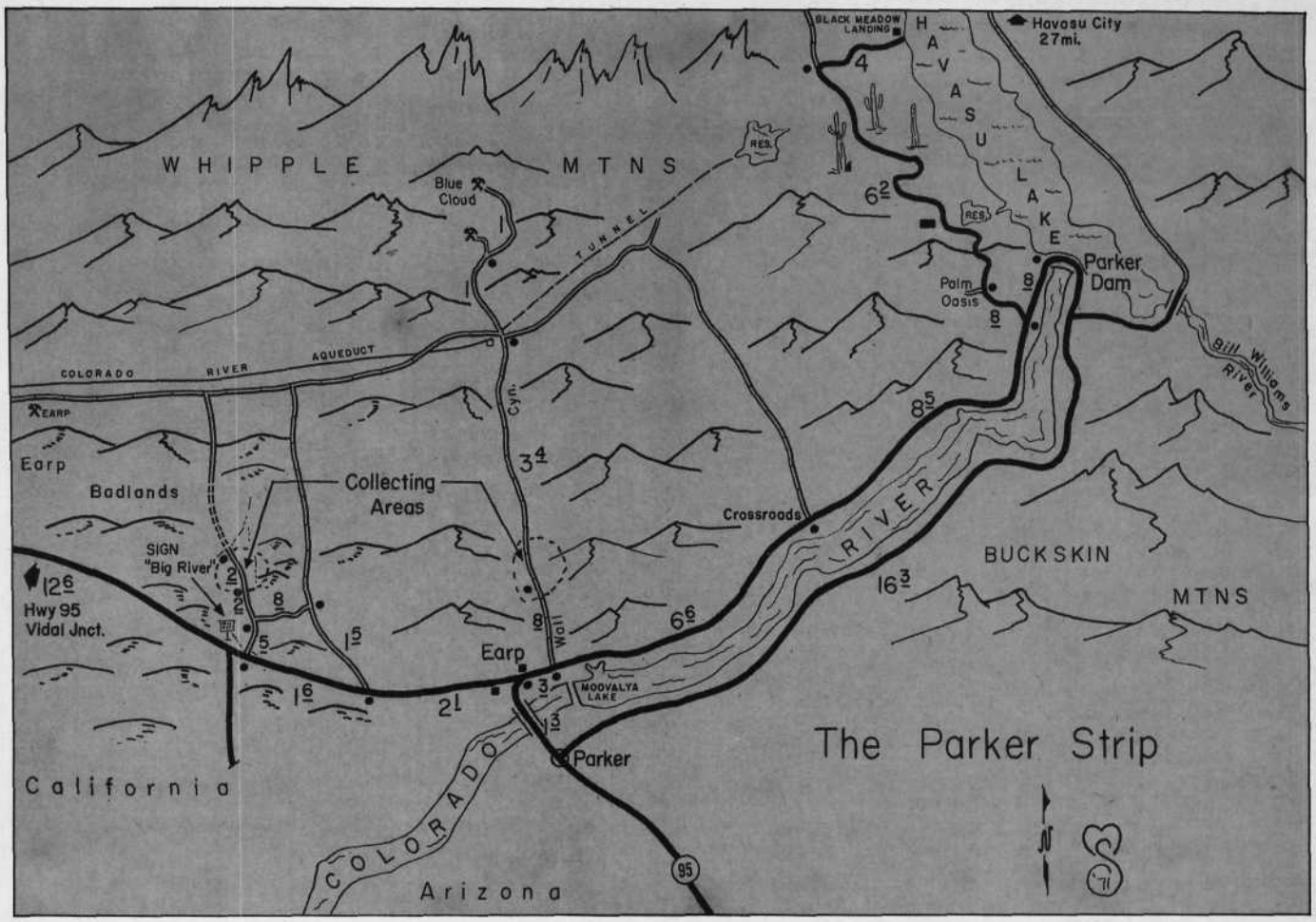
At Parker Dam, stop and view the lower end of Havasu Lake. This area is part of a National Wildlife Refuge and you will see numerous waterfowl which have journeyed south to spend the winter. You will also enjoy taking the self-guided tour of the power plant which is informative and educational.

An interesting back country tour via paved road will take you through the northeastern fringes of the Whipple Mountains. A wide variety of scenery will be enjoyed as the route winds around mountains and drops into deep canyons. Begin the trip by turning west from the Parker Dam Road at the sign "Black Meadow Landing" which is located just south of Parker Dam on the California side.

In just eight-tenths of a mile you will see dirt tracks leading off to the left amid some trees. Follow this short detour and you will be rewarded with a palm oasis, waterfall and stream. It is a delightful spot for a coffee break or lunch.

Back on the paved road a half-mile beyond the oasis, look left into the canyon as you near the summit. You will see a narrow, rocky gorge filled with palm trees.

Beyond the summit, the road skirts the Department of Water and Power Field Office Headquarters, then skips along the edge of Gene Wash Reservoir —the beginning of the Colorado River Aqueduct. The paving narrows, rides



roller-coaster hills, accomplishes switchbacks and descends into a small gorge. Watch carefully and you will see the first of a small stand of giant saguaros—many resembling prickly telephone poles. They are not plentiful and this is one of the few locations where they occur on the California Desert. They will be seen for the next two miles.

The paved road ends at Black Meadow Landing, a commercial resort on Lake Havasu, 11 miles from the Dam.

Rock collectors will enjoy a trip up Wall Canyon on a good, graded dirt road. Less than a mile from the Parker Dam, fine specimens of "ruby-lace" jasper may be collected on the steep hillsides to the east. This material is found

in float as reddish boulders. When an edge is chipped it appears to be granular, red jasper with veinlets of white or blue chalcedony. However, it is a "fooler" as most of it will take a good polish with the lacy-pattern effect making attractive cabochons. Several nice specimens of palm wood have also been found here. Hike over the first hills to the east and try your luck.

A three-mile-plus drive up Wall Canyon will bring you to the aqueduct and its Whipple tunnel. Dirt tracks lead two miles north (see map) to the old Blue Cloud Mine. Turquoise has been reported from the mine, but we saw no evidence of it. Thin seams of chrysocolla occur here and, possibly, have been confused with turquoise.

Old mines are always interesting to visit. This area was not posted when we were there; but this is always subject to change where private property is involved.

A graded dirt road leads west along the aqueduct through the Earp Badlands. Wyatt Earp, the famed western marshall, lived in this area for many years. His small gold mine, long idle, may be seen south of the road, approximately 4½ miles west of Wall Canyon. The drive can conclude by taking one of the graded roads south to the highway.

Another rock collecting area lies less than a mile north of the highway, 4.5 miles west of Earp. The turnoff is into a wash a short distance east of a "Big River" sign. Sometimes, storms erase the tracks crossing the wash but they will be visible on the higher ground a short distance beyond. The material, jasp-agate and jasper, will be found .8 of a mile north. If the wash is impassable, an alternate route is shown on the map.

This locale is unusual in that, although specimens are not plentiful, we always seem to find one or two outstanding pieces. On our most recent trip, I picked up a beautiful lavender, pink, blue and white jasp-agate weighing about two pounds—just 50 feet east of the road.

The Bureau of Land Management has ambitious plans for the recreational development of the Lower Colorado River including the Parker Strip. A camping complex of several thousand units is underway. The first one, Empire Landing Campground at the Crossroads, is due to be ready about March, 1972. It seems probable that this region will become one of the largest recreational developments in the United States.

The next time you have a weekend or longer for a winter trip and want to get away from the crowds—head for the Colorado River. You will find fun in the sun along the Parker Strip. □

SANTA'S LOVE

ONCE UPON a time a maiden who wished to know her lot in marriage would spread a white cloth beneath an oak tree at night, and in the morning she might find a little golden dust. A pinch of this dust placed beneath her pillow would create dreams of the face of her future husband. The dust was the pollen of the mistletoe.

It isn't known how many young ladies still practice this old custom, but there are few plants that can boast of such a checkered past as *Phoradendron villosum.* Since the beginning of history, its dull green leaves and white berries have been regarded as a symbol of love, friendship and good luck.

In Sweden, mistletoe is tacked over barn doors much the same as Westerners hang up a horseshoe, while in rural Ireland, a spray is placed in the crib of a new-born babe to keep it from being changed into an elf-bairn by the fairies. Closer to home, hunters in this country often wear a bit of mistletoe tucked in their caps for good luck.

For the more scientific-minded, mistletoe is a woody parasite growing chiefly on oaks, and forming bushy growths up to four feet in diameter. Although it can manufacture its own food from the chlorophyll in its thick, fleshy leaves, it depends upon its host for minerals and water. When the host dies, the mistletoe, although it will remain bright and healthy to the end, will die too.

Mistletoe reproduces by its sticky seeds which are spread from tree to tree by birds. Although it is easily germinated, propagation is on a strictly hit or miss basis, for it will only remain growing on the same type of host as on which the mother plant grew. A seed from mistletoe growing on an oak might germinate on an apple branch, but it will usually die within a few months.

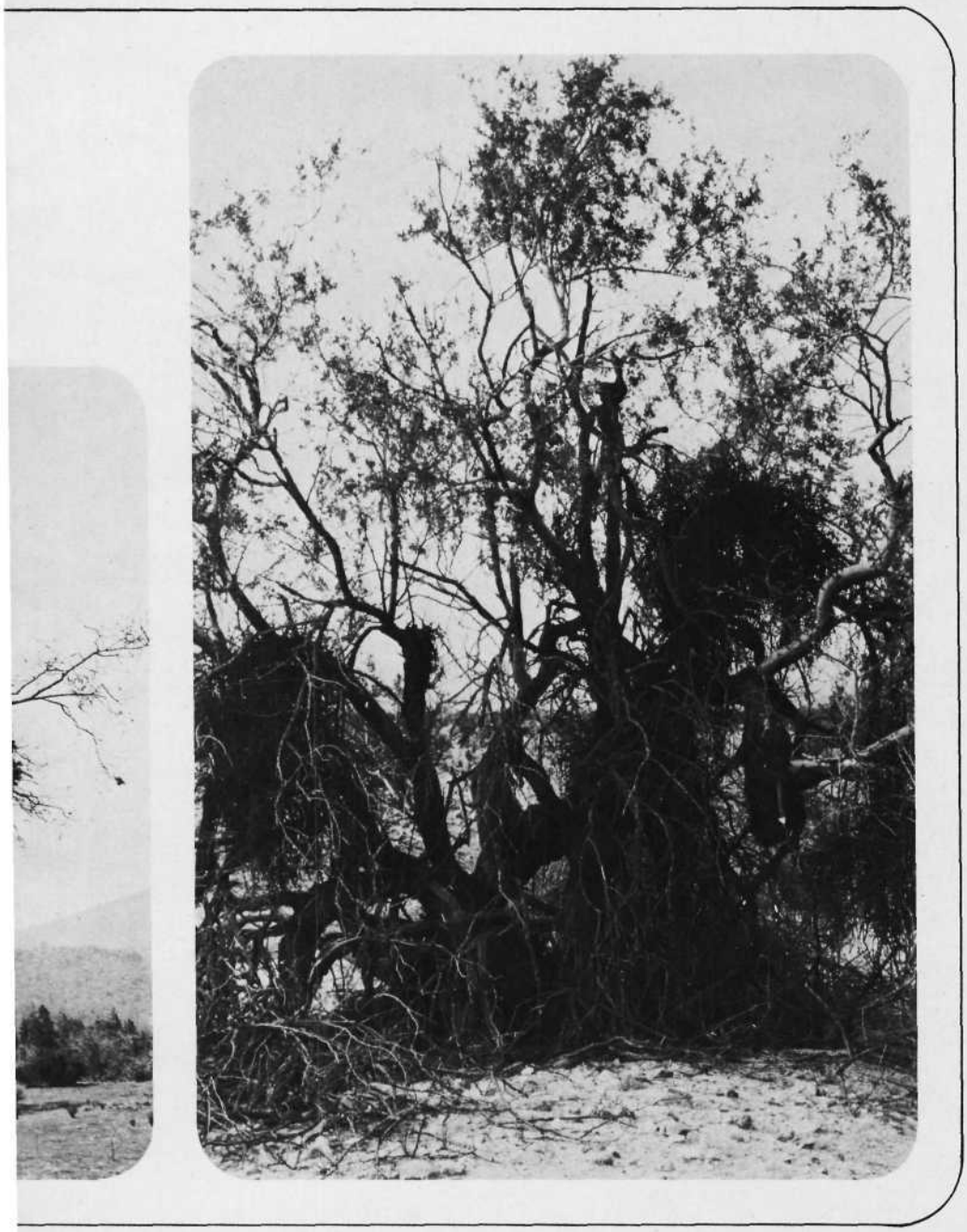
The European species of mistletoe, and actually the only true "kissin' kind," goes by the name of *Viscum album,* while that in North America is either *Phoradendron villosum,* found on oaks; or *macrophyllum,* a river-bottom variety that grows on willows and poplars. A third variety and one that annually causes millions of dollars in damage to timber, is dwarf mistletoe, *Arceuthobium pusillum,* a small, yellow plant with needle-like leaves that attacks evergreens.

Control of mistletoe is best accomplished by cutting off the infected limb. However, the cuts must be made at least a foot beyond the edge of the growing plant or a new growth will start again from its highly specialized root structure. Because such severe pruning often ruins the shape of an ornamental tree, attempts have been made to kill the pest by removing the growth and then covering the limb with black paper. Because mistleoe needs light to grow, this has sometimes proved successful.

Although mistletoe is a source of fun and love for people during the Christmas Holidays, it is actually a parasite which kills trees such as the oak (below) and the ironwood (right) by sapping minerals and water.

MISSILE

by William Klette



Herbicides such as 2,4-D have also been tried, but to be truly effective, a spray must be so strong that it oftens kills the host.

Other than man, mistletoe has few enemies and will live as long as its host. Neither extremes of temperature nor insects seem to have any effect, nor do there seem to be any disease organisms that attack it.

It is probably this toughness that made our early ancestors attribute it with magical powers. For doesn't it grow high above the ground, seemingly rootless? And when the host tree has lost its leaves, isn't the mistletoe still green and living?

Ancient monks thought that for every illness there existed in nature a plant similar in appearance to the afflicted organ that would serve as a cure. Because mistletoe grows downward from tall trees, attached so securely that it cannot be blown away, it was thought to be a sure cure for "falling sickness" or epilepsy. An epiletic couldn't fall down as long as he carried a bit of the plant in his pocket.

