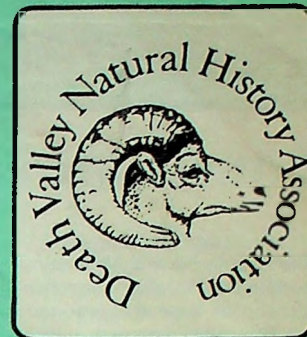




DEATH VALLEY VISITOR GUIDE



DEATH VALLEY NATIONAL MONUMENT

FREE

Fall/Winter Vol. 3, No. 2



Circa 1935: Death Valley Entrance Station at the mouth of Furnace Creek Wash, built by the CCC.

NPS photo by George Grant

Welcome from the Park Superintendent

Death Valley is one of 337 areas administered by the National Park Service. Set aside by proclamation of President Herbert Hoover in 1933, Death Valley preserves an area rich in human and natural history. It is the story of a fragile desert ecosystem and man's coping with that ecosystem.

Two special items I want to bring to your attention: First, the alumni of the Civilian Conserva-

tion Corps (CCC) are holding a reunion here November 5, 6 & 7th. From October, 1933 (just 8 months after the monument was established), until early 1942, twelve companies (over 2000 men) from Kentucky, Ohio, New York, New Jersey, and California worked in Death Valley building, maintaining, and manning the new monument's many facilities. Included in this effort were the establishment of five cam-

pgrounds, (the picnic tables and restrooms at Texas Springs are still in use), and the construction of 343 miles of road, three ranger stations, (note the stone building on Route 190 at Emigrant), park residences, and maintenance facilities, which exist today as monuments to these hard working men. It is their effort that made it possible for visitors to see and enjoy this unique area.

Secondly, we invite you to

see a new trail exhibit at the Natural Bridge Trail. The trail head is on a gravel road, one mile off the Badwater Road. This new exhibit was paid for by donations from the Death Valley '49ers and numerous visitors who had a desire to share in Death Valley's living treasure. Death Valley has always enjoyed a special relationship with people and organizations that know, enjoy and protect its many treasures. If you would

like to help, ask how at the Visitor Center.

We invite you to attend the interpretive programs, explore the Visitor Center, and roads and trails to learn more about Death Valley. If we can be of assistance, please do not hesitate to ask the men and women in the gray and green. May you have a safe, informative, and enjoyable visit.

Edwin L. Rothfuss

Features

D.V. Mines - Yesterday & Today

by Lex Palmer

The solemn Funeral Mountains of eastern Death Valley were once the scene of hope and resurrection. The gold interred within these peaks was unearthed during the early 20th Century. Traces of mysterious buildings suggest momentous human events which have left behind a fascinating and fading record.

In January of 1904, prospectors Jack Keane and Domingo Etcharren scouted the northwest Funeral Mountains for silver ore. As Etcharren broke camp, he noticed a quartz outcrop and brought it to the attention of Keane. Keane did not investigate until April, and what he found was a marvelous deposit of gold ore. The news of the discovery torched a rush to the area. The partners were besieged with purchase offers. The men patiently bided their time until 1906, and obtained \$150,000 in cash and stock from the Homer Wilson Trust Company.

The Keane Wonder Company constructed a 20 stamp mill, cyanide plant, an impressive ore bucket tramway, and a variety of support structures. The apex of activity and success was in 1909. The mine had a seemingly endless series of strikes. At one time, a rich ledge of gold ore was discovered while laborers were digging a well!

The glory days came to pass with 1912, for the Funeral Mountains refused to yield a treasure trove any longer. The following years witnessed various unsuccessful attempts to rework the mill tailings or locate new prospects. The long history of the Keane Wonder Mine ended with a whimper in 1942.

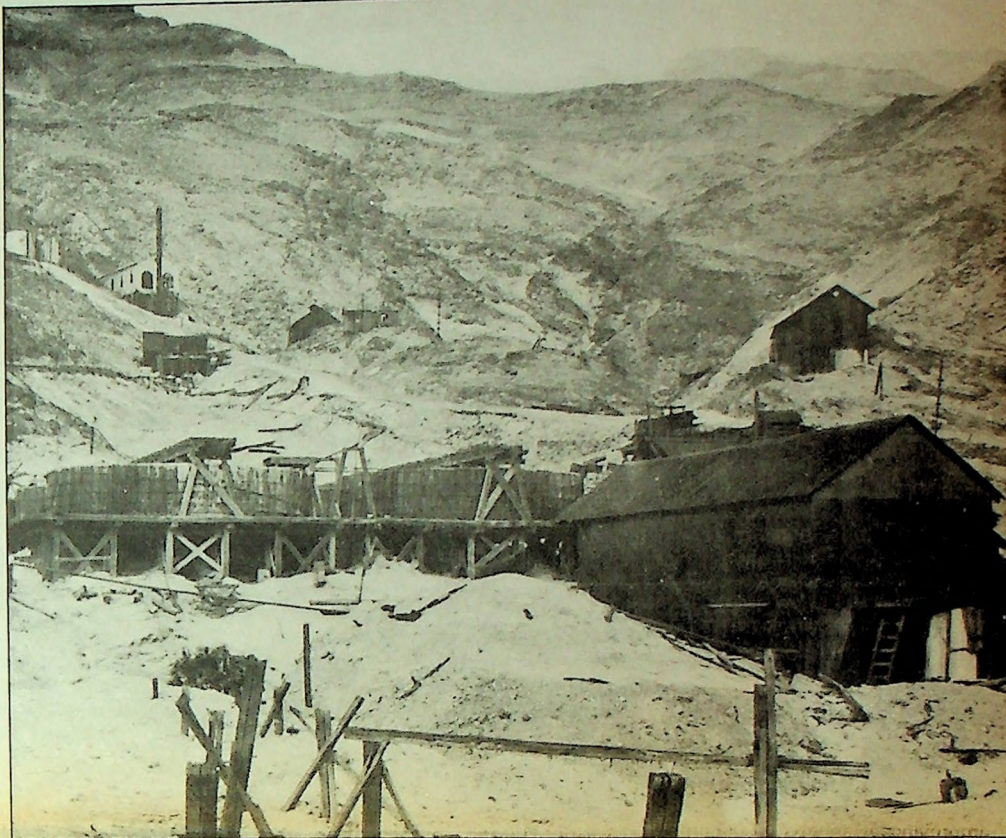
Throughout its saga, the Keane Wonder had an impressive array of technologies. The ruins of the gravity pull tramway are impressive even today. The

wonderous Keane required vast amounts of supplies. The steam engine "Old Dinah" crawled twice a week from Rhyolite bearing supplies. This short-lived operation ended when "Old Dinah's" boiler burst. She rests in front of the Furnace Creek Ranch entrance today. An ice plant was installed to give the miners relief from the heat. It was a small wonder, for the summer heat of 1908 was one of Death Valley legend. The company reported temperatures at midnight above 124 degrees. Eating was difficult due to the fact that the silverware was often too hot to handle!

The history of the Keane Wonder is one fraught with financial trickery, water supply problems, and labor unrest. Despite these factors, the mine was a constant producer for a period of eight years. The Keane produced gold longer than any other gold mine in eastern Death Valley. Over one million dollars in gold flowed from this section of the Funeral Mountains.