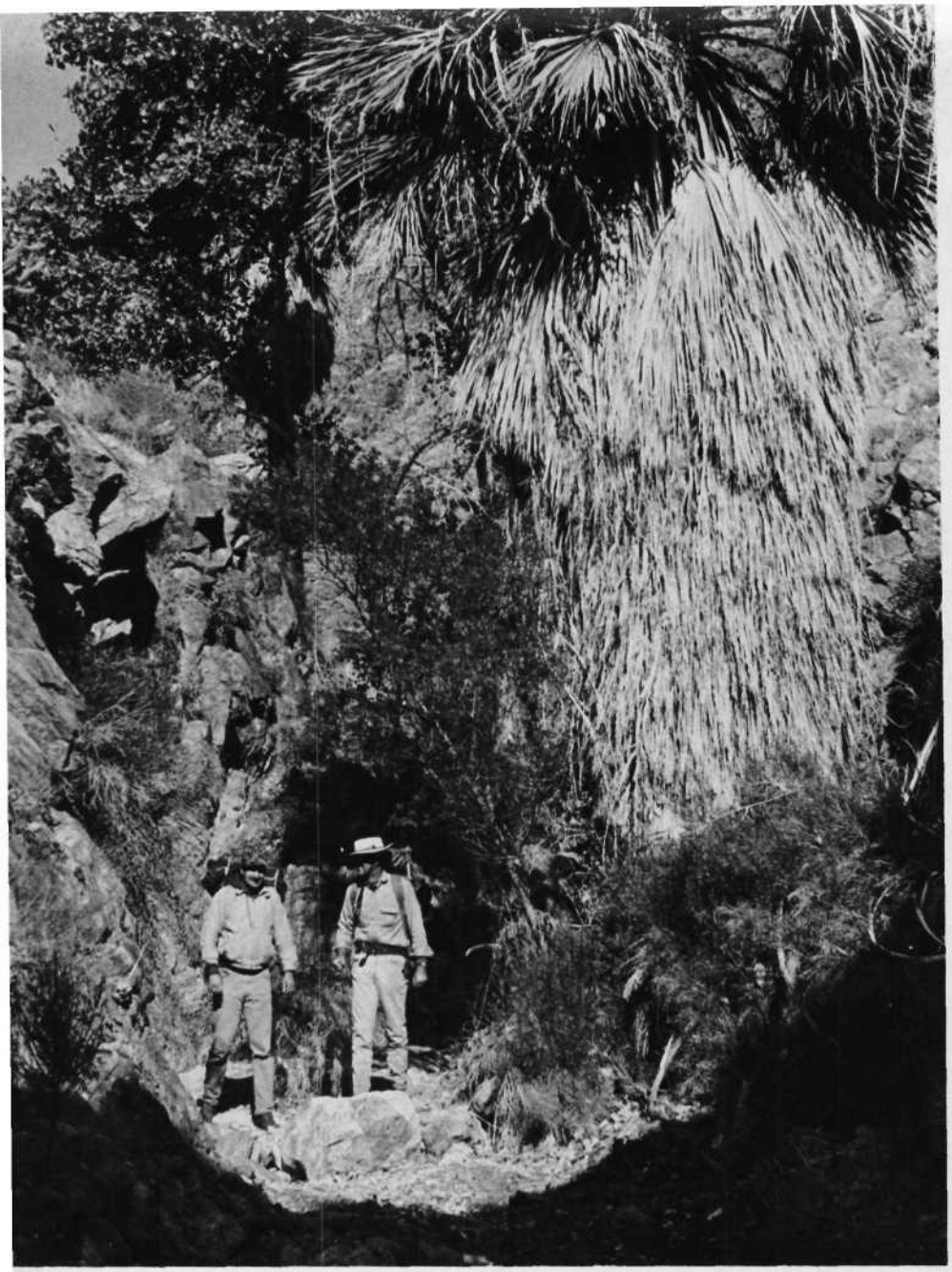
But most of mistletoe's medicinal powers lie in the realm of wizardry and, although a drug known as Protoneratrine was once extracted from the berries and used as a treatment for high blood pressure, today it is an infrequent visitor to the pharmaceutical shelf.

One warning, however. Mistletoe should be considered poisonous as several deaths have been directly traced to young children eating the berries. And the National Clearinghouse for Poison Control recently reported a fatality following the drinking of a tea brewed from its leaves. Death occurred within ten hours. It is also known to be somewhat toxic to animals and western ranchers claim that cows heavy with calf sometimes abort following a heavy windstorm. They blame this on fallen branches of mistletoe.

For some reason, mistletoe has been neglected by most North American Indian tribes. The plant plays little or no part in any of their legends, and there is no mention of its use in any of the major works of the early Amerind anthropologists.

In today's complex world of rockets and computers, and trips to the moon, such simple things as magical plants seem to be almost archaic. No longer do we think, as did the ancient Druids, that mistletoe was caused by lightning hitting a tree, or that there is a homeopathic affinity between its leaves and gold. But there is one thing for sure. There is no better cure for "kisslessness." As long as there is a difference between sexes, sprigs of mistletoe will continue to be hung over doorways where they retain their magic, serving as little green flirtatious amulets. □

HIKIN OF



Trail of the 15-mile hike led through Salvador Canyon (above) and into unmarked areas (right) where the hiking party (left to right, Huie, McKinnie, Scharn and Hesemeyer) checked their topographical map, and finally to the end and a well-earned rest at Coyote Canyon. Photos by the author.

TUCKED INTO the extreme northwest corner of the half-million acre Anza-Borrego Desert State Park in California's San Diego County is a vest-pocket wilderness area nearly trackless and unexplored by modern man.

So when Park Supervisor Jack Hesemeyer called me one spring morning and suggested we take a hike in a remote area, this area came to mind.

"How about hiking down Salvador Canyon?" I asked Jack.

"Why don't we hike up?" he countered. "That would be more of a challenge."

After much discussion, and my persuasive and naturally lazy nature, I finally convinced him it would be much easier to hike down canyon.

"After all it's 90 degrees out there now and hiking uphill in that heat would kill us," I told him. So plans were made and the date for our hike was set for a few weeks later.

The big day of the expedition arrived, but the warm weather had disappeared. A steady west gale was blowing and the temperature hovered just around the goose pimple mark.

In addition to Hesemeyer and myself, our party consisted of Fish and Game biologist Harold McKinnie, and friends Jim Huie and Hal Scharn.

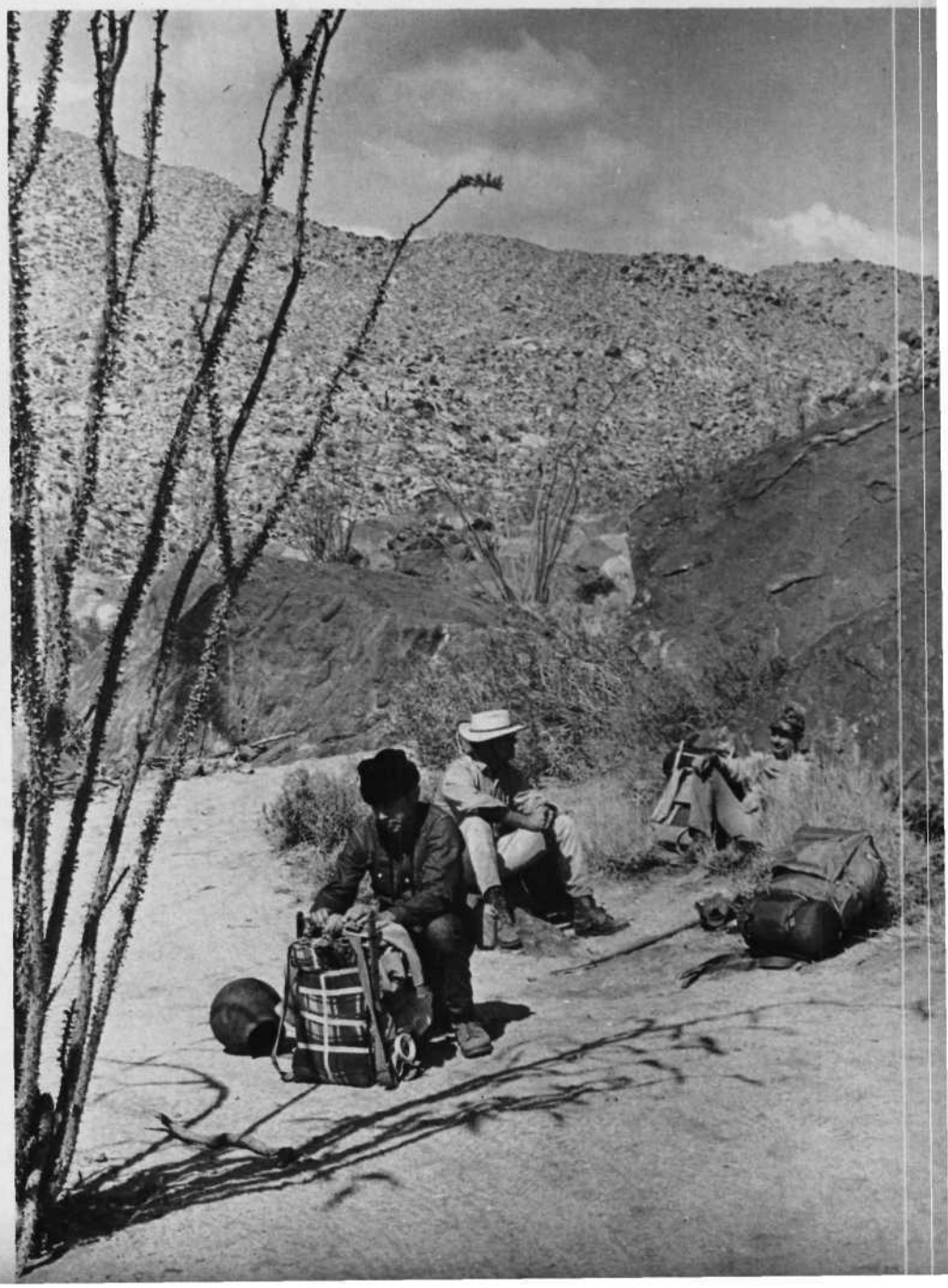
We began our adventure near Warner Springs on State Highway 79 in San Diego County. Our plan was to cover about 15 miles in the two days ahead. The trip would take us from the pine belt, down through oak-studded meadows, lower into brush-covered hills, then into gradually more arid canyons until we would end up on the desert floor in Coyote Canyon.

Our purpose in hiking this wilderness was not only to explore a untouched area

G THE CANYONS ANZA-BORREGO

by Ernie Cowan

There are many interesting hiking and back country trails through Anza-Borrego State Park in California's San Diego and Imperial Counties. For a free map showing the area of this hike and the entire park, send a self-addressed, stamped envelope to Anza-Borrego State Park Headquarters, Borrego Springs, Calif. 92004.



ourselves, but to relive the experience of early traveler J. Smeaton Chase.

Those familiar with historic accounts of California's deserts will recognize Chase. He is the author of several books written about his experiences on horseback up and down and around the Golden State in the early years of this century.

Chase's "California Desert Trails" is a classic as it describes in detail his journey on his faithful mount, Kaweah, through the Colorado Desert. But it was a chapter entitled, "A Desert Ride: Los Coyotes to Warner's Springs," that caught my interest.

continued

In this chapter, Chase describes climbing out of Coyote Canyon and passing through what is now this northwest corner of California's largest park. His vivid description of this area paints a word picture of this rugged, but scenic wilderness.

"Though this trail is little known and not given on any map, it is plain from the depth to which it is worn that it has long been used by the Indians in passing between their desert and mountain villages," Chase recorded.

He also mentions the finding of pottery scraps, beads and deep holes in solid rock "where generations of squaws had ground their flour."

Chase continued: "The trail now became yet steeper, one of the steepest, indeed, that I ever tackled. We made progress by scrambles of 40 or 50 yards at a time, sometimes in the bouldery creek bed, sometimes on slippery mountain side."

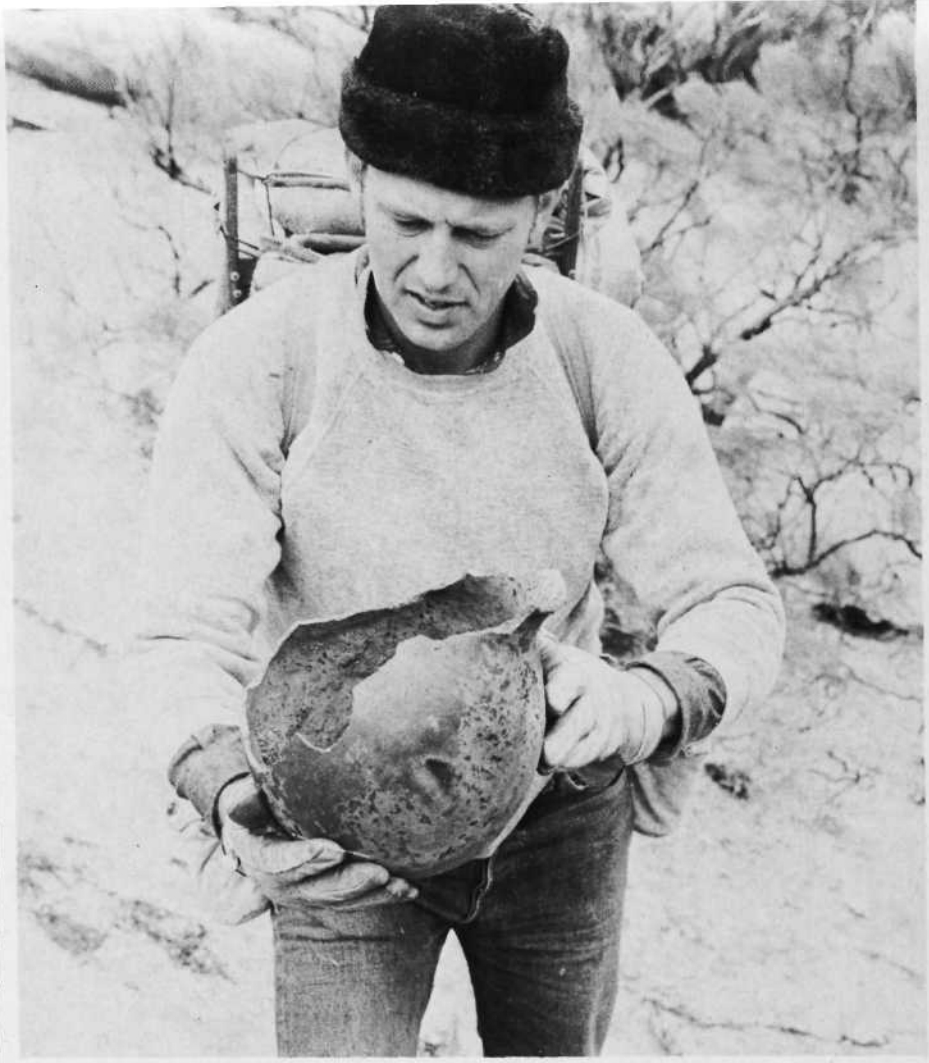
Soon Chase found a spring with wildflowers blooming around the abundant water source.

"The ground here was ablaze with the superb cardinal flower, a plant which surely represents nature's last effort in intensity of color. Even more charming were a few wild roses," he wrote.

Our trip began by following a remnant trail for the first few hours. Perhaps this was the trail used by Chase. Near noon we found a pleasant oak-studded meadow that had once been an Indian campsite. The rocks were pocked with grinding holes and the ground was blackened from ancient cooking fires. Nearby a clear spring bubbled fresh water into a creek.

Thoughts of Chase and his description of the region came quickly to mind.

We decided to eat lunch here and take a mid-day break. But shortly after lunch it began to rain so we decided to move on



Jim Huie holds the main piece of a broken olla found along the trail. Indian pottery is now on display in the park museum. Under the Antiquities Act of 1906 private individuals are prohibited from removing artifacts, so look and photograph, but do not remove artifacts.

since it appeared we might hike out of the storm by continuing east.

It wasn't long before I noticed a round object half-buried in the sand on a hillside we were crossing. Closer examination showed that it was an Indian olla, broken, but complete. We carefully dug out the pieces and weighed the decision of should we carry it out, or leave it behind.

We didn't know what terrain was ahead. But Chase had described it as rough. We knew we had at least 10 miles to go. On the other hand, we weren't sure we could ever find this unnamed spot again. We decided to carry our delicate treasure with us.

Moments later, Jim Huie peered behind a bush and spotted another olla turned face down against a rock. We dug this perfect pot out and examined it. It was complete and sturdy. We would have to carry this fine artifact out, too.

The ollas added a new dimension to our trip. In addition to the rain, pea-sized hail and eventually snow, we were fighting shoulder-high brush, cactus and now the constant fear of falling or dropping these delicate earthen jars. But we pushed on.

Ahead we could see our objective, a razorback ridge of bare desert hills that formed the south wall of Salvador Canyon. We knew if we could reach the canyon by nightfall we would be somewhat sheltered from the storm that was becoming more intense.

By 5 p.m. we had made it to a sheltered spot in the canyon and we felt safe in making camp. The rain had stopped and, besides, none of us could have walked another step.

It wasn't a half hour before the rain resumed its rhythmic patter. This kind of weather wasn't enjoyable, so after a quick dinner we were all in the sack. It rained most of the night.

It seemed like a week later, but morning finally came. More accurately it exploded as a huge ball of sun burst from behind a mountain and spread its warmth into our little canyon home.

By mid-morning we had reached the mouth of Salvador Canyon. We all smiled with pleasure at having accomplished our goal. We had hiked a total of 20 miles—a few more than planned—carrying two treasures from another culture, another time. They had weathered the trip safely and will someday be on display when the state park gets a museum.

We had learned why this corner of Anza-Borrego is still an unexplored wilderness. It is rugged, virgin country, not designed for the ill-equipped or casual hiker. There are no trails, no sign posts or trail markers. An injury or illness while in this area could mean disaster unless someone knows where you are.

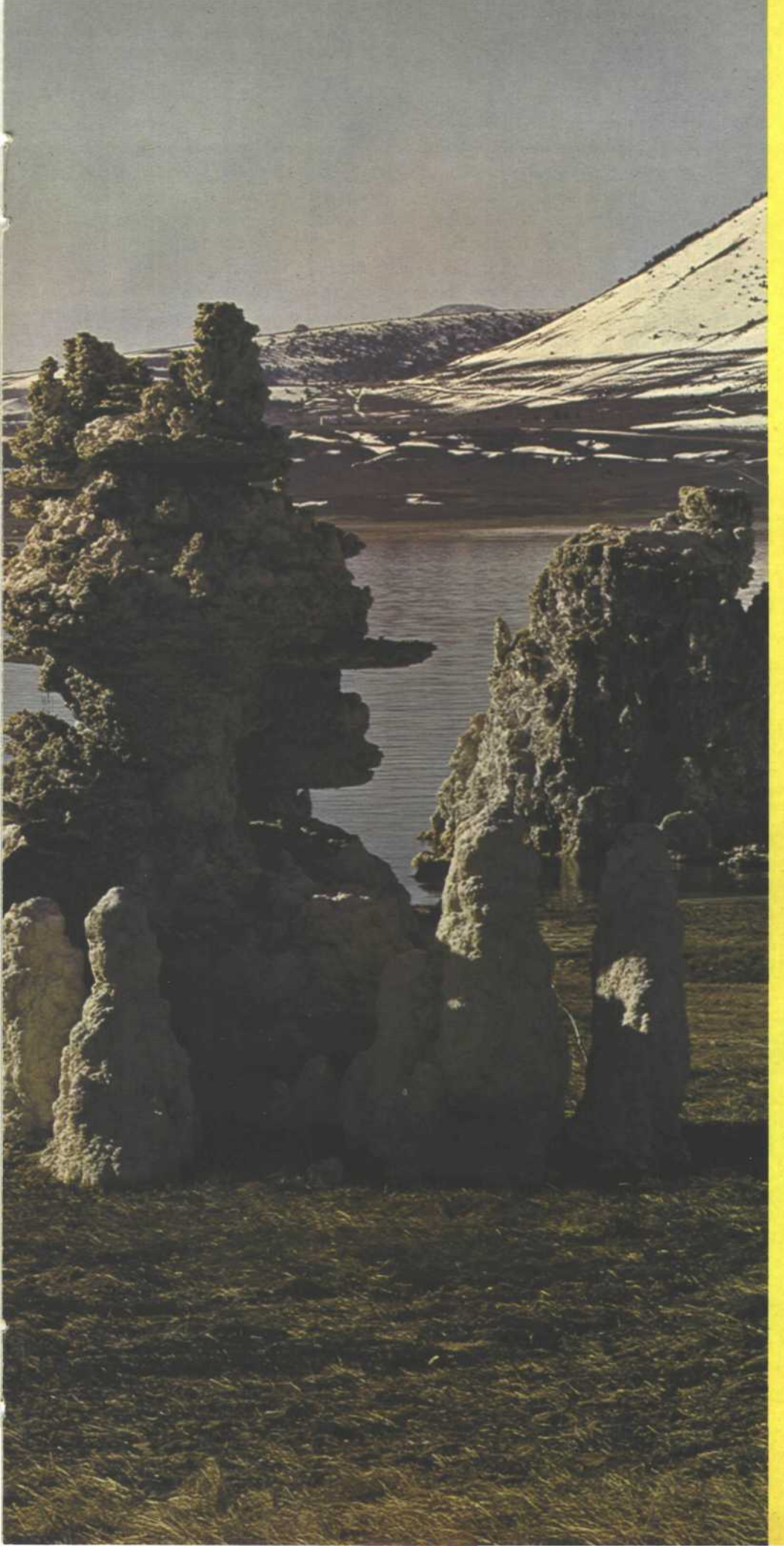
For this reason park rangers strongly urge anyone entering this area to register at park headquarters.

But for the adventure seeker, this area offers a unique experience to the rugged outdoorsman. It is untouched by the trash-splashing tourist. As yet no one plans to put a road through the region and destroy its natural assets.

Along a route through this area the hiker can expect to see deer, bighorn sheep, tall pines, stately oaks, the proud blooming yucca, delicate Indian paintbrush, colorful beavertail cactus, and an endless rainbow of other wildflowers.

Many of the canyons of the area—such as Salvador—are choked with native palm trees, a natural wonder more unique than the coastal redwoods.

But our trip was over and at trail's end we all shed our boots and enjoyed soaking tired feet in the cool waters of Coyote Creek. We were pleased with our accomplishment, impressed with the magnificent terrain we had seen, and glad that J. Smeaton Chase had given us an idea to hike this area. □

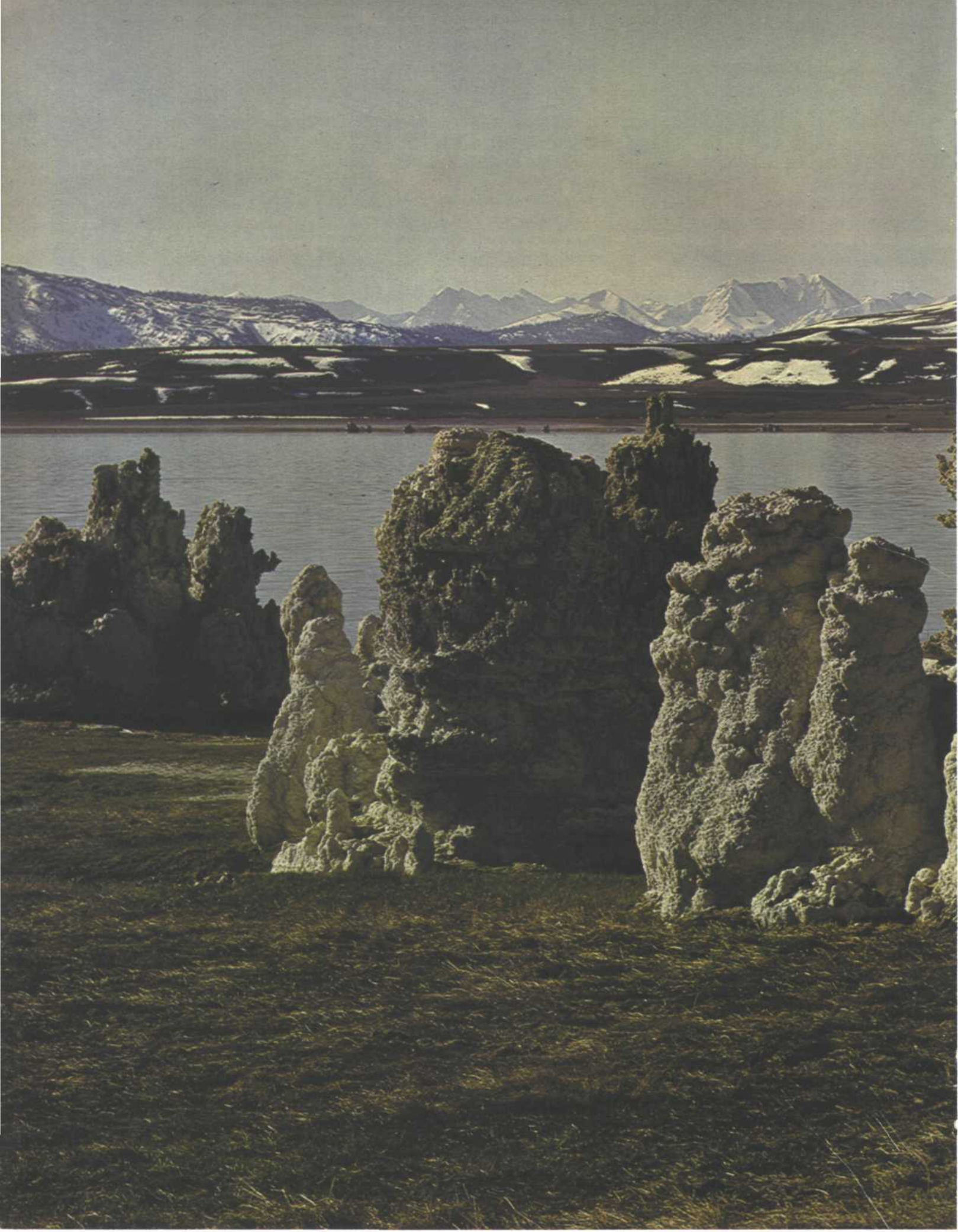


Often called "the Dead Sea of America" Mono Lake, California, has no marine life and is surrounded by wierd formations as shown in this color photo by David Muench, Santa Barbara, California.

Mono Mills to Bodie

by Robert C. Likes

SITUATED IN A tranquil setting on the desert side of the Sierra Nevada, Mono Lake has been referred to as "the Dead Sea of America." This large brackish body of water contains a high percentage of sodium sulphate, two small islands, no marine life, and very little vegetation on its shoreline. The soil of the surrounding terrain is largely volcanic sand and pumice which barely supports the growth of sagebrush, and in



places, is devoid of any growth.

The paradox to this picture is the forests of Jeffrey and Lodgepole pine a few miles south of Mono Lake. It is surprising that this country could bear trees, and incredible that they would mature to four feet in diameter. However, the country does, and the trees did, and therein lies the birth of a railroad.

Huddled in the sagebrush-covered mountain, 30 miles north of Mono Lake, was the brawling, boisterous, gold mining town of Bodie, California. With a soaring population of nearly 12,000, the town's need for lumber to build homes, timber for shoring mines, and wood for fuel was tremendous. Teamsters could not begin to meet the enormous appetite Bodie had for consuming wood. The stage was set for the obvious answer to the problem—build a railroad to the large timber stands south of Mono Lake.

The Bodie Railway & Lumber Co. was organized on February 18, 1881, and shortly afterwards, J. T. Oliver surveyed the route from Bodie to the mill site five miles south of the lake. When completed, the proposed 31.7 miles of roadbed was to descend the 2,000-foot drop in elevation and traverse the alkali flats on the eastern shore of Mono Lake. Thomas Holt, an engineer, was selected to ramrod the project. In addition to this task, Holt was operating a five-ton steamship and several barges on which materials and supplies were transported across Mono Lake to the railroad construction crews.

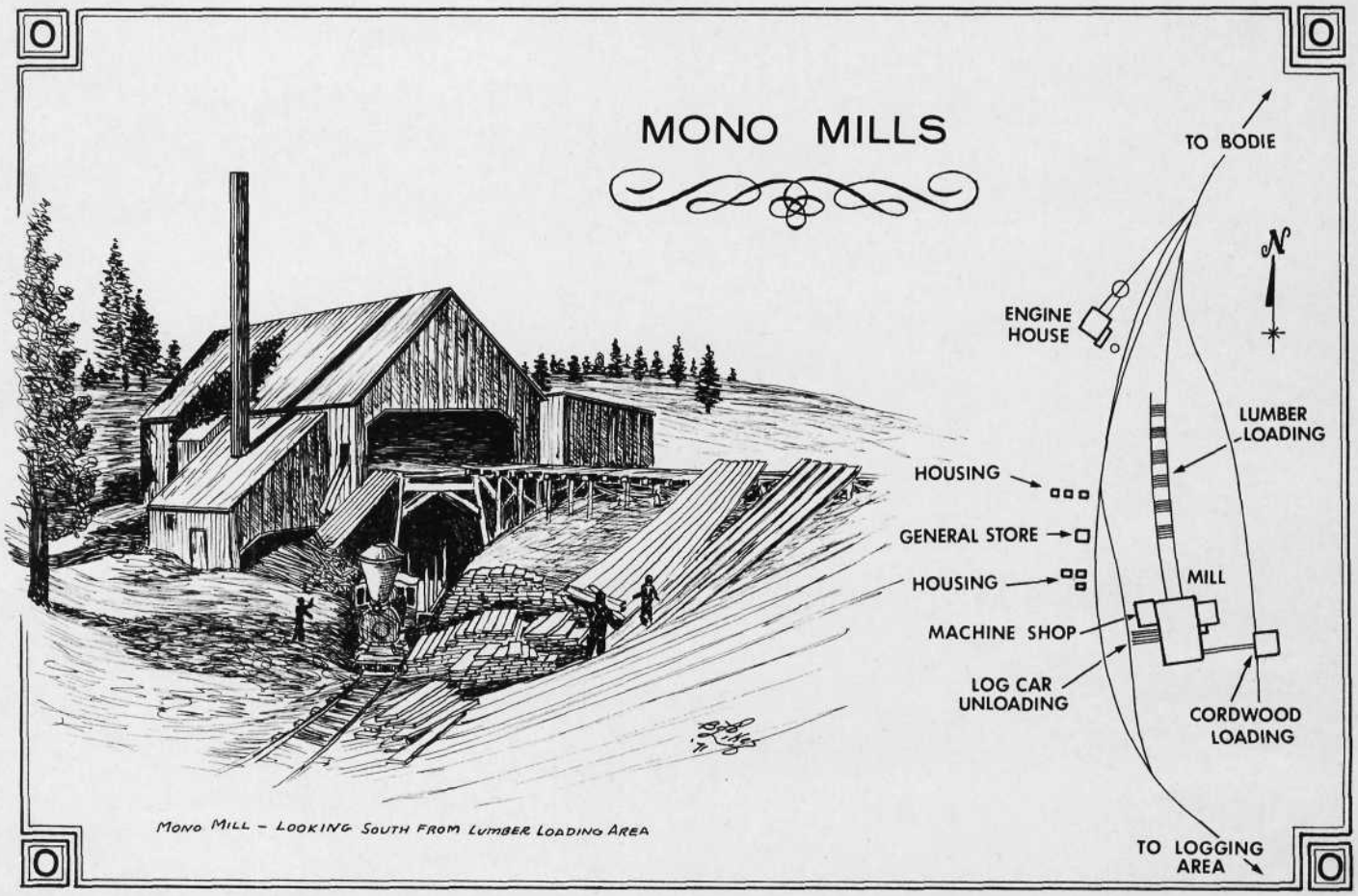
While the sawmill was being built, grading for the roadbed was started at the top of Bodie Bluff in May, 1881. With the aid of two switchbacks, many cuts, and a 260-foot trestle, the steep and circuitous grade down to lake elevation was accomplished, and by mid-July, the first 20 miles of roadbed had been graded.

The first shipment of rails arrived in August, and as they were being spiked into place, the final five miles of grading was completed to the new mill. In all, some 2,000 tons of rails, spikes and other supplies were used. The total cost of the road reached $450,931. In addition, $81,390 was spent for equipment that included 4 engines, 12 service cars, 51 flat cars, and one caboose. The "last spike" was driven on November 14, 1881, and a two-car lumber train arrived afterwards to officially open the road.

The following weeks saw the new railway quite active with a scheduled train leaving Bodie each day at 6:30 A.M. and arriving at Mono Mills at 10:00 A.M. The train departed the mill at 2 o'clock each afternoon, and arrived back at Bodie by 6:00 P.M. The ten- to twelve-car train was broken up into three sections prior to the final approach to Bodie in order to negotiate the switchbacks and 3.8% grades. In addition to the problems caused by the sharp turns and steep grades, the rolling stock was not equipped with air brakes. Two brakemen were kept busy hopping from car to car setting the hand brakes whenever the train began to gain momentum. There were many derailments, but no fatalities among the crewmen were ever recorded.

The southern terminus at Mono Mills, while not a large settlement, was a busy one. There were 200 men employed in the wood and lumber business, and the aroma of fresh sawdust was everywhere. Two large boarding houses and six smaller dwellings were located near the mill. The single store supplied all the necessary goods required by the residents, and was operated by Gilchrist, Sharp & Company, who also had 40 mules packing wood, and two large ox teams hauling logs to the mill.