Visitation is encouraged to this rustic western record located in the Mud Canyon-Beatty Cutoff triangle. For specific details, contact a visitor center employee or check a Death Valley National Monument map for the location. Visitors to the site are asked that they leave behind the objects scattered around the site. The removal of such an object may seem insignificant, however, it will result in a barren and unenjoyable experience for future park visitors. Help preserve your past for the future.

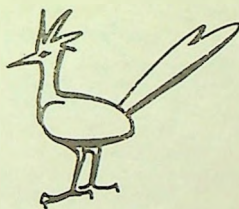
The National Park Service has stabilized the structures for your enjoyment, and has made provisions for visitor safety. Common sense must be employed on any mining site. Have a safe and enjoyable experience.



Keane Wonder Mill - circa 1938

photo courtesy of Frasher's - Pomona, CA

Making Mines Safe



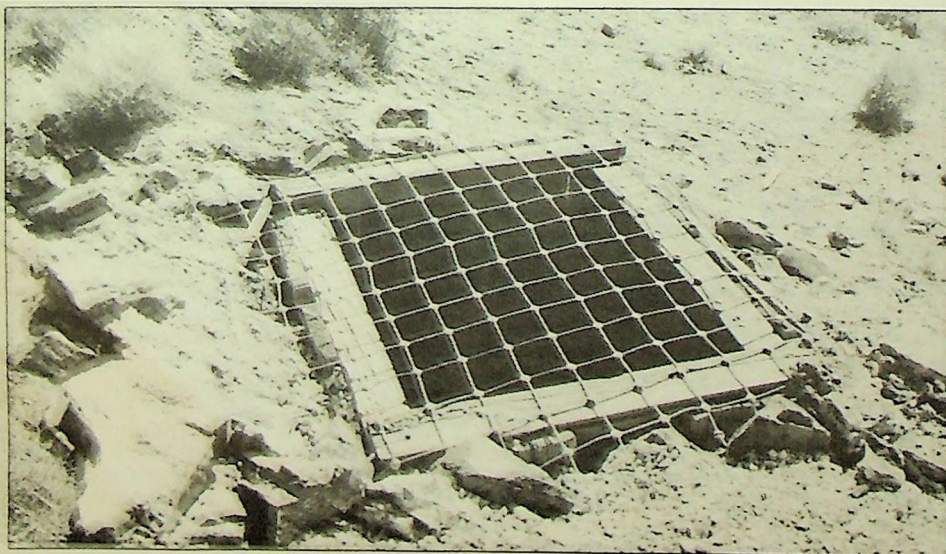
Death Valley National Monument enjoys a long mining history dating from the first discovery of gold in the area in December 1848. This 140-year-old mining history has provided a legacy of abandoned mine workings in the Monument. The National Park Service maintains a hazardous mine safing program to identify and provide safe, effective closure of potentially hazardous workings. The closure system involves the installation of nets made of stainless steel cable which prohibit human entry while allowing passage of small animal occupants and air flow.

The virtually thousands of abandoned mine openings within the Monument will require many years to examine, classify, and close if necessary. The Park Service recognizes that these workings provide both points of interest and enjoyment for Monument visitors. Efforts are being made to provide for the future enjoyment of these windows into history, while insuring for adequate safety of the visitor and employee.

Death Valley's mine safing program further provides for the stabilization of existing historic

mine relics; the best example being the work conducted to preserve the Keane Wonder Mine tramway. The stabilization work also provides for the protection of smaller mine structures and miners' cabins. Visitors are asked to help in the preservation of these old reminders of the Valley's early mining history. Visit, photograph and enjoy the mine sites but do not disturb these now-fragile relics.

Although the mine safing program has been in effect for several years, many potentially hazardous openings remain to be secured. The Monument visitor is advised to use extreme caution in the old mining areas. The mine sites can be visited and inspected to the enjoyment of all, but entry into the mines is not recommended. Although the number of potentially hazardous mine openings is diminishing, many do still exist. No one wants to spoil his vacation as the result of a serious injury from falling down an abandoned mine shaft. Worse yet, fatalities could also result. Enjoy these reminders of Death Valley's mining history, but take care and be safe.



Features

How the CCC's built Death Valley Nat'l Monument

The following article was written by Death Valley National Monument's first superintendent, T.R. Goodwin for the Oasis published by CCC Company, 1246 Camp Cow Creek during the 1934-35 season. The activities he describes occurred between 1933 and 1935. CCC camps and companies remained in Death Valley until 1942. Their continuing efforts opened Death Valley to the American public. During the nine years they were located in this area they built roads, buildings, campgrounds and trails; they cleaned springs, manufactured adobe bricks and assisted in radio communication, campground patrol, manning of entrance stations and numerous other activities. Many of their completed projects are still in use today. They made a difference! We thank them, individually and collectively.

The very first work that was done in Death Valley by the Park Service was in the fall of 1933 by Companies 529 and 530. The amount of work accomplished by those two pioneer companies was very remarkable, and included the improving of about two hundred and ninety miles of road and the construction of several small buildings and other necessary units to start Death Valley off as a National Monument.

Companies 1240 and 1246 succeeded the original companies in the fall of 1934, and reopened the two Cow Creek camps. These companies were treated more or less as a battalion, and although it was generally planned to work 1240 south of camp and 1246 north of camp, there was naturally a considerable amount of swapping back and forth on each others' projects of both foreman and enrolled men. Therefore, it is hard to say that either camp performed alone any one job. While this article refers to the work of 1246 particularly, due credit must be given to 1240 for participation in many of the projects, and vice versa credit must be given to 1246 for the work they did on the projects really assigned to 1240.

Naturally, the road work shows up more than any other form. There was built between the camp at Cow Creek and the Stovepipe Wells Hotel twenty miles of entirely new highway, and in addition to this twelve miles of new highway was built above Surveyor's Well. The southern unit described received an oiled pavement under Public Works appropriation, but this project was made successful by the work done with enrolled men in removing rocks, cleaning up, and landscaping. There was also considerable reconstruction of about



Road Oiling — Circa 1935

twenty miles of road between Emigrant Junction and Wildrose Junction, and a small amount of light re-construction north as far as Ubehebe Crater. During the entire season constant maintenance was carried on over about one hundred and seventy six miles of road, and the roads kept in good condition.

The newly constructed Park Village was very largely made possible by the efforts of 1246, although here too Company 1240 aided materially. Additions were made to the three existing dwellings, and a nursery was built, and six new cabins and a garage. This work included all the plumbing, sewage, water supply, and lighting work. In addition, there was a continuous amount of landscaping, planting of trees and desert shrubs, and some extremely fine stone work and other

masonry done here. One of the most notable things was the opening up of a little suspected spring on a high mesa from which at least thirty gallons per minute additional water supply was obtained.

The miscellaneous work done by the company was in water development for an increased

supply to be used by a swimming pool and the two camps, and also a certain amount of excavation work for the swimming pool itself, which was not completed this season. There was improvement work at the Furnace Creek Airport, and also the leveling and putting in shape a recreation field at the Cow Creek Camp. An incinerator for the use of both camps and the Park Village was completed, as well as an addition to the Service garage.