The well-equipped mill was one of the best in the state. Located in a small ravine, the second floor was level with the sur-



MONO MILL – LOOKING SOUTH FROM LUMBER LOADING AREA

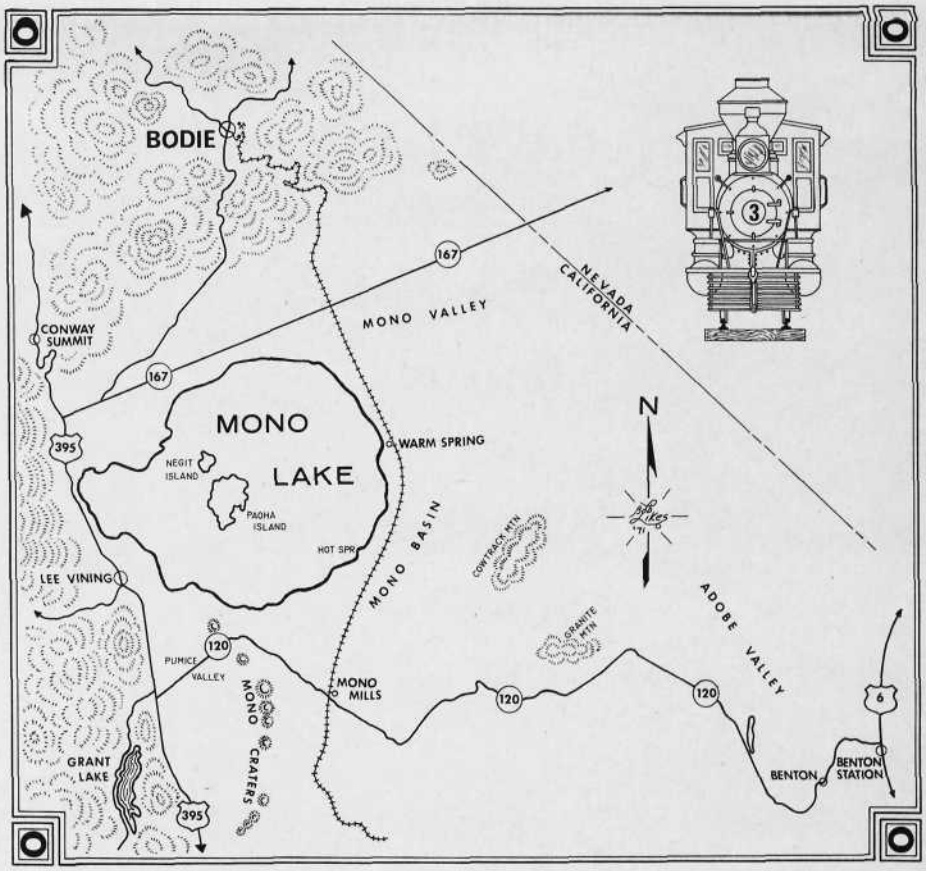
rounding country so the heavy logs could be easily rolled into the mill where 54-inch circular saws quickly reduced their size. One 44-inch "pony" and two smaller cut-off saws completed the task of transforming logs to lumber. The machinery was powered by a steam engine, and water was obtained from springs and transported to the mill by 2-inch pipe. The mill had the capacity for turning out 80,000 board feet every ten hours.

The greatest portion of Mono Mills output was in cordwood. This relatively poor quality of wood was used as fuel to produce steam power for the hoists and stamp mills at the Bodie mines. This demand kept the flat cars loaded to capacity and helped offset the low yield of only 8,000 board feet per acre for construction lumber. The "last run" of the season was made on January 7, 1881, after which the railroad closed down for the winter.

While the snow covered all traces of the railroad, its board of directors were evaluating the future. It was decided that conditions were good enough to start expanding. A new line was to be graded into Benton, California, with hopes of connecting to the forthcoming Carson & Colorado narrow gauge. With this connection to the outside world in mind, the name of the railway was changed to the Bodie & Benton Railway & Commercial Co., and the following spring brought renewed activity.

On May 12, 1882, grading for the "Benton Branch" began at the Warm Springs station, midway between Bodie and Mono Mills. During the same month, four more miles of track was added south of the sawmill to help facilitate the logging operation. Turntables were installed at both Bodie and Mono Mills. They were the Armstrong "gallows" type, and required man-power to "walk" the engines around.

After nine miles of grading through Adobe Meadows had been completed, work on the Benton extension was suddenly called to a halt. Although no reason was given at the time, it could have well been an early warning of future conditions, for toward the winter months of 1882 and during 1883, many of the mines at Bodie closed down, and the railroad was operating only intermittently. The entire railroad, including the timber acreage and sawmill, was leased in 1884, and for the next six years operated on a



"as required" basis only. By 1890, conditions at Bodie reached a low ebb, and the railroad was inactive for three years.

Tom Legett, superintendent of Bodie's biggest producer, the Standard Mine, convinced the owners that electric power would greatly reduce their operating costs. Since Bodie did not have a stream on which to base a power plant, the Standard Mine purchased the necessary ground on Green Creek, fourteen miles away. Although crude by today's standards, the Green Creek plant would develop 6,500 volts and was the "shot in the arm" Bodie needed to get back on its feet. In 1893, Legett turned on the main switch and the electric motors at the Standard Mine began humming.

The sleeping town of Bodie woke with a shout, and once again the railroad was doing business as usual. Two years later, a new cyanide process was developed to recover gold from the huge mounds of tailings formerly thought worthless. This operation further aroused activity in the area and nine such plants were constructed in short order. By the turn of the century, Bodie's population had leveled off at 500, and mining activity became steady without the ups and downs of the "boom years."

Charles Knox of Tonopah, Nevada, and Jim Cain of Bodie, formed a syndicate to purchase the railroad in 1906. This time the railway was doing business under the name of The Mono Lake Railway & Lumber Co. The new company acquired additional timber lands, bringing their holdings to 23,000 acres. The stockholders expected to do a flourishing business as contracts for large quantities of wood and lumber were already signed. Many propositions for an outside rail connection were made over the next few years, but the only rail expansion was more trackage into the woods.

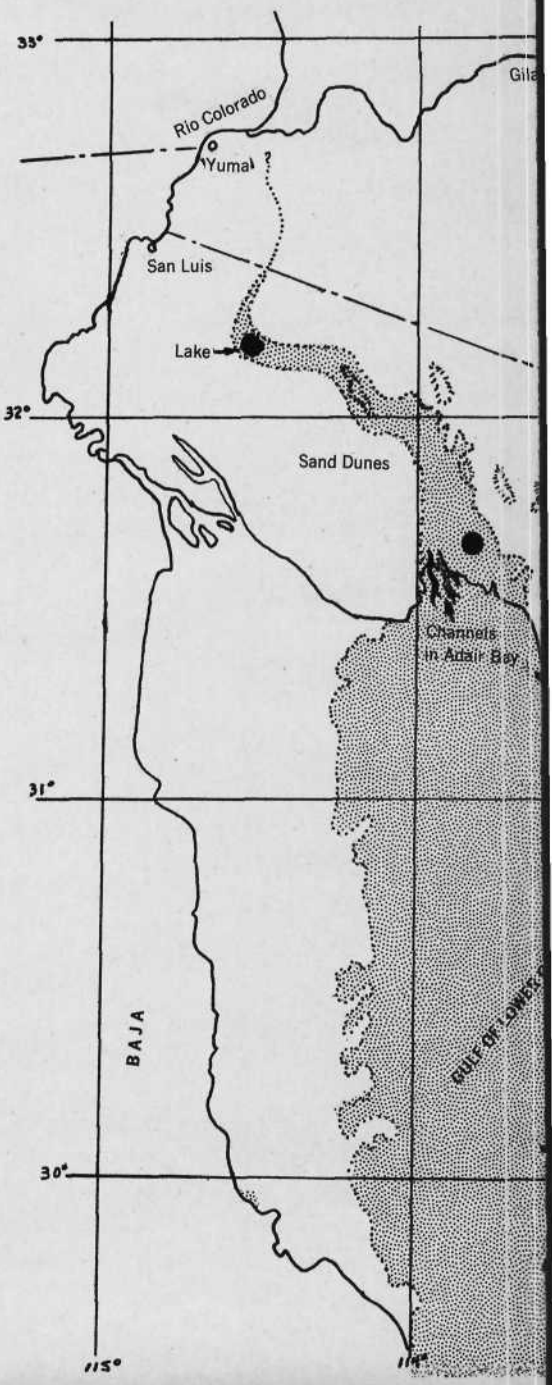
Mining activity in Bodie suffered a steady decline after 1912. The granddaddy of them all, the Standard Mine, closed down in 1914 after contributing to an estimated 90 million dollars in gold extracted from the district. By 1916, the population of Bodie had decreased to 200, and it was becoming apparent that the town was soon to join the ever-increasing list of "ghost towns."

The story of Bodie's narrow gauge to nowhere came to end in 1917, when the railroad was sold for scrap. The town that the B&B Railway helped build is today preserved as a California State Historic Park. On a hill overlooking this relic of California's bonanza era, stands the old railroad station, a weathered marker for this chapter in the fabulous history of narrow gauge railroads. □

RESTLESS COLORADO RIVER

by Harvey Gray

Are millions of acre-feet of water being lost from the lower part of the Colorado by a mysterious underground channel? How much more fertile crop land in the United States and Mexico could be saved if we plugged the hole?

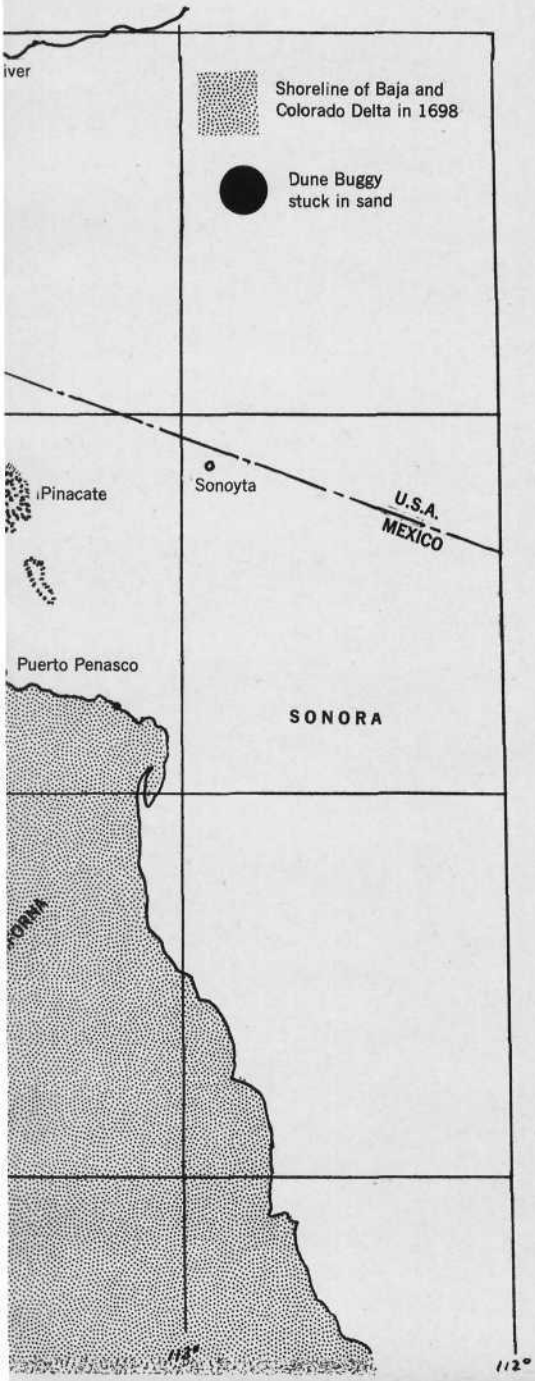


THE DAMMED Colorado: is it slipping out the back way? If so, it isn't a diversion you'd care to follow through its long dark tunnel, with only one skylight between Yuma and the Gulf of California.

An old map by Padre Eusebio Kino, the earliest explorer of Mexico's Pinacate lava fields and the Sonora Desert region in 1698-1701, is intriguingly different than the modern charts of the north of the Gulf. It shows the Colorado delta reaching almost to the U.S. border, and entering the gulf near the northeast corner rather than the northwest where it is today—nearly 65 miles east of its present location.

In studying his diaries and the works of various writers such as H. E. Bolton and many of the early Jesuits of New Spain, it is obvious that Kino was much too experienced as an explorer and car-

Surrounded by an arid desert, a mysterious lake (left), 20 miles southeast of San Luis, Mexico, gives credence to the underground river theory. Using a dune buggy, Desert Magazine's exploration team (right) slowly makes its way to the top of a 300-foot moisture-laden sand dune. One of the many outcroppings (below) of the Pinacate area first explored in the 1700s by Father Kino whose trail was followed by an expedition from Desert Magazine.



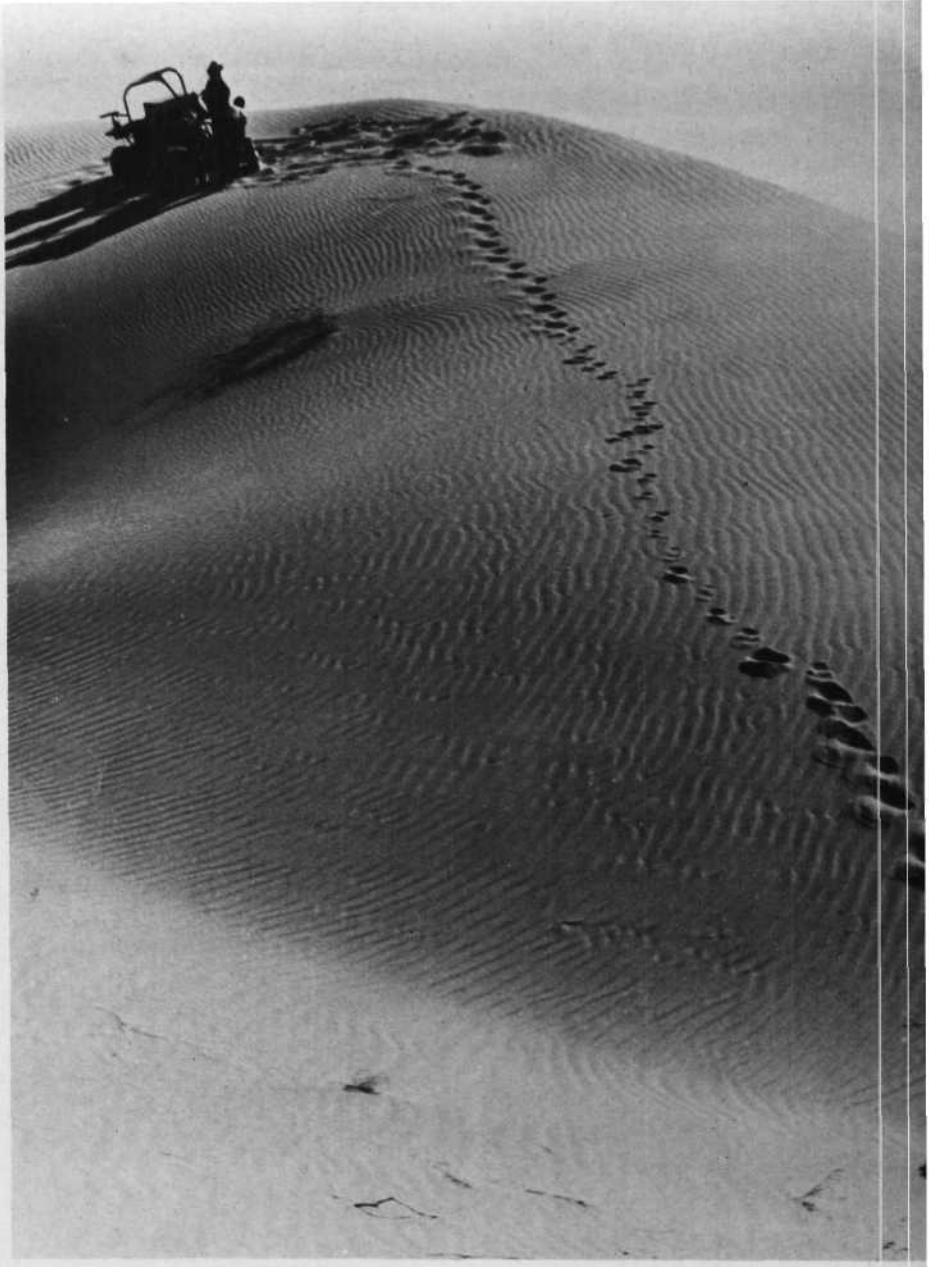


Photo by Michael Sager

tographer to have made such a gross error in locating the mouth of the Colorado River.

Assuming Kino to have been correct, that now barren and desolate region on the western edge of the Pinacate lava fields surely supported human habitation when the river, or its delta, was located nearby. A map of 1774 shows the mouth of the Colorado to be near its present site, yet all earlier maps located it as Kino did, and show the northern gulf to be much narrower than today.

Why was it that shortly before 1774 the river decided to go back to its ancient course of hundreds of centuries earlier when its estuary closed off the north end of the gulf and created an inland sea where the Imperial and Coachella valleys are now located? Then ages later, after the dead sea had evaporated, wandered back into the Salton Sink and created Lake Cahuilla, then again changed is course to flow back into the gulf!

Eventually it abandoned its channel west of the confluence with the Gila River and headed out on a generally southeastern course; only to return to its original course centuries later. What caused such restlessness of the lower Colorado—if that many changes over a period of millions of years can be termed restless?

Aerial photo of Adair Bay in Mexico's Gulf of California showing sand dunes and terrain indicating how water from the underground river is flowing into the "Sea of Cortez."

Our *Desert Magazine* exploration team decided to see what evidence we could find of that period in prehistory when the river flowed past the Pinacates and on down to the gulf so far east of where it enters today.

The first indication we came across was the pattern of recent arboreal growth not yet covered by the encroaching sands. Then along what was once the eastern shore of the delta and its tidal flats there were numerous sites where Indian artifacts were found; pottery shards, metates and manos, fire rings and council circles, arrowheads and middens of seashells—items uneffected by time. Many of the shells were amply decalcified to be hundreds of years old.

It was when we got onto the big dunes, 300 feet high, or higher, that we began finding conclusive evidence. The first clue was found by accident when our dune buggy became stuck on the lee side of a crest. As we dug down into the dry blow sand to free the buggy we encountered moisture within 18 inches of the surface.

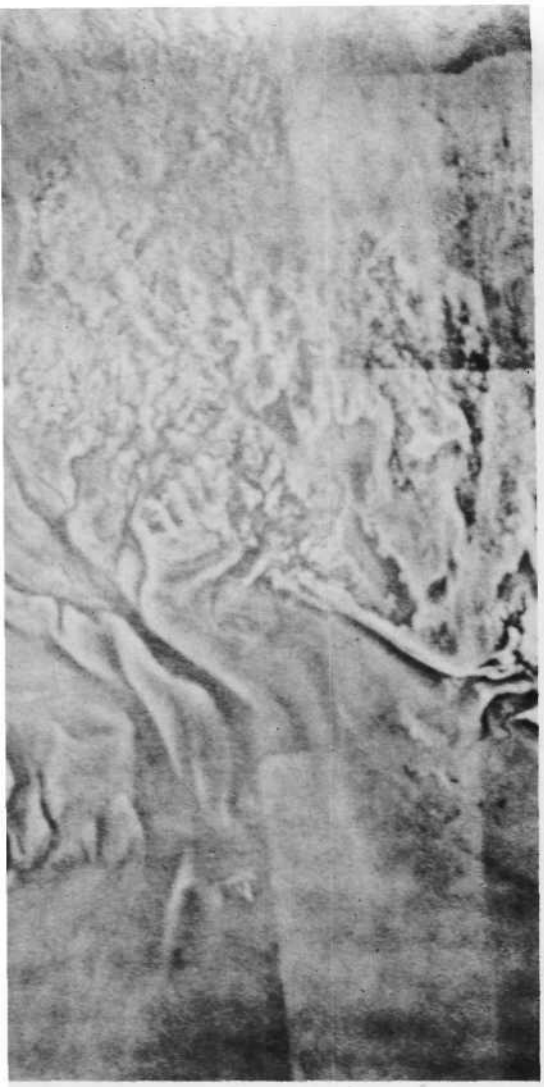
Checking our reconstructed map showing the general course of the old channels and the delta we were not too surprised to find this great dune was directly over where we believed the delta to have been, possibly over one of the channels. There had to be water below and it was being brought to the surface by capillary action and thus creating the big dunes—moist sand does not drift with the wind.

These dunes might best be described as sand hills, continuously growing on the same site for years. The dry dunes in adjacent areas were the so-called walking dunes, slowly moving in an easterly direction as the winds carry the sands from the up-wind side over to the lee; they are crescent-shaped and sharply crested, dished in on the lee side.

The next clue was a real surprise. Far out in the dunes, about 20 miles southeast of San Luis, Mexico, there is a lake covering an estimated ten or twelve acres. There is no surface inlet or outlet to be seen, yet, judging by the shoreline and the vegetation bordering it, the water level remains constant. The lake lies at a point where, according to the pattern of the big dunes, we believe there was a bend in the old channel swinging it more to the east.

On a later expedition we found the most conclusive evidence of all. We reached the coast of Adair Bay, a clear vestige of the ancient delta. Extending out from the shoreline, in the floor of the bay, are several deep channels. A strong current is required to keep these channels open against the powerful tides and their burdens of sand. There is obviously a considerable underground flow coming down the old river channels from the Colorado.

Not having seen the area north of the border we can only guess at the point of divergence from the river. Judging by the dunes pattern and our estimated course of the old channels, it appears to originate somewhere in the vicinity of



Yuma; above the Morelos dam and probably—but not positively—from below the Imperial dam.

After seeing this vast area below the border, both from the ground and the air, we were able to arrive at a theory as to how and why the river shifted its course sometime in the late 1700s In those early days the gulf tapered to the north, so that as the tides progressed up its 750 mile length from south to north they became higher and advanced more rapidly as the surface area narrowed.

Tidal bores in excess of 20 feet are a matter of record. These great bores were dissipated when they reached the north of the gulf and spread out over the tidal flats where the desert and dunes now lay, and at ebb tide would deposit their vast burdens of sand. Surface temperatures in the area have been reported at 180 degrees in the summer months. The blistering sun dried out the top sands in a matter of minutes after the tide receded, and they would be drifted by the prevailing westerly winds forming the great dunes as they now exist.

Where the force of the incoming tides met the current of the river huge sandbars were formed and were enlarged by the debris and silt carried by the river.

Francisco de Ulloa, one of the earliest explorers to sail to the mouth of the Colorado in 1647 reported, "A recent downpour to the north had put the river in flood so that down the estuary came floating great clots of grass-matted soil, trunks of trees and other light debris. Sometimes it was the color of lime—the color of a river in flood, then yellow, then dark brown, and again the color of chocolate or nearly black from the volcanic contents of the soil."

With the formation of these bars of silt and sand, the channels of the delta were choked and eventually dammed. The river became deeper and its waters backed up to the confluence with the Gila River, or farther up both rivers, and spread across the tidal flats surrounding the delta. Finally a trickle overflowed the once-high west bank of the Colorado. While the bank washed away the trickle became a flow, and the flow a torrent as the river rushed out into the lower lands to the southwest. Several hundred square miles were flooded before the rampaging river once again settled down in its ancient stream bed to the west.

The water flowing over the west bank cut deep to a ledge of bedrock where it could go no deeper. This, however, was not as deep as the bed the river had followed for several centuries. A greatly reduced flow continued as it had before.

With the diminished volume of water going down the channel toward Adair Bay the river and the flood waters in the delta gradually stagnated and could no longer carry away the blowing sands as they settled. Over a period of time the channels became filled to the top of their banks. Capillary action carried the moisture upward, dampening the sands as fast as the winds deposited them, first forming ridges and then dunes that continued to grow into great sand hills. As the moisture reached the top of the sand it evaporated where the arid desert air reached it.

Waters gradually drained from the flood plains of the delta, joining the flow still coming down the old channels. Bit by bit the water built up pressure when the capillary action and evaporation could no longer handle it. The flow became more concentrated and its velocity increased as seepage broke through under the old barriers and soon became a free flowing underground river into Adair Bay.

The last inhabitants who might have seen this all take place were the Arenero Indians. Most of them left while the waters were disappearing; the last of them were run out or killed by a Mexican posse nearly a century ago—they had been responsible or were so accused, for more than 50 murders and robberies along the *Camino del Diablo*. They left no written records and their legends died with them. Consequently the "how" and "why" the river changed is course is a matter of conjecture based on existing evidence, with a few educated guesses to fit the pieces together.

The amount of irrigation water being lost before it reaches the Alamo Canal and possibly, but not probably, from the All American Canal is also a matter of conjecture until the comparative flows can be measured.

In any event, if you're boating down the lower Colorado take the right hand branch—the other has a very low ceiling. □

Desert Bulldozer

by K. L. Boynton
© 1971

AMONG LOCAL desert rodents, the arrival of a badger in their midst is very bad news. No welcome mat is hung out for this heavy-set, low-slung character in the greyish fur and white face markings. Indeed, his advent is marked by a frenzied fleeing in all directions, a tumbling head over tail into burrows to escape.

Not that it does much good. The badger, inviting himself for dinner, puts his renowned earth moving machinery into action. His power driven claws rake and tear the hardbaked desert soil, sending it flying. Working at top speed, he bulldozes his way deep into a burrow and in a matter of seconds, is dining on its owner who, fastfooted as he may be,

The wily badger—always playing the badger game—is only vulnerable to mountain lions, bears and man. Photo below by Adrian Atwater and, right, by G. E. Kirkpatrick.

never makes it out his back exit.

Furthermore, if this particular tasty item is the last course on the evening's menu, the badger may not bother to go home. The burrow he's in at the moment is good enough for temporary layover since it takes only a few lazy strokes of his big clawed hands to enlarge it to fit his broadbeamed body more comfortably. In no time he's fast asleep, thus fed and lodged by the rodent now reposing in his stomach.

With a sharp nose to tell him where food is and the digging tools to get at it, the desert badger lives high on the land. Kangaroo rats, pocket mice, ground squirrels are eaten with gusto and in quantity. Lizards are also fancied as are turtle eggs, scorpions, beetles, grasshoppers and other insects in season, one badger being seen digging industriously around cactus plants where *cicada pupae* were hatching and stuffing himself on them. Ground-nesting birds are caught occasionally but this bad record is more than offset by his high rodent removal score, particularly of ground squirrels who are known to be great little eaters of bird eggs. The badger's moisture needs are well supplied by prey he eats, and hence his ability to exist in the desert far from water. Yet, given an opportunity, he will drink copiously, and unaccustomed to water as he may be, he is a good swimmer, a skill that comes in handy in sudden desert flash floods.

An old hand at the hunting game, the badger knows a few labor-saving tricks. Zoologists Knopf and Balph, studying Uinta ground squirrels in Utah, found that the local badgers likewise were giving the same ground squirrels considerable attention. It was obvious to the scientists from the first that their squat four-footed fellow investigators already knew more about the subject than they did, and that by watching the badgers they could learn a lot.

Now it seems that it is the wont of Uinta ground squirrels to congregate in an open habitat, living closely together, each in his own den. Consequently within such an area there are a great many holes which are the front doors and emergency exits of these private burrows. In the course of the season, some burrows contain females with their young. Others have only one occupant—an old maid, or a male living bachelor style. The watching zoologists saw that time after time when a badger came foraging he looked the holes over, passing up a number of them, before making his selection. Single animal dens were ignored, and each time the burrow finally chosen was one occupied by a female and her young. Once the burrow was selected, the badger located its one or two exits and plugged them shut. He then proceeded to dig leisurely into the main entrance, trapping the entire family within.

The payoff of all this was apparent when subsequent investigation showed that the badger, for the same amount of digging, thus netted some 700 grams of food as opposed to a maximum 340 grams from a singly occupied burrow. But how, the zoologists wondered, with all the den holes here, there and everywhere, did the badger always pick the ones that contained the jackpots?

The upshot of a lot of study was the conclusion that these Utah badgers certainly knew their squirrel behavior. It seems that among ground squirrels the ladies are highly territorial during the family raising season, spacing their burrows at regular intervals with plenty of elbow room between them. While extra exits are opened from these nurseries, the youngsters tend to cluster around the main entrance during the first few weeks of their lives above ground, and hence the front door gets a lot of wear and tear and shows it. A smart badger can tell a busy burrow just by looking.

Balph also encountered a badger who capitalized still further on his knowledge of squirrel psychology. It seems that by June or July the ground squirrel wooing season tapers off. Boundary lines are lifted, territorial disputes forgotten and the squirrels frolic anywhere they please. Running and playing or alarmed, they may dash into any handy hole. This particular badger, having carefully enlarged one of their burrows to fit himself with plenty of turn-around space, partially plugged up its two entrances until they were only ground size. Escounced comfortably therein, he had only to wait a short time before some silly squirrel, chasing and fooling or frightened at something, whisked ino one of the entrances. Nor would the catch be limited to only one. These squirrels, being a light headed and giddy lot, the frolic continued above ground despite the one-by-one disappearance of their numbers.

The badger is a firm believer in minding his own business, avoiding trouble when he can by retreating forwards or

backwards into his burrow. Caught in the open, he cannot escape by running for 10-15 miles-per-hour is about top speed his short legs can manage, and that for only a short distance as he is squat and heavy. But given a minute or two, he can dig a burrow where he is. One zoologist witnessing an encounter between a badger and a dog saw the badger fend off his attacker and at the same time dig a hole into which he shortly disappeared to safety.

Alcorn reports trying to dig out a badger who had a two or three foot start, and while he could hear the animal working away through the sand and desert rubble couldn' catch up with him. Another report tells of 10 men all equipped with shovels trying to dig a badger out of sandy soil. After four hours of digging they had gone down six feet and had a 30-foot passageway. The badger was still ahead of them. At this point they gave up, ready to admit that once a badger gets into the earth his unbelievable digging ability plus his trick of filling in behind him as he goes makes following his route and catching him impossible.

Forced to fight, the badger puts everything he has into it, fired by a never-give-up spirit and supreme confidence in his weapons. Crouching flat with his legs doubled up under him, he shakes his long coarse hair outward as protective armor. Where in all that mop is the right spot for a killing bite or lethal grip? An attacker is very apt to get only a mouthful of fur, or if he's lucky enough to connect with the hide underneath, he's little better off. The badger's skin is so tough it is hard to keep hold of. It is so loose that the animal can turn and twist without shutting off his own wind, and bring his own teeth and raking claws into the act. A dog twice his weight can't lick him, and is liable to be a very dead one if he tries.

Coyotes are usually far too smart to tangle with a badger, so in most of his haunts—the low desert, intermontane valleys, creosote-sage areas—only the mountain lion and possibly the black bear are left as potential enemies. The badger's main trouble comes from man, a fellow who seldom gives an animal a fair fight, and who ought to know a friend when he sees one. For the badger is a valuable cog in desert machinery.

He is an important check on rodent overpopulation, a prodigious digger of holes that, later abandoned, provides homes and protection against the harsh environment for other desert citizens: little desert foxes, rabbits, owls, snakes, lizards. His earthworking turns the soil, opens the way for water to enter. Leftovers from his dinners provide food for smaller meat eaters and scavengers, and his neat way of disposing of his droppings helps in the creation of organic soil.

Heavy of body, short of tail, the badger is one of the biggest of the *Mustelidae* family which also boasts such illustrious members as weasels, skunks, wolverines and otters. Like his skunk cousin, the badger has scent glands. The two located on his belly are mainly sex lures. The other pair under his tail are used for defense. The smell produced by a cornered badger is pretty bad, but nothing, of course, when compared to that of the skunk, nor can he direct the fluid for an accurate shot, as does the old master smell maker.