The first permanent building in the National Park Service projects, the adobe warehouse, was built using part of the labor from 1246. There was also water development at several places and they participated in the policing and sanitation of the entire area and furnished their quota of junior rangers for the checking station, as well as in sign painting and placing. During the season, at times as many as four survey parties were used by the Park Service and a number of technical positions were filled from 1246 men. There was, of course, also a certain amount of routine work such as freighting supplies, furnishing men for the warehouse, and mechanics for the garage, as well as machine operators for the tractors and graders, and additional technical men for the radio station and telephone work.

Toward the end of the season, when it had been decided that a summer camp would be established at Wildrose in the Panamint

Mountains, a forty man spike camp was started by Company 1246 to do road and development work for the new camp, prospect for water, and put in a well. This camp was so highly complimented by inspecting officers that it was said to be the best spike camp in the entire March Field district. There was constant radio communication with the main Cow Creek camp, all the radio operators being enrolled men.

In addition to the Park Service work, there was a very considerable amount of necessary work around the camps themselves, such as electrical work, plumbing, fireplaces, cesspools, and construction of various athletic areas, boxing and basketball platforms, etc., and Company 1246 did their share in all these improvements.

The National Park Service complimented the company very highly on the morale of the men, and the exceptionally fine work done throughout the season. When it is considered that very few of the men had any previous experience or training in the work that they were called upon to do, the results are quite remarkable, and comparable to similar work done by skilled labor. There is not doubt that the experience and training obtained will furnish these men with an opportunity for earning their livelihood in the future, which would not have been possible without such training.

Death Valley Natural History Association

The Death Valley Natural History Association is a non-profit educational organization dedicated to the preservation and interpretation of the natural and human history of Death Valley National Monument. The cooperation of the Association with the National Park Service is authorized by Public Law.

Death Valley Natural History Association publishes and distributes descriptive park literature and furnishes personnel, equipment and supplies to support the interpretive work of the National Park Service. Proceeds from the Association's sales are used to produce new educational publications and to aid National Park Service programs.

Membership in the Association is available to any person who has a sincere interest and desire to advance the aims and purposes of the Association.

As a member you receive the following:

1. 15% discount on all purchases.
2. Official Association emblem patch. (Lifetime member patch)
3. Bi-annual park newsletter (first publication Spring 1985).
4. First offering on all new publications.

TYPES OF MEMBERSHIP

INDIVIDUAL MEMBERSHIP		FAMILY MEMBERSHIP		SPECIAL MEMBERSHIP	
One year.....	\$ 5.00	One year.....	\$10.00	Corporate.....	\$100.00 annual
Five year.....	\$ 15.00	Five year.....	\$30.00	Senior Citizen.....	\$10.00
Lifetime.....	\$100.00			(one time) (62 or over)	

Please include payment with application either by check made payable to DEATH VALLEY NATURAL HISTORY ASSOCIATION or by credit card. \$10.00 minimum on credit cards.

Mastercard _____ Visa _____ Account No. _____
Expiration Date _____ Signature _____

MEMBERSHIP APPLICATION

NAME _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____

All dues and contributions are tax deductible to the extent they exceed benefits.

National Park Bookstores

The National Park Bookstores are in two locations. One is located in the N.P.S. Visitors center - museum in Furnace Creek. The store hours are 8:00 a.m. to 8:00 p.m. November to April, 8:00 a.m. to 5:00 p.m. April to November.

The Scotty's Castle bookstore is located next to the exhibit room in the building next to the courtyard fountain. The hours are 9:00 a.m. to 5:00 p.m. mid October to mid April. The bookstore is closed during the summer season.

Naturalist Notes

Honey-Pot Ants in my Ranger Pants

One day, I was sitting in my office minding my own business—that of being a biobureaucrat in Death Valley—when I was jolted from my administrative reveries by one of our Monument seasonal interpreters.

One of the questions she asked me was: "Peter, do you know if there are honey-pot ants in Death

Valley?"

Just what are honey-pot ants? Well, honey-pot ants are members of the genus *Myrmecocystus*. *Myrmex* is a Greek root word which means ant and *cystus*, or *kystis*, is Greek for bladder. All of the twenty-seven species within the genus inhabit arid and semi-arid habitats of Western North

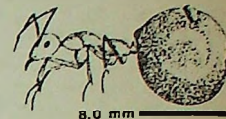
America. Southern California, with eighteen species, just happens to be the honey-pot ant capital of the world. The genus contains both predominantly diurnal and predominantly nocturnal species. Workers are dark brownish red, up to half an inch long, with a relatively large head and stout mandibles, and a distinctive,

slender, one-segmented "wasp" waist.

Most, if not all of the species develop what are termed "replete" workers. This "caste" of the *Myrmecocystus* colony is specialized to store, when food is abundant, sweet liquid nutrients, "honey" if you will, within their own highly expandable abdomens. Normal workers gather food, then pass it on, by regurgitation, to the repletes which, as their abdomens swell with their bounty, store the food for months or years. Food for these ants consists primarily of nectar, fruit juices, and honeydew from aphids and scale insects.

The repletes hang by the claws of their legs head up, from the

shape of a small Thompson seedless grape. Edmund C. Jaeger, the well-known desert naturalist, called them "veritable living bottles of honey." However,



Resource Management at a Snail's Pace

In a national monument known for coyotes and desert bighorn sheep, little attention has been lavished on Death Valley's spineless residents... until now. One particular invertebrate is moving slowly into the spotlight: the endemic Badwater snail.

First noted and described in the 1940s, tiny *Assiminea infima* was thought to live only at Badwater's salty spring-fed pools. Researchers have since found several other populations, nevertheless confined to Death Valley (endemic). The disappearance of large Pleistocene lakes in the area likely influenced the present distribution of snail populations. The Badwater location is the focus of up-coming resource management efforts to rehabilitate the snails' habitat.

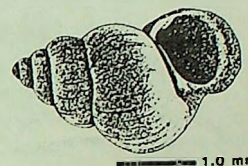
Too harsh for most aquatic and

semi-aquatic organisms, the snails' salt-saturated Badwater habitat is truly unusual and somewhat endangered. The endemic snails live beneath the salty crust fringing the pools and on the pickleweed growing at the water's margin. They share this habitat with aquatic beetles, caddis flies and a yet unidentified species of ostracod, a type of crustacean. Over the years, foot traffic has compacted much of the salt crust bordering the pools, decreasing the snails' available habitat. One pool has lost nearly its entire snail population due to trampling.

To encourage recovery of the endemic Badwater snail population, park resource managers plan to build a boardwalk around the edge of the south pool. Raised

above the ground, the boardwalk will keep salt crust compaction to a minimum and will actually increase visitor access to the pools. In particular, persons with mobility impairments will be able to view Badwater's brackish wetland life more easily.

Should human activity cause the desert bighorn to disappear from the Monument, Death Valley would suffer an incalculable loss. The loss of a tiny snail would be no less ecologically significant. The National Park Service seeks to preserve entire ecological systems; enlightened resource management practices and visitor awareness are means to that end. In rehabilitating the Badwater habitat, resource managers plan to make their move before the endemic Badwater snail does.



ceiling of the nest, and regurgitate food droplets to other members of the colony as required.

I am looking at some specimens. Imagine if you will a brownish-red ant about half an inch long, with an amber, translucent abdomen about the size and

Roy Snelling, of the Los Angeles County Museum, who wrote an extensive monograph on these ants, found that the stored material was not true honey, but simple sugars unmodified from their original state.

Hundreds of repletes may be found in a single colony and were an important source of food for Native American Indians who sought them out with gusto.

A colony is formed when winged female reproductives search out nesting sites soon after a nuptial flight with winged males. Mating flights usually occur after a substantial desert rainstorm. The soon-to-be queen digs to a depth of six to eighteen inches and constructs a brood-chamber where she lays eggs. Nests are usually constructed in sandy soil on relatively flat terrain. According to

Please See Page 5

Book Review

ESCAPE FROM DEATH VALLEY

As told by William Lewis and other '49ers

by Jonathan Kirsch

Escape From Death Valley: As Told by William Lewis Manly and Other '49ers, edited by LeRoy and Jean Johnson (University of Nevada Press. \$14.95, paperback; \$25 hardcover)

The saga of William Lewis Manly and the rescue of the Bennett-Arcan wagon train is one of the most stirring (if seldom-told) stories in the history of the West and the literature of survival. Manly and his fellow forty-niner, John Haney Rogers, befriended a small party of men, women and children—the Bennett and Arcan families—whose desperate attempt to find a "shortcut" to the gold fields of California in the winter of 1849-50 led them into the unknown stretches of Death Valley.

Stranded in the unforgiving desert, abandoned by their own wagon drivers, lacking food and water and the skills necessary to find them in the wilderness, the Bennett-Arcan party turned to these two young men, a pair of authentic gallants, to rescue them. Manly and Rogers trekked on foot across about 270 miles of forbid-

ding desert, mountain and canyon terrain, provisioned themselves at a Spanish rancho near what is now Saugus, and then returned to lead the families out of Death Valley.

"They gave us all the money they had in camp, with instructions to bring them something to eat and some animals if we could find any," Manly later recalled in his memoirs. "They said they would wait for us 18 days and if we did not get back in that time, they would conclude we had perished in the snow or the Indians had killed us."

Those Left Wondered

And even if Manly and Rogers managed to reach a safe refuge, those left behind in Death Valley wondered if "the boys" would bother to return at all. "Well," they said, "all we have to say is, if he gets out he is a damned fool to come back to help anybody out of such a Godforsaken place as this." Thanks to the courage and self-sacrifice of these two heroes—and their rough-and-

ready wilderness survival skills—the Bennett-Arcan families were rescued.

Leaving the Bennett-Arcan camp with only a few days' rations of dried ox meat and brackish water, Manly and Rogers nearly perished in the desert. They put "small stones and bullets" in their mouths to fight thirst, and "watched to gather every green spear of grass that might grow on the north side of a rock." Fearful of Indians, they did not build a campfire at night; rather, they slept "in spoon fashion" to warm each other against the bitter cold.

Even after the rescuers had found their way back to the stranded wagon train, the half-starved women and children seemed too weak to survive the strenuous desert crossing. The two youngest children, unable to walk, were slung over the back of an ox in an improvised harness made of two "hickory" shirts.

"To bear this precious load we selected the brindled ox, 'Old Crump,'" recalled Manly, a noble soul who perceived "Christian"

qualities in beasts of burden, including a faithful one-eyed mule who "was really as moral in her conduct as any one could be in a country where a man's morals are sometimes left as far east as the Missouri River."

Emerged From Purgatory

At last, the survivors emerged from their purgatory. "We... looked back over the plains and mountains we had crossed and worried over so long; we could see the high snow peak where we left our wagons, and with thankful hearts we said, 'Goodbye to desolation,'" Manly wrote. "We... wondered what the vast estate we had passed over was made for."

But "Escape From Death Valley" is more than a retelling of a colorful and compelling story of the Gold Rush. Rather, it is the wholly absorbing account of a modern quest by a pair of contemporary adventurers whose tenacity and dedication nearly matches that of Manly and Rogers.

LeRoy Johnson is a geneticist for the U.S. Forest Service; Jean Johnson is a professional cellist

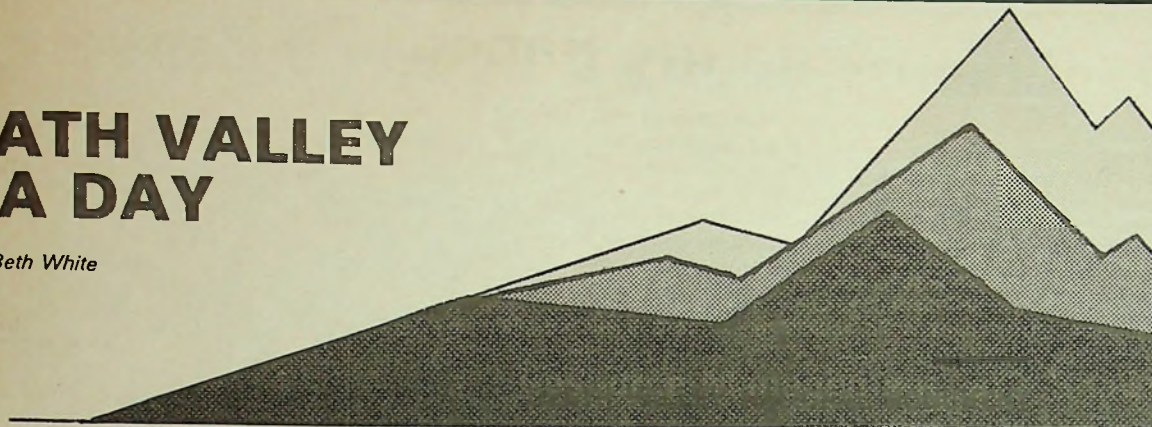
and a scientific editor. Together with their two sons, the Johnsons have devoted more than a dozen years to the self-appointed mission of locating and retracing the exact route of the Bennett-Arcan party and its rescuers from Hobbie Creek in Utah to the sleepy little pueblo of Los Angeles.

"Escape From Death Valley," then, is a family memoir, a historical monograph, and a field guide to the deserts of Nevada and California, as well as tale of heroism in the Old West.

The story is recounted in Manly's own words, drawn from an early (and, the Johnsons suggest, more authentic) version of his published memoirs, as well as the letters, journals and memoirs of other forty-niners, including John Rogers. But the firsthand narrative is vastly enriched by the meticulous and lengthy annotations provided by the Johnsons, whose investigations included scholarly research in libraries and archives across the United States and repeated forays on foot in the same bleak terrain where the rescue took place.

DEATH VALLEY IN A DAY

by Mary Beth White



So you say you only have one day to see all 3,125 square miles of Death Valley? Well, common sense tells us that's impossible. Here are a few suggestions that will assure that you, at least, see some of the more accessible sights.

Shortly after sunrise, drive east on Hwy 190 past the Furnace Creek Inn, approximately 13 miles to the Dante's View turn off. Another 13 miles will bring you to one of the most spectacular views of Death Valley. The road to Dante's View climbs gradually until the last ¼ mile, which climbs steeply at a 14 percent grade to the top. For this reason buses, trailers, and large motorhomes are not recommended on the final ¼ mile. There is a parking area, however, if you would like to walk the last ¼ mile section to the top. From atop the 5,475 ft. overlook you can see Badwater, a vertical mile below. Beyond the Panamint Mountains in front of you (on a clear day), you may be able to spot Mt. Whitney's triangular shape to the northwest, highest point in the contiguous United States.