The *Mustelidae* are an interesting lot, whose evolutionary history and clan relationships are still not satisfactorily straightened out. The tribe appeared somewhere around 40 million years ago, splitting off from the regulation carnivores and going their own way ever since. *Plesicitis* was one of the badger's earliest ancestors and he already showed the short face and long brain case characteristic of today's models. The modern *mustelids* put in appearance about 10 million years ago. Some became specialized as active meat eaters (weasels and wolverines), some specialized for life in the water (otters), some for climbing (martins) and some like our hero and his European counterpart, became the most specialized diggers of all carnivores, regardless of kind.

With a good layer of fat under his skin and a burrow for protection, the badger is active even during the winter except in his northern range, or in high altitudes. Plenty of food is to be had simply by digging out hibernating neighbors, among them rattlesnakes. Cold and sluggish in their underground retreats, these formidable reptiles avoided by the badger during the warm season, are now to be had for the taking. When he has finished dining on this delicacy, only the snake's head remains, for this part he never touches.

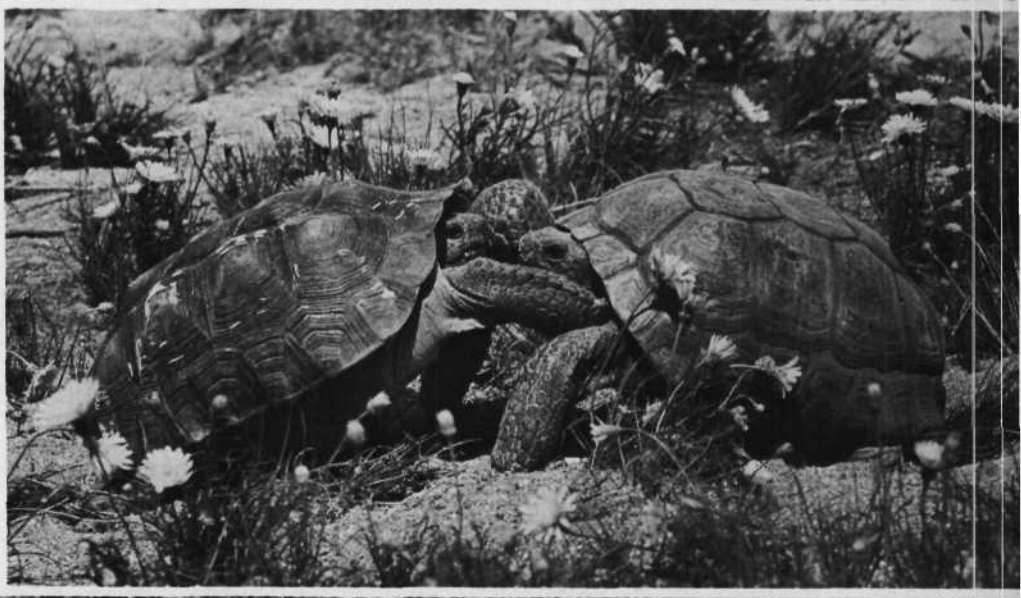
When summer comes, the badger's thick, coarse hair makes a good umbrella, his fat further helps to keep the sun's rays from damaging vital organs. Cool and comfortable in his burrow during the midday heat, he waddles forth in the evening. Now is the time for rodents to be abroad, and the Old Desert Bulldozer, well rested and hungry, is ready for action. □

Desert Life

by Hans Baerwald

Battle of the Tortoises

When two tortoise meet in combat they first bob their heads and size each other up before entering into contact during which they use both their heads and front feet to overcome their adversary. End of the battle comes when one turns the other over. If the victim cannot right himself, he will die. The desert animals are protected by law. Photo sequence by Hans Baerwald.



FOR MOST people, Baja California brings to mind the scorching desert, bleached bones and roaring four-wheel-drive vehicles racing the 500 mile length of the peninsula through searing heat, cactus and the rusty remains of less fortunate vehicles.

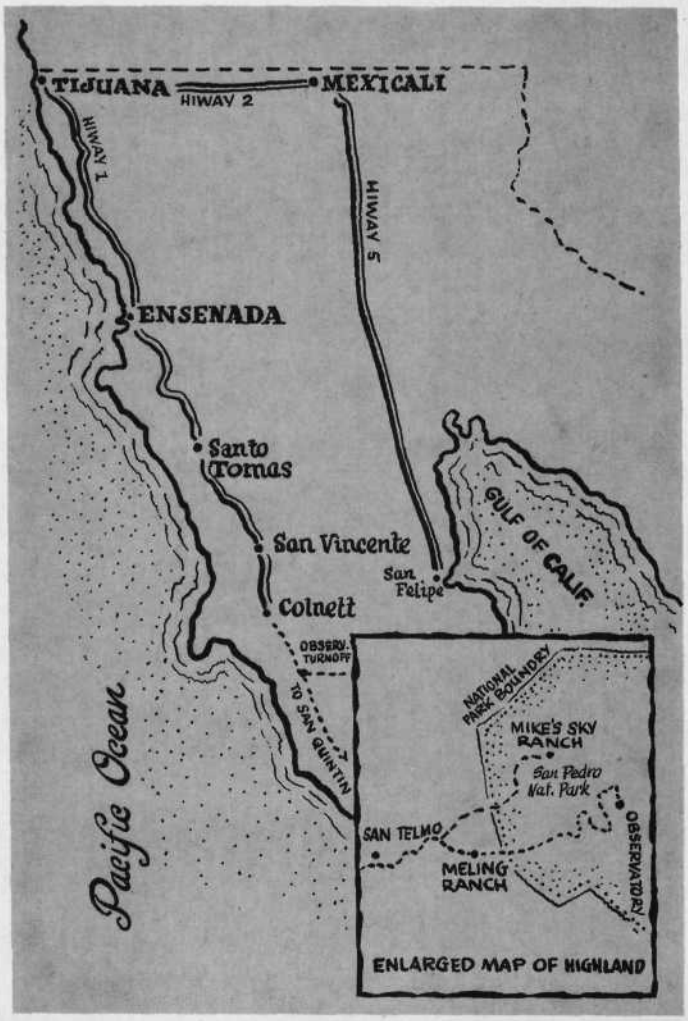
There is another and more delightful side of Baja. High in the San Pedro de Martir range are vast stands of virgin timber, massive Ponderosa pines amid alpine meadows, crystal springs and groves of aspen, all fused into one of the few remaining primitive mountain wildernesses in North America

This lesser known side of Baja is by no means inaccessible. Rough, but not inaccessible. Four-wheel-drive trails intersect the towering pines and with the construction of an observatory complex high on the Martir range, the prospect of a paved road through the San Pedro National Forest will soon be a reality.

The completion of a dirt road from San Felipe on the Gulf of California side has further opened the scenic magnificence of this unknown part of Baja to travelers from all of the western states.

HIGHLANDS OF

by Bill Mack



Virgin timber (above) of the seldom visited San Pedro National Forest in Baja Mexico. Author inspects one of the Baja giants (right) near the Meling Ranch.

The San Pedro de Martir range, a chain of lofty mountains which form the spinal column of the rocky Baja peninsula, has some impressive peaks. Cerro del Diablo, the highest peak in Baja California, is a towering 10,400 feet. The newly constructed observatory complex is over 9,000 feet in elevation. Snow is no stranger in this part of Baja.

Wisely, the Mexican government has declared a large portion of the accessible mountain region a national park. It is hoped that such a move will spare the wilderness areas from the depredations that have marred some of our own timbered lands.

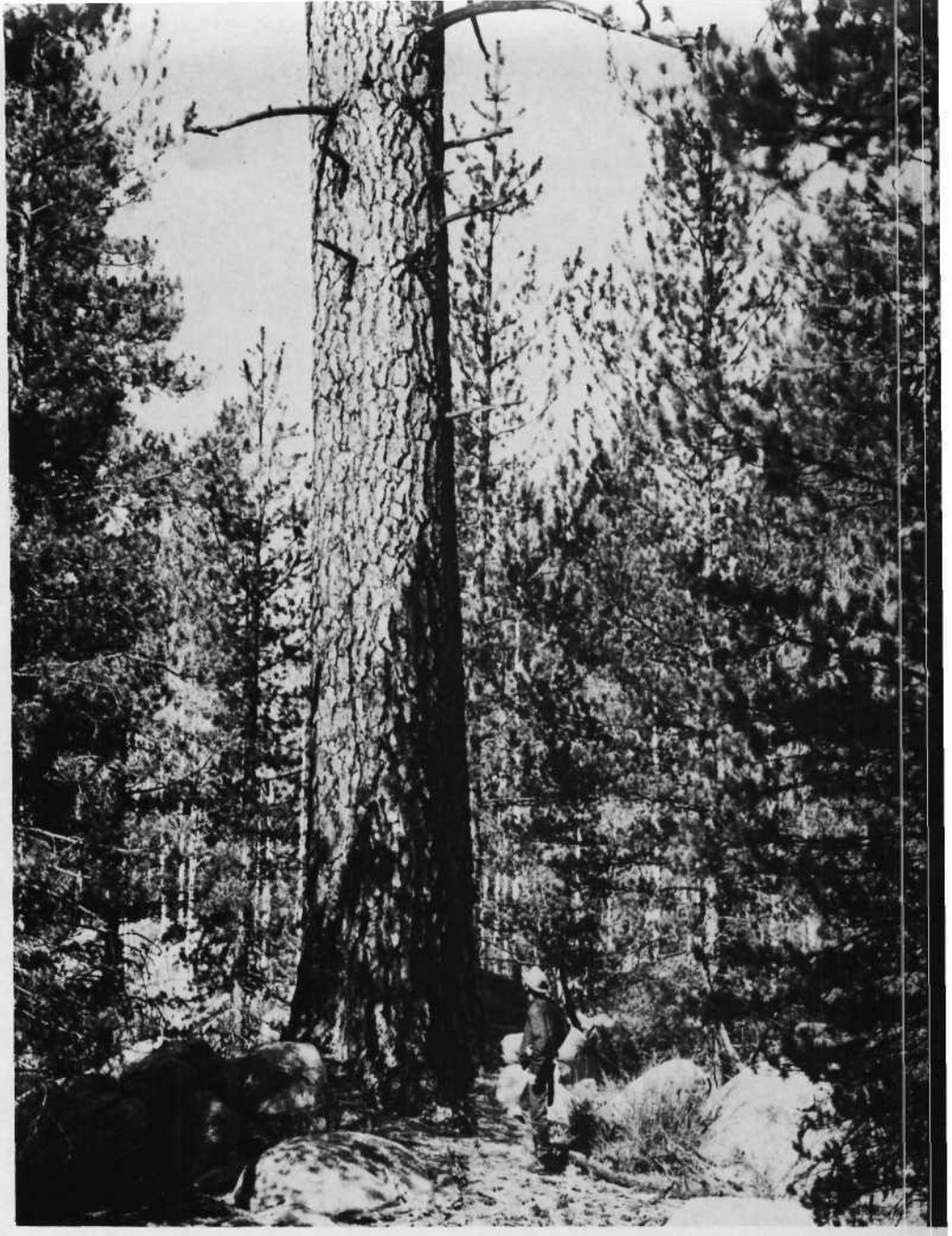
Unlike most of our northern timber stands, the Baja highlands are practically brush free. The timber, studded among huge granite boulders, grows directly from the dry lake beds and morains. This unique feature allows easy hiking and in non-restricted areas, easy four-wheel driving.

There is wildlife in abundance during the summer season. Bluebirds, martins, ever present woodpeckers, deer, coyote and an occasional mountain lion are natives of the woodlands.

Man, the perpetual destroyer, has not yet basically affected the region. The

towering pines have a natural enemy that has taken a staggering toll of the giants. Nearly every one of the larger trees has been scarred by the lightning bolts which thunder and flash during the not infrequent electrical storms. Because of their dispersement and the lack of combustible underbrush, the forests have escaped the tragedy of vast forest fires. When a tree burns it rarely effects the neighboring trees.

Perhaps the most spectacular view in all of Baja (and all the world as far as I know) is from the observatory crest. On a clear day, which is most of the time, the vast panorama of the San Felipe desert, the dry lake and the Gulf of California are visible to the east. One has but to turn around to see the Pacific.



BAJA

It is more than spectacular, it is sensational.

When traveling in this region it is imperative that you inform someone (preferably the game warden) where you are going and when you are planning to return. The roads, while adequate, offer some blind corners and spectacular drops. Experienced mountain drivers will have no trouble and speed is certainly not much of a factor in accidents. The roads practically guarantee a maximum of 25 miles per hour at most, and considerably slower most of the time. Snowstorms are possible as late as April and the roads should not be attempted during a rainstorm. Any venture into the region should be made with one eye on the weather.

Entry into Baja can be made at Tijuana, Tecate or Mexicali. Although not rigidly enforced, a tourist permit is required. This is free at the border. Proof of citizenship (voter registration, service discharge, birth certificate) and registration papers for your vehicle are all the documents you need.

The logical starting point for travelers who enter from Tijuana and Tecate is the Rancho San Jose, more commonly called the Meling Ranch, a justifiably famous "hidey-hole" for the more affluent gringo temporary dropouts. It is the starting point for tours of the highlands and is a must stop as Phil Meling, son of the original pioneers of the area, is the game warden. Phil, who has lived all of his life in this wild and rugged land, is the font of information for all aspects of the region. Hunting, fishing and camping information are his specialty.

For the motorist the biggest problem, aside from occasional washouts, landslides and rutted roads, is the lack of gasoline. It is absolutely neccesary to carry an adequate supply of gasoline as none is available at the Rancho San Jose (Meling Ranch) and the nearest filling station, which may or may not be open, is at San Telmo, about 10 miles from the main highway (Mexican Highway 1). Travelers can be reasonably assured of an adequate supply at San Vincente, a small village approximately 22 miles from Colnett and the end of the pavement.

Roads to the Meling Ranch are well marked although there are some unmarked forks. Most of these eventually join the main route. The best rule is to follow the road that looks the most traveled. Carry plenty of water and food in case of a breakdown. There is little to fear however, other than a temporary inconvenience, as the road is fairly well traveled. The Mexican drivers will invariably stop to render assistance. It is a Baja rule and you will be expected to do the same.

The drive is a trip into the past. A past of unspoiled mountain splendor, crystalline air and sobering solitude, all vanishing commodities. It's a great place if you can beat the asphalt to it. □

THE ROYAL BOTTLE

ALL OF the categories of old bottles have been found, or dug, in the remote camps of the early-day miners of the west. Precious and of great interest to today's collectors are the fragile objects in a great range of colors from the sun-amethyst through the variations of greens, ambers and aquamarine to the royal color known as cobalt.

Choice of a category to collect is a personal thing. To some, the old whiskies bring the most interest. To others, the bitters beckon with all their elegance in form and variety, and so on through an endless list.

A bottle category that is creating much interest of recent years are the bottles bearing an applied seal. Many of these have an Old World origin and are a delight to collectors as they show the early, crude workmanship. The seals denote ownership and bear various embossing. A name, or crest or just initials, and some have a very early date or a heraldic device.

These so-called blob seal bottles are sometimes rated by enthusiastic collectors as the Kings and Queens of the bottle world. Recently a princely addition has joined the family and, of all places, it was found near an old ghost camp in Nevada.

The owners, the Wellmans of Santa Maria, California, relate the following: "We decided to spend last Easter Week in Nevada looking for bottles and it was our first extensive trip following our new and exciting hobby. After several stops at various camps, where we found

the usual purple jars, a beer, an opium, an old wooden-spoke car wheel and Indians points and chippings, we made camp at Reveille in Nye County.

"It was a very early camp and now there are only ghostly remains of rock walls. We didn't find much at the camp as it has been dug over. It was while hiking on a nearby hillside that we came across this one whole bottle laying by a tree stump amidst various broken pieces, necks and bases."