Next return to Hwy 190 and head northwest for approximately 7 miles. On the west side will be a parking lot for Zabriskie Point, named after Christian Brevoort Zabriskie, an early day head of borax operations. A brief 5 minute walk (about 150 yds.) will give you a bird's eye view of Death Valley's own badlands, remnants of an ancient lake. Looking west you may spot the rocky point of Manly Beacon, named after William Manly, one of the early pioneers of the 1849 trek.

Continue west on Hwy 190 past

the Furnace Creek Inn, which was built by the Pacific Borax Co. in 1927, and today is part of a winter resort. On your left will be the Badwater Road. Turn here and on the right-hand side you will find a dispenser box with self-guiding auto tour pamphlets for \$.50.

Twelve miles south of the turn off is a junction with a gravel road that leads to the Devil's Golf Course. At the end of this road you will come to an area of sharp spires of salt and mud which were formed by the evaporation of an ancient lake that existed nearly 2000 years ago.

Go back to the paved road and continue south for 5 miles until you reach the parking area for Badwater. Badwater is the lowest elevation one may drive to in the western hemisphere - the actual lowest point, 282 ft. below sea level, is located several miles west. Find the sign on the cliff to the east that indicates see level. Above the sign, on the crest of the Black Mountains, is Dante's View.

On your return journey back to Furnace Creek approximately 7½ miles on your right will be the entrance to Artist's Drive. This is an 8 mile one-way paved loop, but it does have some sharp, tight corners through the canyons. For this reason, motorhomes and trailers are not recommended. The road winds along old lakebed sediments and volcanic ash deposits. The highlight, Artist's Palette, is a brightly colored hillside of reds, browns, greens, and yellows; all the result of oxidation of minerals in the sediments.

Returning to Furnace Creek (or meanwhile back at the Ranch) you may want to stop for lunch at the ranch or picnic under one of the

tamarisk trees in the day use area on Hwy 190.

No trip through Death Valley would be complete without a stop at the Death Valley National Monument Visitor Center. There is an excellent museum and a 20 minute orientation film is shown every hour.

One mile north of the Visitor Center you can view a part of Death Valley's early mining history, the Harmony Borax Works. An active borax mine in the 1880s, all that remains now are boiling vats, crumbling adobe buildings and the original twenty-mule-team wagons that were restored for a 1940s U.S. Borax ad campaign.

At our next stop, approximately 14 miles north on Hwy 190, you will arrive at a junction of a gravel road that leads to Salt Creek. Once there, you will find a ½ mile self-guided nature trail. Follow along the boardwalk and perhaps you will get a glimpse of the 1½ inch long pupfish which are descendants of ice age fish. Best times are late February to early May.

Return to Hwy 190 and turn left. From this point on, the highway will take a westwardly direction. A few miles up the highway you will pass a road on your right that leads to Scotty's Castle. This is a full day trip to tour both the castle and Ubehebe Crater, so it is best to save it for another day.

Farther west you will enter an area that might remind you of an arid version of a midwestern cornfield. In this area, aptly named Devil's Cornfield, the vegetation resembles shocks of corn. These hardy plants, Arrowweed, are members of the sunflower family

and can be found wherever water is close enough to the surface to support the plants.

Approximately 2 miles west of Devil's Cornfield, you will view the everchanging Sand Dunes. Many visitors expect a desert to be covered with sand, but in reality less than 5 percent of Death Valley is covered with windblown sand. These 15 square miles of dunes are a product of erosion from the Cottonwood Mountains to the west. You may want to pull off on the side of the road and walk back to the tallest dune, towering 80 ft. above the desert floor. An excellent way to end your day's journey is to relax and watch the sunset over the sand dunes.

If you decide to stay, food, lodging, and camping facilities are available at Furnace Creek and also at Stovepipe Wells Village which is located a few miles to your west.

This suggested tour is only one of the many possible ways to see the valley. Please feel free to ask any of the Death Valley National Monument staff for other great places to visit and explore. Have fun and please travel safely!



Age has its advantages. Anyone 62 years or older is entitled to great respect . . . and a Golden Age Passport. This lifetime pass provides free entry to national parks for you and those traveling with you in your vehicle. It also entitles you to a 50 percent discount on camping and other user's fees. Golden Age Passports are available free at the Furnace Creek Visitor Center and other entrance fee collection points.

Note: A similar pass, the Golden Access Passport is available free to those with a physical disability.

1988 Entrance Fees

Looking for a vacation bargain in 1988? Beginning January 1, a fee of \$5 per vehicle will entitle visitors to enter and enjoy Death Valley National Monument for seven days.

Initially, this may not sound like such a bargain - visits to Death Valley have been free since the monument's establishment in 1933. Consider, though, that your entrance fee grants you access to the second largest National Park Service area in the contiguous United States. At over 2 million acres, you can see all of Death Valley at a cost of only one cent per 4,135 acres. That's a great deal for backcountry enthusiasts, but even if your sightseeing plans limit you to paved monument roads, you can explore the entire valley for two pennies per mile. Interested in geology? Your entrance fee will challenge you to spot nearly 30 separate rock formations.

Why the new entrance fee program? Congress has authorized the National Park Service to use fees to supplement park budgets. Here in Death Valley, part of your entrance fee will help expand visitor services and step up resource protection projects.

The following entrance fees can be paid at the Furnace Creek Visitor Center and ranger stations at Stovepipe Wells and Grapevine:

Single visit per motor vehicle - \$5.00. Valid for 7 days.

Single visit per bicyclist or pedestrian - \$2.00. Valid for 7 days.

Annual Area Pass - \$15.00. Valid January 1 through December 31 for entry into Death Valley National Monument.

Golden Eagle Passport - \$25.00. Valid January 1 through December 31 for entry into recreation fee areas across the country.

Ants

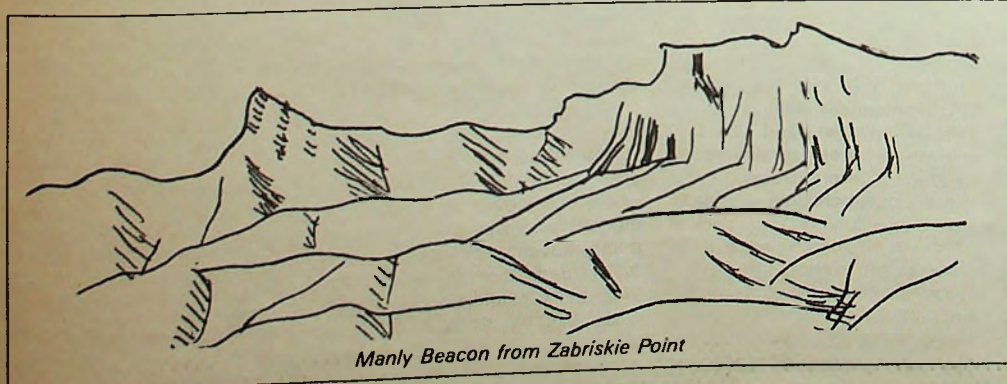
Continued From Page 4

Roy Snelling, repletes are found in galleries within the nest, but never above the level of permanent soil moisture; this could be as deep as 5 feet in some areas of the desert.

Are there honey-pot ants in Death Valley? You betcha; in fact, repletes of *Myrmecocystus flaviceps* have been found at Shorty's Well, a few miles north of the Eagle Borax works. In addition to this species, nine others have been collected either within the monument or in close proximity. Unless you have access to a backhoe, or a strong back with which to dig (but please, not inside the Monument!), you probably won't be able to see any. The replete galleries are probably as deep as five or six feet below the surface.

Well, I hope this answers her question.

Peter G. Rowlands



Manly Beacon from Zabriskie Point

Castle Corner

HABS Documents Scotty's Scotty's Castle

by Richard Bernstein

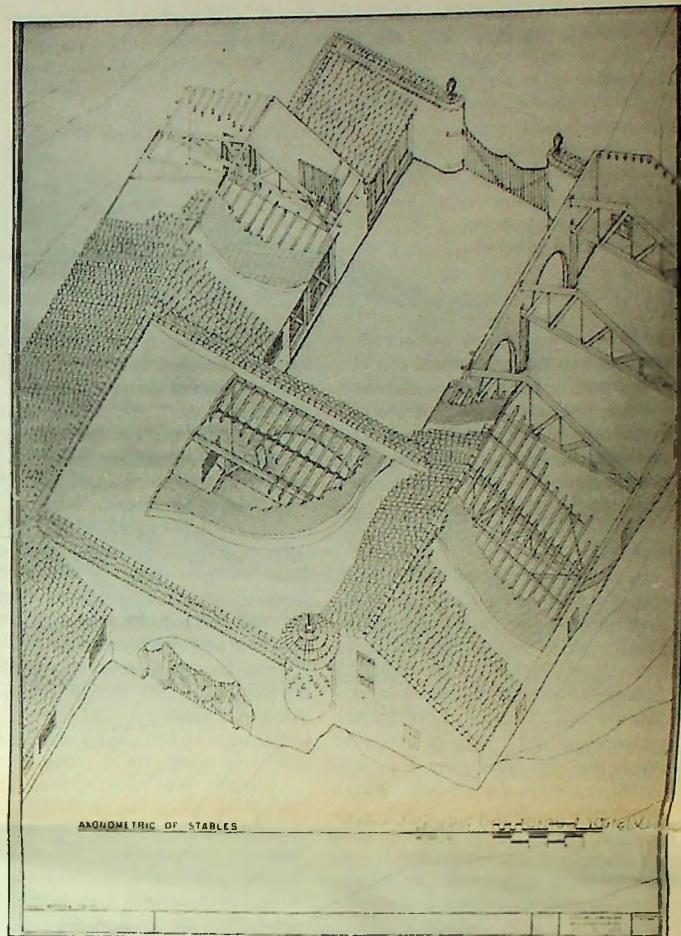
This past summer was the beginning of a project to document all the structures that make up Scotty's Castle. The Historic American Buildings Survey (HABS), in cooperation with the Western Regional Office of the National Park Service and Death Valley National Monument, have sponsored three student architects (Troy D. Thompson-Ball State University, Matthew Lee - Mississippi State and Charlotte Throop - Tulane University), an historian (Richard Bernstein) and a project supervisor (Marlys Bush Thurber) to make measured drawings and prepare written histories. The results of their work, like all other HABS projects, will even-

tually be deposited in the Library of Congress and made available to the public and all interested researchers.

HABS was one of the many work programs initiated during the Roosevelt administration and was jointly sponsored under a cooperating agreement of the National Park Service, the Library of Congress and the American Institute of Architects. First started in 1933 as a way to employ out-of-work architects and draftsmen it has been transformed into a summer employment and training opportunity for college students across the country. Architects, historians and photographers are all vital components of the program today.

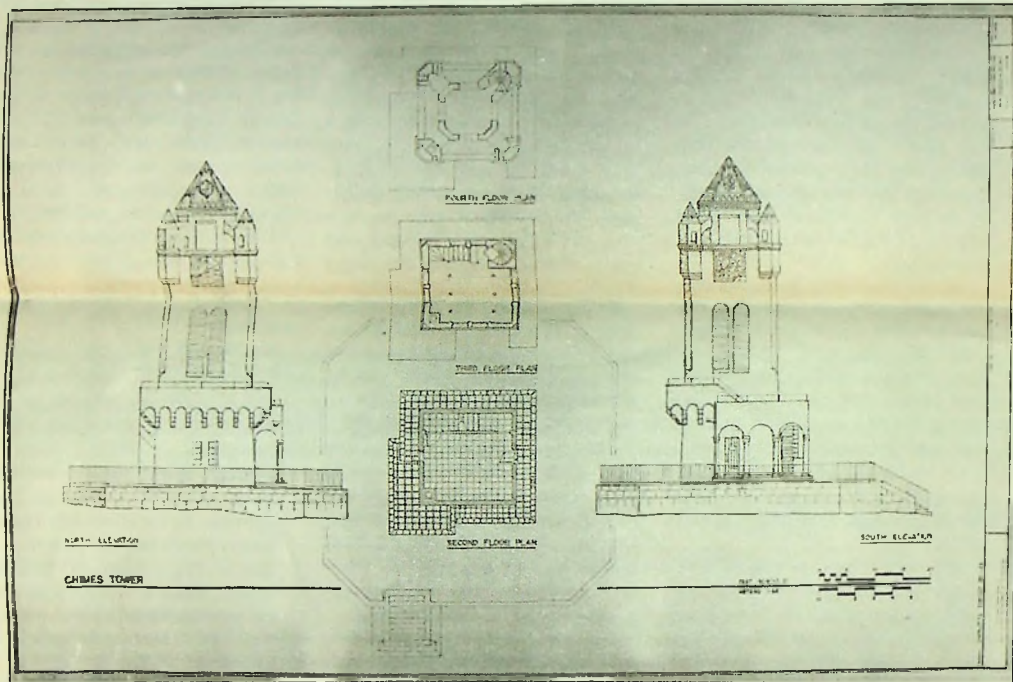
This year the architects at Scotty's Castle focused their efforts on five subsidiary structures; the Stables, Chimes Tower, Power House, Motel-Garage and Cook House. They produced 14 measured drawings that include plans, elevations, sections and axonometrics. These drawings precisely document all the existing conditions and are the first step in their restoration and maintenance. Because the Main House and Annex of the Castle are so much larger and more intricate, hopefully next year a larger team of architects will concentrate all their efforts on these two alone.

My job, as the historian for the project, has been to go through the extensive archival collection



housed at the Castle's Reference Library and document the chronology of events, the major figures in the design and construction as well as all the other factors that contributed to the final shape and form the Castle ultimately took. The collection includes over 1000 of the original architectural drawings by the designer of the Castle, Charles Alexander

MacNeilledge, hundreds of photographs taken during construction by the General Construction Superintendent, Matt Roy Thompson, and the thousands of letters Thompson sent to the owner and sponsor of the Castle, Albert Mussey Johnson, in Chicago, informing him of the progress made in constructing his desert vacation retreat.



DAY TRIP TO SCOTTY'S CASTLE

Death Valley National Monument exhibits over 3000 square miles of the Mojave Desert. Furnace Creek is located near the geographic center of the monument. Trips to the north end should be planned as full day trips.