Reveille is located in the desert mountain range of the same name some 60 or 70 miles northeast of Tonopah, Nevada. It began in 1866 and closed down in the '70s, as the silver ore was not in great quantity.

Perfect blob seal bottle found by the Wellmans.

The Wellman's outstanding seal example, as pictured, bears in high relief two portraits—heads—and the embossed names "Albert, Prince of Wales, Princess Alexandra," all done in intricate perfection. It is a tall, aqua, rather crude bottle having the usual laid-on-ring neck finish and a deep push-up base, these items indicating a liqueur of some kind.

This type bottle was in use as a "serving bottle" or decanter from the cellars of the owners and comes in many other shapes and colors. Their fascination to collectors lies in the fact the seals were handmade. They are found in oval, oblong or round shapes, some tiny on large bottles, some overwhelming a small bottle. Sloppy and crude at times but very charming in any collection.

A metal die was hand impressed upon the glob of hot glass that had been fused to the face of a bottle while the glass was hot. They are found in several positions, shoulder, mid-face or near the base. The die, embossed in reverse, was applied by means of a wooden handle on the metal shank.

In addition to their handmade popularity, there is usually a bit of research, romance and folklore to add charm. In this instance, history gives us the following: Albert Edward, eldest son of Queen Victoria of Great Britian, was born in 1841 and was known as the Prince of Wales for 60 years. He married Alexandra, daughter of King Christian IX of Denmark in 1863. The year of their marriage, in all probability, dates their private bottle. Albert became King Edward VII of England in 1901 when 60 years of age and lived to reign but nine years.

His name is linked with a bit of folklore. It has been told that Albert was responsible for the fact that men's fashion decrees the fronts of the trousers be creased. He was a huntsman and when returning from a hunt, drenched with rain, he stopped at the first men's store for a change of clothing. The trousers he bought had a crease from being long folded on the shelf. He liked the crease idea, had his own clothing ironed that way, and thereby set a style!

The owners of this bottle can truly be proud of their find, a wondrous ending to a ghost town trip. □

BONANZA

by Adele Reed

Rambling on Rocks

by
Glenn
and Martha Vargas

ZIRCON: BLUE ONLY AFTER HEATING

EVER SINCE diamonds became a popular gem, there has been a search for a substitute. The search is actively being pursued today. The first gem that was offered as such was zircon. This gem has a brilliance and fire nearly equal to a diamond, but it is much softer, about the same as quartz and quite brittle. The softness and brittleness rule it out for normal use, but is excellent for earrings and pendants. The brittleness shows up in a very peculiar way. Zircon is cut into gems in the Orient where it is found, and shipped to world markets in folded paper envelopes, known in the trade as "papers." A large number of cut gems are usually placed in a single paper, and during shipment they rub against each other, with small chips being removed. This feature is known in the trade as "paper worn" gems. The paper does not wear them, they wear each other.

Zircon is found in many places in the world, but the best gem material comes from the Orient. Burma, Cambodia and the island of Ceylon are the best localities. A mine in Tanganyika and a new area in Australia also produce fine crystals. Natural zircon does not appear in the Orient as colorless, golden or fine blue as we know it. Instead, the crystals are reddish, brown or green. Australia is the only area that produces colorless gem material, and no locality produces the golden or blue. These popular colors are achieved by heating the darker crystals found in the Oriental river gravels.

This heating is done in two ways. First, the brown crystals are put into a furnace so that, while heated, the stones are excluded from oxygen. This tends to change the color to blue in about 30 percent of the crystals; some turn to a beautiful golden color. Some do not change, others are blue, but the color is murky. These are reheated, but this time they are exposed to oxygen during the process. Some of the brown ones turn blue or colorless and most of the murky blue become colorless.

The first attempts at color change resulted in only colorless stones. This was done in Ceylon at the town of Matara. After being cut into gems they closely resembled diamonds and were represented and sold as such. When the fraud was detected, the gems became known as "Matara diamonds."

Stones from various locations behave differently when heated. Those from the Kha district in Cambodia are the best. They will consisently turn the popular blue (known as starlite) and a fine golden color. The other districts produce pieces that usually become colorless.

Zircon presents an interesting chemical story. It is a zirconium silicate, but like all minerals contains some impurities. The most notable of these are thorium or uranium salts, both of which are radioactive. As these decay, the rays given off tend to break down the zirconium silicate molecule, which becomes two molecules, zirconium oxide and quartz. This change has profound effects on the behavior of a gem.

Pure zircon has the potential of producing very high brilliance, dispersing the light into the colors of the spectrum. The two separate molecules resulting from the radioactive decay have greatly lessened ability to produce brilliant gems. Thus, only partly altered zircon is known as "high" zircon, and the highly altered

green pieces are known as "low" zircon or better as metamict zircon.

At one time, the host of possibilities lying between these extremes were known as "intermediate" zircon. This term has gone into disuse as it is very difficult to decide just where the alteration is at the moment. Generally, if the material is brown or red, it is considered to be "high" or normal zircon, and if the pieces are green, it is metamict. It has been found that the heating process tends to reunite the molecule and will change much of the metamict back to the normal type. Thus the two terms are really only valid for unheated material which is not often seen other than in the Orient.

The amateur gem cutter experiences diffculty in obtaining rough pieces of zircon to cut. There are some interesting economic aspects to this. The better gems have always been cut in the countries of origin, and if the rough were sold out of the country, the gem cutters would lack employment. Those that handle the newly-found crystals are under the impression that only the blue, golden, or white are desirable, and thus all pieces are heated. The finest of these go to the cutter.

A small amount of uncut material makes its way to this country, but it is usually far from what the average amateur wishes. Most material available are pieces rejected by the native cutter. These are usually flawed, or badly shaped. Some have been ground to various shapes before a flaw was discovered. Usually they are a motley array of pieces. Also available are the brown pieces that did not change when heated. These did lose some color in the process, but obviously are not blue or golden. Many amateurs wish to cut a fine large natural-colored gem, but such pieces are seldom available. Other cutters would like a fine large blue piece to cut into a gem, and this is even more difficult to find.

Some collectors do obtain a fine blue gem that they have cut; the obtaining of these is an interesting side issue of native cutting. The native cutter is not really interested in cutting perfect gems. He makes more money if he cuts them quickly, and this tends toward poorly cut gems. At times, a large poorly-cut gem is available as a reject from the jewelry trade. The poorly-cut gems are sometimes a thing to behold, seldom with two faces the same size or shape. Regardless, the amateur is overjoyed with these imperfects, and proceeds to cut himself a smaller, but finer gem. Large paper-worn gems sometimes appear, but usually large gems are carefully packed.

It is unfortunate that zircon was offered as a diamond substitute, for it poorly fills the need. On the other hand, it is a fine gem in its own right, and should be considered as such. □

The Trading Post Classified Ads

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DESERT MAGAZINES for sale. Collection of 213 different issues, including Volumes Number 1 and 2. Several complete years, in binders. Jan Gerbaz, 4779 Bancroft Drive, La Mesa, California 92041.

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CONTEMPORARY METALCRAFT, new quarterly "Journal of Contemporary Metalcraft, Casting and Related Arts." Articles, problem solving, reader questions answered. $4.00 per year. Box 22027S, Seattle, Wash. 98122.

LOST DESERT GOLD, legendary and geological history of the southern California desert, with photos and maps to pinpoint locations. $2.50 postpaid. Gedco Publishing Co., Box 67, Bellflower, Calif. 90706.

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SURVIVAL BOOKS! Guerrilla Warfare, Wilderness Living, Medical, Guns, Self Defense, Nature. Books—Vital, Fascinating, Extraordinary; Catalog free. Adobe Hacienda, Route 3, Box 517A, Glendale, Arizona 85301.

"DEAD MEN DO Tell Tales" By Lake Erie Schaefer. Facts about Frank Fish's mysterious death, still unexplained. Sequel to "Buried Treasure & Lost Mines" the Treasure Hunters manual. $3 postpaid. L. Erie Schaefer, 14728 Peyton Drive, Chino, Calif. 91710.

ANTIQUE BARBED WIRE Identification. Handbook hundreds of wires. Illustrated, names, dated, etc. Send $1.00 to Wire Sales, Box 6392-X, Bakersfield, Calif. 93306.

• BOOKS - MAGAZINES

TREASURE HUNTER'S HANDBOOK, Almanac of Coin, Relic, Treasure Hunting. Personalities, Articles, Detector Information. $4.00. Slocum Books, Box 176, Reseda, Calif. 91335.

GUIDE TO MEXICO'S gems and minerals: localities, mines, maps, directions, contacts. English-Spanish glossary, too. $2.00 postpaid. Gemac, Mentone, Calif. 92359.

FREE 128 page catalog on detectors, books and maps. General Electronic Detection Co., 16238 Lakewood Blvd., Bellflower, Calif. 90706.

• BUSINESS OPPORTUNITIES

UNLIMITED INCOME AVAILABLE with $3500.00 investment in expanding international organization. Information: C. J. Brown, 5220 Carlingford Ave., Riverside, Calif. 92504. (714) 684-7898.

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DRYWASHERS, GOLD PANS, metal detectors, books, custom Jeep seats, etc. Send for literature. Hoffman's Desert Products, Box 402, La Mirada, California 90638.

GOLD DRY Washer plans, portable hand operated, *recover gold from gold diggings*, from dry river beds, etc., by air principle. $2.00. R. Bown, P.O. Box 791, Arcadia, Calif. 91006

NEW TWO-WAY POWER WINCH for "Off Road Vehicles" for lots less dollars. Area dealer: Joseph Steger, 4957 ½ Rangeview Ave., Los Angeles, Calif. 90042. Enclose 25c to cover cost of mailing descriptive literature.

• GEMS

SHAMROCK ROCK SHOP, 593 West La Cadena Drive. Riverside, California 92501. Parallel to Riverside Freeway. Phone 686-3956. Come in and browse; jewelry mountings, chains, supplies, minerals, slabs, rough material, equipment, black lights, metal detectors, maps, rock and bottle books.

TEN GOLD NUGGETS with "California Gold Story," $2.00; 10 for $15.00. A Bit of U.S.A., 3131-T North 33rd St., Phoenix, Arizona 85018.

• HOME STUDY

MAKE THE MOST OF your treasures! Whether from desert or elsewhere, some of your finds *deserve many hours of loving care in making* them into permanent decoratives. Established correspondence course offers everything needed to learn complex skills in metalcraft, models for lost wax casting. You sign no contract; buy one or more lessons at a time. All items unconditionally guaranteed . . . but these new skills will cost you hundreds of hours and several hundred dollars! William Garrison, Magic Circle Corporation, Box 22027. Seattle, Washington 98122.

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• JEWELRY

GIFT SHOP DIRECTORY—900 shops addresses. Unlimited uses! How to Market Your Product —detailed, $2.00. Resourceful Research, P.O. Box 642 FDR-D, New York, N.Y. 10022.

• MAPS

DESERT ADVENTURE — Two maps featuring ghost towns, mining camps, old trails, abandoned railroads, scenic and unusual back country to explore . . . multi-color, 22x35" on topo base. "Overview of Mojave Desert" —$3.00; "Colorado Desert Overview" (Riverside, Imperial, San Diego Counties) $3.00; both $5.00; rolled 25c extra. Desert Enterprises, Box 286-D, Ontario, Calif. 91761.

OLD MAP KIT. Reprints of State and Railroad maps, 70-90 years old. Send self-addressed, stamped envelope for details. Specify state. Northern Map Co., 2046 N. Tripp Ave., Dept. DM, Chicago, Illinois 60639.

FOR RESEARCHERS, ADVENTURERS, treasure and relic-hunters, we offer these maps: "Road Map to Lost Mines—Buried Treasures of California" folded, $4.00. "Road Map to California's Pioneer Towns, Ghost Towns and Mining Camps," folded or rolled, $2.95. Both $6.50. "Oregon Trail," a decorative pictorial, showing routes and landmarks of 1810-1860. Fine artwork, rolled, $1.50. California tax 5%. We also offer map-making services to order. Varna Enterprises, Dept. A, P.O. Box 2216, Van Nuys, California 91404.

• MINERALS, PRECIOUS STONES

NEW! SEND FOR new 1972 Illustrated Catalog (215 photographs!) describing hundreds of different exciting Mineral Specimens, Beautiful Crystals and Crystal Groups, Rocks, Mineral and Rock Collections, and Amazing Geological Oddities! (6 pages of photographs and descriptions devoted just to single crystals!). Order your catalog today—it's crystal clear! Send only $2.00 (credited on first order). Satisfaction guaranteed, or money refunded. Our 25th year supplying quality minerals. Filer's, Box 487-DA, Yucaipa, Calif. 92399.

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• REAL ESTATE

PRIVATE CAMPSITES and Homesites now available at Joshua Tree National Monument's north entrance. Exquisite view of Twentynine Palms and monument. Lots and acreage, $400.00 acre. William Simmons, 3335 North Flowing Wells Road, Tucson, Arizona 85705. (602) 622-8059.

GOVERNMENT LANDS . . . low as $1.00 acre! Million acres! For exclusive "Government Land Buyer's Guide" plus "Land Opportunity Review" listing lands available throughout U.S., send $1.00. Satisfaction guaranteed. United Lands, Box 19107-RL, Washington, D.C. 20036.

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★ Mail your copy and first-insertion remittance to: Trading Post, Desert Magazine, Palm Desert, California 92260. Classified rates are 25c per word, $5 minimum per insertion.

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60 ACRES, all or part in beautiful Lanfair Valley, California. Contact W. M. Porter, P. O. Box 2098, Santa Cruz, California 95060.

• TRAVEL

DEATH VALLEY and Desert Areas "Jeep" Photo-See Tours, 4225 Paseo de las Tortugas, Torrance, Calif. 90505. Paul H. Thompson, Photographer-Guide.

• TREASURE FINDERS

WHITE'S METAL DETECTORS. World's largest and finest line of mineral-metal detecting equipment. Find out how you can save on your equipment at Burnett Electronics, 24 N. Buena Vista Street, Redlands, Calif. 92373. Phone 792-6309. Bankamericard financing.

FISHER DETECTORS introduces new 1972 models! Free literature. FRL, Dept. D-12, Palo Alto, Calif. 94303.

METAL LOCATORS: White's, Goldak, Detectron, Metrotech, Precision, Excelsior, Fisher. Free catalog. Aurora Prospector Supply, 6286 Beach Blvd., Buena Park, Calif. 90620 (714) 521-6321.

WILL YOU GAMBLE $4.00 to save $200? Build one or several detectors from our 20-page book "Build Transistor Treasure Detectors." Easily followed instructions. $4.00. Trionics, Box 164, Brewer, Maine 04412.

12 ALL NEW METAL DETECTORS, write Compass Electronics Corporation, 3619 Pacific Avenue, Dept. 122, Forest Grove, Oregon 97116. Dealers—Compass is a "red hot" new line. Inquiries welcomed.

GOLD, SILVER, RELICS! Located with powerful Detectron Metal Detectors. Free information. Terms, Detectron, Dept. D-12, Box 243, San Gabriel, Calif. 91778.

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FREE 128 page catalog on detectors, books and maps. General Electronic Detection Co., 16238 Lakewood Blvd., Bellflower, Calif 90706.

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• MISCELLANEOUS

REDISCOVER ANCIENT SOURDOUGH formulas. Make fantastic pancakes, breads, pies, etc. Great for camping, boating and home. Complete instructions, recipes, history. Send $1.00 to Sourdough Sam, Box 4356, Irvine, Calif. 92664.

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Desert Shopper

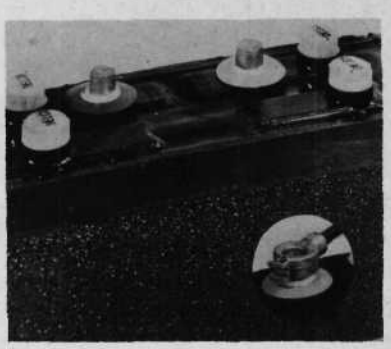
New and interesting products

Items appearing in this column are not paid advertisements

Tiny Camp Stove

A small camp stove for the backpacker has been developed by A. B. Optimus, Inc. It is 5 inches high by 3¾ inches in diameter and includes a tiny saucepan. Weighs only 20 ounces. Called Svea, it is made of brass and the saucepan is heavy aluminum. Saucepan handle is removable to form a cup. Operates on white gas, but ordinary gasoline can be used in an emergency. Saucepan is ½ pint and fuel capacity is 1/3 pint. Will boil a whole quart of water in approximately six minutes.

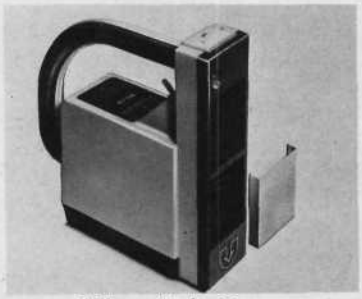
For additional information of Svea and other models write A. B. Optimus, Inc., Dept. DM, P. O. Box 3848, Fullerton, Calif. 92634.



Battery Savers

Manufacturers of Battery Savers claim life of a battery can be increased as much as 50 percent by using their simple product. Fits all standard automotive and truck-type battery posts and guaranteed to prevent corrosion formation or build-up if installed as directed. Installation is very simple. Secret of the device is its vinyl honeycomb core construction which suspends standard motor oil and provides a continuous flow of anti-corrosive lubrication by capillary action to the area between the cable clamp and battery post.

Price is $1.00 per set, postpaid from Kester Battery Products, Dept. DM, Mt. Vernon, Wash. 98273.



Mineralight Lamp

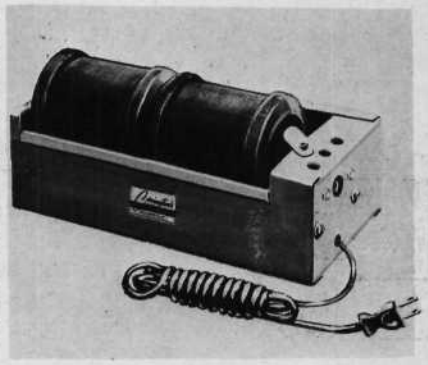
A brand new hand-held, battery operated ultraviolet lamp for rockhounds and prospectors is now on the market. Manufactured by Ultra-Violet Products, a long-time California firm, the new lamp is made of Cycolac, a material stronger than steel but light. Lamp with batteries weighs only 4½ pounds. The novel lamp has a built-in flashlight. One switch operates. Has 6"x2¼" filter opening. Filter can be removed for greater phosphorescence and to detect rare earths. Uses two inexpensive and readily available 6-volt lantern batteries. Wavelength selector gives short wave and long wave together or separately. Retails for $49.75.

For free brochure write Ultra-Violet Products, Inc., Dept. DM., San Gabriel, Calif. 91778.

Gelatin Fuel

Manufacturer says this new product, Fire King, can be used in many different ways. One spoonful starts a charcoal or wood fire or can itself be used for light cooking or heating. Also can be used as a safety flare in case of trouble . . . also a "floating fish caller." Never flares up or spills so is safe and dependable. Fire easily extinguished by replacing lid.

Cost is $1.25, plus 25 cents postage, at DEVCO, Dept. DM, 2425 LTV Tower, Dallas, Texas 75201.



Silent Tumbler

Covington introduces a new idea in tumbling featured in their new one-quart and two-quart Tumblers. The new design has a leak-proof Hex Rubber Drum for silent but quick tumbling action. Model No. 262 (one quart) and Model No. 263 (two quarts) retail for $14.95 and $19.95 respectively. Now available at local dealers.

For their new free catalog containing details on all Covington lapidary equipment and supplies write to Covington Engineering Corp., Dep. DM, 112 First Street, Redlands, Calif. 92373.

Letters to the Editor

Letters requesting answers must include stamped self-addressed envelope.

Tonopah Trip . . .

Meant to write sooner and thank Mary Frances Strong for her article on Tonopah and the field trip she took us on when we met her there over Jim Butler Days. It was very successful. We brought back some excellent petrified wood of good workable quality.

MRS. GEORGE MARUTSKE,
West Covina, California.

Horse Canyon Closed . . .

Enjoy Mary Frances Strong's articles very much. We also have her book. Could she tell us if Horse Canyon is open to rockhounds?

B. MATTHEWS,
Maywood, California.

Editor's Note: Mrs. Strong says Horse Canyon is closed to collecting and is unlikely that it will ever be open as a sub-division is being planned for the area.

Rambling Rockhound . . .

The enclosed poem was found in the wallet of the late John Farmer who was a good friend of ours. I do not know if he composed it, but thought your rockhound readers would like a copy.

MARION HECKENLIVELY,
Oak View, California.

RAMBLING ROCKHOUND

I think that there shall never be
An Ignoramus just like me.
Who roams the hills throughout the day
To pick up rocks that do not pay;
For there's one thing that I've been told:
I take the rocks and leave the gold.

O'er desert wild and mountain blue
I search for rocks of varied hue.
A hundred pounds or more I pack,
With blistered feet and aching back:
And after this is said and done
I cannot name a single one.

I pick up rocks where e'er I go:
The reason why, I do not know.
For rocks are found by fools like me
Where God intended them to be.

John Farmer

Utah's Canyonlands . . .

We have spent many months in Utah over the last 20 years, but only in Zion, Bryce, Cedar Breaks and Salt Lake City. We enjoyed each visit.

However, as a result of reading your articles on the Canyonlands National Park in the May '71 issue, we trailered a jeep and parked our camper for a week at a time in different areas and jeeped the country. It was one of the finest vacations we ever spent anywhere.

Here is the whole southwestern one-quarter of Utah, including a National Park, with only one paved north and south road and one paved east and west road that are readily available to the traveling public by car, but literally thousands of miles of jeep roads authorized for use by the proper governmental authorities and many of sufficient challenge to satisfy even the most demanding enthusiasts. You are familiar with the famous switchback on the Elephant Hill trail where you literally *switch* and then *back!* The road is too narrow and the turn too sharp to make it any other way.

And then outside of the Park, but in or near it or in Capitol Reef, are hundreds, perhaps thousands, of miles of country roads for which 4WDs are certainly an advantage, if not a necessity. Comb Ridge, Waterpocket Fold, Burr Trail, Nine Mile Canyon, Indian Canyon, Boulder Mountain Road, Escalante to Boulder Road (paved but out of this world), The Bear Ears and dozens more.

This is not just a place to determine whether you can make a *few miles without wrecking your vehicle, rather* it is an area of unlimited horizons, meaningful challenges, which, when they are met offer beauties seen but by a few persons, even today.

And the whole thing offers not one illegal or prohibited act of the type 4WDs are sometimes correctly accused of. Instead it is an awe-inspiring adventure, filled with unbelieveable beauty, that is not only legal, but officially advocated by the State of Utah and the Government of the United States.

If I sound over enthusiastic, I am!

ARNOLD TILDEN,
Tempe, Arizona.

Editor's Note: Arnold Tilden, whose articles have appeared in Desert Magazine, found a new adventure in Utah. However, as he points out, there are hundreds and hundreds of miles of good back country roads, but in the Canyonlands National Park and Bureau of Land Management areas, DO NOT violate established rules and drive vehicles in prohibited areas.

Boynton Booster . . .

Want to tell Mr. Boynton how much I enjoy and look forward to his animal articles each month. He writes so clearly, concisely and with great compassion for the animals. The illustrations are also excellent. I cut the articles out and make them into a ready reference booklet. We have been subscribers for three years and like the whole magazine which we read from cover to cover.

MRS. J. H. FRAKES,
Tucson, Arizona.

Calendar of Western Events

NOVEMBER 5-DECEMBER 4, "ARSENIC & OLD LACE" presented by the Cabaret Theater, Joshua Tree, Calif. Curtain time 8:30 P.M. Fridays and Saturdays only.

NOVEMBER 27-DECEMBER 5, INDIAN ARTS & CRAFTS EXHIBIT, sponsored by the Heard Museum Guild, 22 East Monte Vista, Phoenix, Arizona. More than 2,000 selected and pre-judged items from Indian artists from Mexico to the Northwest Territories. Exhibits, craftsmanship, etc.

DECEMBER 2-JANUARY 5, DISPLAY OF PAINTINGS by western artist, Kirk Martin, Hi-Desert Nature Museum, Yucca Valley, Calif. Woodcuts, western scenics and Indians.

DECEMBER 16-19, CHRISTMAS PAGEANT "The Town of Bethlehem" presented by residents of Joshua Tree, California, among the Joshua trees of the local community. Write Desert Playhouse Guild, Box 128, Joshua Tree, Calif. 92252.

JANUARY 15, BARBED WIRE SHOW, Burroughs High School, Ridgecrest, Calif. Sponsored by the California Barbed Wire Assn. Exhibits of barbed wire and associated items. Write Ellwyn Carlson, 1046 N. San Carlos St., Porterville, Calif. 93257.

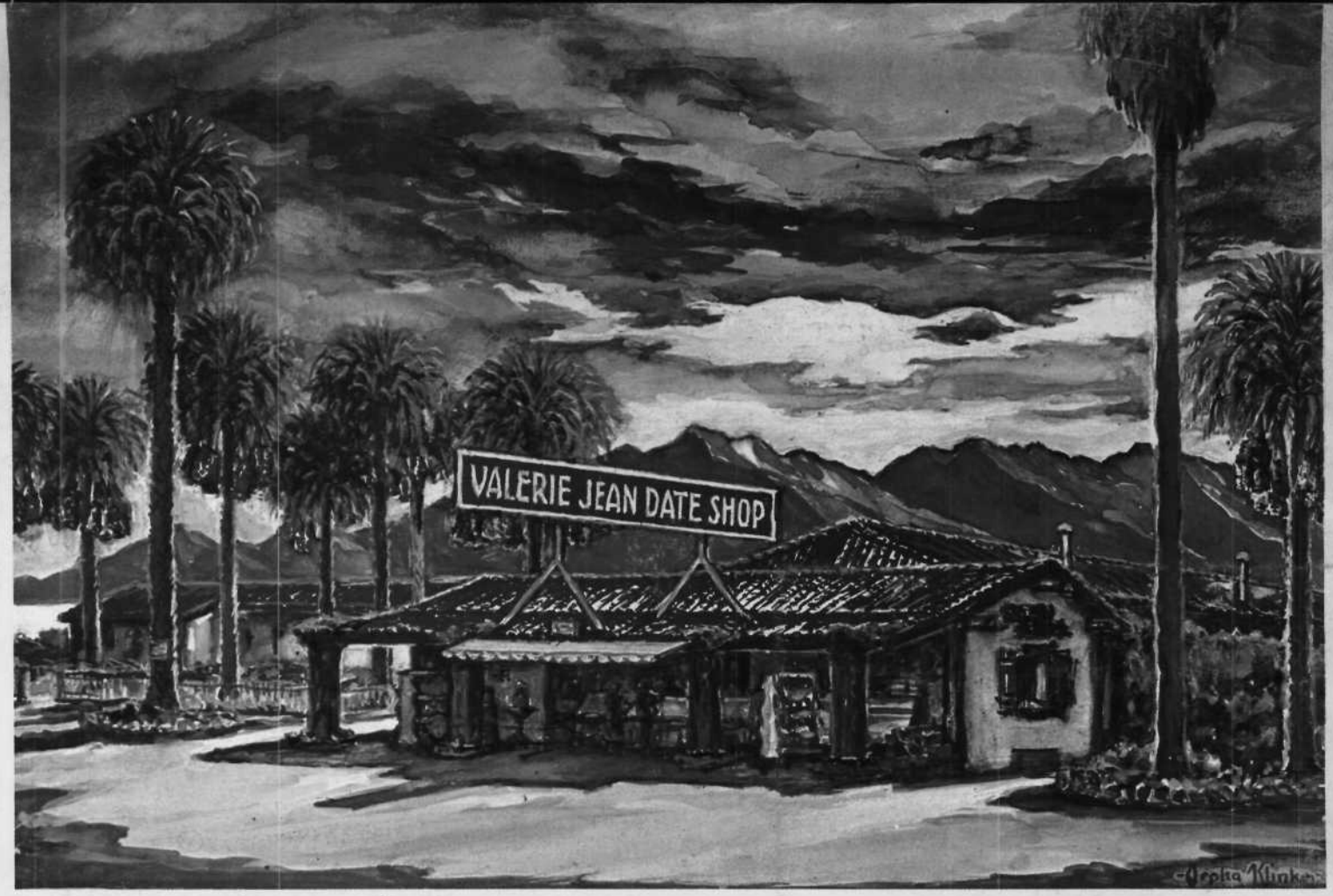
FEBRUARY 11-13, ANNUAL GEM AND MINERAL SHOW, Exhibition Hall of new Community Center, Congress and Main Sts., Tucson, Arizona. Dealer spaces filled. Hours: Feb. 11, 9:00 a.m. — 9:00 p.m.; Feb. 12, 10:00 a.m.—9:00 p.m.; Feb. 13, 10:00 a.m.—6:00 p.m. Information: Joe Kreps, 1402 W. Ajo Way, #271, Tucson, Arizona 85713.

FEBRUARY 12-13, FIESTA OF GEMS, Community Center, 2197 Chase Drive, Rancho Cordova, Calif. Free admission. Gem and mineral displays, dealers, snack bar, grab bags, prizes, working and teaching displays. Ample parking, picnic tables.

FEBRUARY 18-21, SECOND ANNUAL GEM, ROCK AND HOBBY SHOW, at Palo Verde Improvement Association on Clark Way, Palo Verde, 20 miles southwest of Blythe on Highway 78. Tailgaters, food, field trips. Information: P.V.I.A., Box 95, Palo Verde, Calif. 92266.

FEBRUARY 26-27, NATURE'S ARTISTRY, Santa Clara Valley Gem & Mineral Society, at Santa Clara County fairgrounds, 344 Tully Road, San Jose, Calif. Donation of 50c for adults, children under 12 free when accompanied by adult. Earth Science movies and lapidary, rock swap, dealers.

MARCH 3-12, IMPERIAL VALLEY GEM AND MINERAL SOCIETY'S 25th annual show at the California Mid-Winter Fair, Imperial, California.



VALERIE JEAN has grown with the California date industry and through forty-four years it has maintained a quality that has brought nationwide recognition.

For Seasonal Gift Giving

The MAMMOTH Medjhool Date—We feature this date because it holds the record here at Valerie Jean's for bringing in the most repeat orders. It is two or three times the size of ordinary dates and many folks ship it to amaze their friends. In turn, the recipient writes to us and of course, that is what we all like in the mail-order business, SATISFIED customers. We are enthused about this fruit and I am sure you will be too, when you try it!

		Each	Case of six to one address
No. 138D—VALERIE JEAN MEDJHOOL SHOW DATES. Packed in individual cups and in a special gift box.	1 lb. del.	$3.35	$15.50
	3 lbs. del.	7.25	38.35
No. 107D—A VERY SPECIAL GIFT TRAY. Fancy Medjhools and candied apricots. "Nothing better".	1½ lbs. del.	$4.35	$23.45
	3½ lbs. del.	8.10	45.60
No. 145D—VALERIE JEAN WALNUT-STUFFED MEDJHOOL DATES. Few will use this quality date for stuffing, BUT WE DO to give our customers something different.	1 lb. del.	$3.45	$15.90
	2 lbs. del.	5.50	28.45
	3 lbs. del.	8.00	42.25
No. 146D—VALERIE JEAN FANCY MEDJHOOL DATES. Highly selected and packed in a desert gift box. Fruit of unusual size and quality, carefully packaged in attractive boxes for special giving.	1½ lbs. del.	$3.85	$18.10
	3 lbs. del.	6.10	32.25
	5 lbs. del.	9.25	50.20
	15 lbs. del.	22.30	

Valerie Jean Date Shop

11 miles south of Indio on Highway 86

Box 786D, Thermal, California 92274 Telephone 714 397-4159

For other date varieties and date products such as date cake, date butter cookies, date crunchies, date honey butter, date candy, date fudge, write for our complete brochure. *Russ Nicoll, owner*