One popular attraction in Death Valley is Scotty's Castle - a mansion built by Chicago millionaire Albert Johnson between 1922 and 1933. During holiday weekends tours of the castle sell out before noon so it is best to start your trip early. The castle is 53 miles north of the Visitor Center on a paved road that travels along the eastern side of Death Valley. Several points of interest are located along this road. If you plan to return via this same route, it is best to plan on seeing

these points on the return trip.

Begin by travelling north on Highway 190 past the Beatty cut-off. Soon you will pass a graded road to Salt Creek. A self-guided nature trail here takes the visitor through the habitat of the desert pupfish, but it may be best to save this for another day. Eventually, Highway 190 climbs up to sea level and begins to head west. The road to Scotty's Castle comes up abruptly on the right and involves a sharp turn.

Continuing north, another point of interest can be seen on the left. This is a set of old wagon ruts left by wagons travelling from Hell's Gate to Stovepipe Wells. The tracks are nearly 100 years old but still remain as a scar on the fragile desert soil. When viewing these tracks it is easy to understand why

off-road travel is prohibited inside the monument.

The road now climbs slowly through the narrowing valley, passing through colorful badlands and swinging out around the bases of large alluvial fans. Soon you will come to the Titus Canyon road junction. This two-way dirt road climbs an alluvial fan to the mouth of Titus Canyon where the road then becomes one-way for westbound travel only. If time permits park your vehicle at the parking area near the canyon mouth and walk a short distance into the Titus Canyon narrows.

After a long, but gradual uphill section, the Grapevine Ranger Station can be seen. Just past the station is the left turn to Ubehebe Crater. Save the crater until the afternoon and continue up

Grapevine Canyon three miles to Scotty's Castle. As soon as you arrive at the castle, purchase your tickets.

To get to the crater, retrace your route down Grapevine Canyon towards the Ranger Station. Take the right hand turn-off towards Ubehebe Crater. Five miles of paved road will bring you to the rim of this outstanding feature - a huge crater a full half mile wide and 750 feet deep. Be prepared for wind at the crater. A nearby sign explains the forces that created this massive crater.

For the return trip, drive back towards Grapevine Ranger Station and bear to the right to return to Furnace Creek. It takes a full day and 120 miles of driving to visit the castle and Ubehebe Crater but you will find that it is well worth the effort.

Scotty's Castle Tours

Fee Schedule

Tour Schedule

Year Around — Hourly, 9:00 a.m. to 5:00 p.m.

Summer Season — every 1½ hours, 9:30 a.m. to 5:00 p.m. Expect a wait of from 1 to 2 hours under normal conditions and 2-3 hours during busy holiday periods. Tours are shortened during holiday periods from 50 to 30 minutes and fees are reduced to half for modified tours.

Adults (Under 62).....	\$4.00
Adults (62 or over with Golden Age Passport).....	2.00
Children (6-11 yrs.).....	2.00
Children (under 6 yrs.).....	Free

Interpretive Activities

Ranger conducted programs are offered daily through Mid-April. Scotty's Castle tours are conducted year-round. **FOR A WEEKLY SCHEDULE OF ACTIVITIES CHECK AT THE VISITOR CENTER, AND SCOTTY'S CASTLE.** Orientation film presented several times daily at the Visitor Center. Programs will also be presented in the Stovepipe Wells Hotel lobby on Friday and Saturday nights during the winter season.

Illustrated programs are presented nightly at 7:30 p.m. in the Visitor Center Auditorium until mid-April.

Talks on various Death Valley topics are presented regularly in the courtyard between the Furnace Creek Visitor Center and Administration Building. Length 30 minutes to one hour.

Auto caravans may require ride sharing so that the number of vehicles is minimized and to insure that only the proper type of vehicles are used for the road conditions.

Non-illustrated programs are presented on Friday and Saturday nights at 7:30 p.m. at Mesquite Spring Campground Amphitheater.

Self-Guiding Tours

A variety of self-guiding facilities are available for you to enjoy and explore at your leisure. These tours lead to some of Death Valley's most beautiful and interesting locations. Guide booklets may be purchased on site as well as at the Furnace Creek Visitor Center and Scotty's Castle bookstore.

Badwater Auto Tour — length 38 miles round trip, driving time 2 hours - booklets available at junction of CA 190 and the Badwater Road as well as Badwater.

The Valley's geology is explained at different view points. At Badwater, you will be 280 feet below sea level.

Salt Creek Nature Trail — length ½ mile, walking time 1 hour - booklets available at Salt Creek.

Salt Creek flows year-round through a shallow canyon and marsh. Tiny pupfish survive in the salty waters.

Sand Dunes Story — length ¼ mile, walking time 1 hour -

booklets available at Sand Dunes Picnic Area and along CA 190, 2 miles east of Stovepipe Wells.

Miles of dunes can be explored. Plant and animal communities are explained. Desert dwellers leave their tracks in the sand.

Golden Canyon Trail — length 1½ mile round trip, walking time 1½ hour - booklets available at canyon entrance.

This trail leads into yellow and red badlands. The origin of these colorful formations is described.

Harmony Borax Works — length ¼ mile, walking time ½ hour - interpretive signs.

One hundred years ago borax was refined here before being shipped out on the famous 20 mule team wagons. Wagons are on display.

Walking Tour of Scotty's Castle - Length ¼ mile, walking time 45 min. - booklets available beside Scotty's Castle Ticket Booth.

A Look at the Stars — Learn the constellations, the planets and other heavenly objects during one of the regularly scheduled stargazing programs in the Furnace Creek area. Length one hour.

Photography Workshops — See Death Valley through the lens of a camera. Learn new techniques and enjoy Death Valley through these regularly scheduled workshops. Length one to two hours. Bring your camera!

Sketching Strolls — Use your leisure time to learn the Death Valley environment by using a pencil. This relaxing activity will help you slow down and see again. Materials provided. About one hour.

A walk around the grounds of Scotty's Castle to learn more about daily life at the ranch, its construction, and the outbuildings.

Windy Point Trail — length ¾ mile, walking time ½ hour - booklets available beside Scotty's Castle Ticket Booth.

A climb of 160 vertical feet takes you to the cross which marks Death Valley Scotty's grave. This walk will help you discover how plants, animals, and man exist in the challenging Death Valley environment.

Tie Canyon Trail — length 7/10 mile, walking time ½ hour - booklets available in the Scotty's Castle Picnic Area.

Workers and building materials occupied Tie Canyon during the construction period. Some vehicles, equipment, and building materials remain.

Wildrose Charcoal Kilns — length 1/8 mile, walking time ½ hour - booklets available at the Charcoal Kilns.

During the silver mining era, these peculiar stone "beehives" were built to produce charcoal for smelters in the Argus Range.

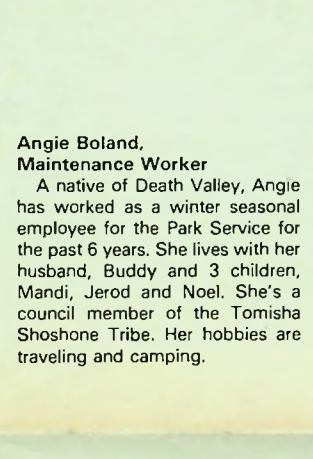


Meet the Staff



**Sylvia O. Robinson,
Contracting Specialist**

Sylvia was born in Honolulu, Hawaii. She is responsible for all the purchasing for Death Valley National Monument. She has twenty-six years of experience working for the Federal Government, the last sixteen of those years with the Park Service in the areas of supply and procurement. She has lived over nine years in Death Valley; however, her husband lives and works for the BLM in Las Vegas and visits on weekends. Her hobbies include writing, reading, playing guitar, sculpting, and handcrafts.



**Angie Boland,
Maintenance Worker**

A native of Death Valley, Angie has worked as a winter seasonal employee for the Park Service for the past 6 years. She lives with her husband, Buddy and 3 children, Mandi, Jerod and Noel. She's a council member of the Tomisha Shoshone Tribe. Her hobbies are traveling and camping.



**Tim Coonan, Resources
Management Specialist**

Tim is responsible for monitoring and identifying threats to natural resources such as wildlife, plant communities, water resources and air quality. Tim arrived at Death Valley in June, 1987, after working two years as a Resources Management Ranger at San Antonio Missions National Historical Park in San Antonio, Texas. Previously, Tim had worked as a seasonal Ranger at Canyon de Chelly National Monument in northeastern Arizona.

Tim has been married for three years to Kayci Cook, who works for the National Park Service as an Interpretive Ranger in Furnace Creek.

**Kayci Cook,
Interpretive Ranger**

A native of the Southwest, Kayci attended Northern Arizona University in Flagstaff, pursuing a degree in resource management. During the summers she worked at Canyon de Chelly and Wupatki National Monuments, as a seasonal park ranger. Kayci became a permanent National Park Service employee three years ago at San Antonio Missions National Historical Park. Coming to Death Valley last summer as lead Park Ranger, Kayci is responsible for operation of the Visitor Center and coordination of ranger-guided programs.



Death Valley Visitor Guide

The Death Valley Visitor Guide is a publication of the Death Valley Natural History Association in cooperation with the National Park Service, Death Valley National Monument. This publication is produced to inform and aid the park visitor.

Editor.....Anita Rowlands, NHA Co-Manager
NHA Staff.....Phyllis McKiernan, Co-Manager
Jenny Magli, Office Assistant
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Mel Essington, Les Palmer,
Peter Rowlands, Mary Beth White
Production.....Kaye Doughtie, Chalfant Press
Printing.....Keith Doughtie, Chalfant Press
Illustrations.....Kayci Cook
Photo Credits.....National Park Service

Produced with the assistance of the National Park Service Death Valley National Monument. A special thanks to the staff and management of Chalfant Press.

Visitors Services

Furnace Creek Inn and Ranch Resort - Fred Harvey, Inc.

Stovepipe Wells Village - Concessioner, Fred Harvey, Inc.

Scotty's Castle Services - Concessioner, TW Services, Inc.

A variety of services are available within Death Valley National Monument during the visitor season (October - May 12). Summer months offer a limited number of services. Summer services are listed at the bottom of this section.

LODGING

Furnace Creek Ranch.....	786-2345
Furnace Creek Inn.....	786-2361
Reservations, Inn & Ranch.....	786-2345
Stovepipe Wells Village.....	786-2387

GASOLINE

Furnace Creek Chevron.....	7:00 a.m. - 7:00 p.m.
Stovepipe Wells Chevron.....	7:00 a.m. - 8:00 p.m.
Scotty's Castle Union 76.....	9:00 a.m. - 5:30 p.m.
Diesel Fuel available at Beatty, Stateline, Lone Pine, Panamint Springs, Olancho and Trona.	

PROPANE

Furnace Creek Chevron

AUTO REPAIR AND TOWING

Furnace Creek Garage (AAA).....	786-2232
	8:00 a.m. - 4:00 p.m.

GENERAL STORES

Furnace Creek Ranch.....	7:00 a.m. - 9:00 p.m.
Stovepipe Wells.....	7:00 a.m. - 8:00 p.m.

GIFT SHOPS

Furnace Creek Ranch.....	7:00 a.m. - 9:00 p.m.
Furnace Creek Inn.....	8:00 p.m. - 9:00 p.m.
Stovepipe Wells.....	8:00 a.m. - 8:00 p.m.
Scotty's Castle.....	8:30 a.m. - 5:30 p.m.

ICE

Available at Furnace Creek Chevron

BIKE RENTALS

Furnace Creek Chevron

LAUNDROMAT

Furnace Creek Ranch - located on Roadrunner Ave.

HORSEBACK RIDES

Furnace Creek Ranch - 2 hour rides.....	8:00 a.m. and 10:30 a.m.
Tickets at Registration Office	

GOLF COURSE

Furnace Creek Ranch Pro Shop.....	786-2301
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DEATH VALLEY SIGHTSEEING TOURS

Furnace Creek Ranch	
Registration Office.....	786-2345, Ext. 61

SUMMER SERVICES

FURNACE CREEK RANCH

General Store.....	7:00 a.m. - 9:00 p.m.
Chevron Station.....	7:00 a.m. - 7:00 p.m.
Meals available at Coffee Shop, Cafeteria, Steak House complex.....	5:30 a.m. - 9:30 p.m.
Rooms available.....	24 hr. 786-2345

STOVEPIPE WELLS VILLAGE

General Store.....	8:00 a.m. - 6:00 p.m.
Chevron Station.....	8:00 a.m. - 6:00 p.m.
Limited number of rooms available	
Dining room and saloon closed	

SCOTTY'S CASTLE

Snack Bar, Gift Shop.....	8:30 a.m. - 5:30 p.m.
Gas Station.....	9:00 a.m. - 5:30 p.m.

FOOD AND DRINK

Furnace Creek Ranch

Coffee Shop.....	7:00 a.m. - 9:30 p.m.
Cafeteria	
breakfast.....	5:30 a.m. - 9:00 a.m.
lunch.....	11:00 a.m. - 1:30 p.m.
dinner.....	5:00 p.m. - 8:30 p.m.
Steak House.....	5:00 p.m. - 9:00 p.m.
(except Sunday)	
Corkscrew Saloon.....	11:00 a.m. - 1:00 a.m.
19th Hole Snackbar and Cocktails.....	10:00 a.m. - Dusk

Furnace Creek Inn

Dining Room	
breakfast.....	7:30 a.m. - 9:00 a.m.
lunch.....	Noon - 1:00 p.m.
dinner (res. req.).....	6:00 p.m. - 8:00 p.m.
Sunday Brunch.....	11:00 a.m. - 2:00 p.m.
Oasis Supper Club (res. req.).....	6:00 p.m. - 9:30 p.m.

Stovepipe Wells

Dining Room	
breakfast.....	7:00 a.m. - 10:00 a.m.
lunch.....	11:30 a.m. - 2:00 p.m.
dinner.....	5:30 p.m. - 8:30 p.m.
Saloon.....	4:00 p.m. - 10:00 p.m.
Scotty's Castle Snack Bar.....	8:30 a.m. - 5:30 p.m.

SWIMMING POOLS

Furnace Creek Ranch.....	9:00 a.m. - 10:00 p.m.
\$2.00 charge to non-guests, availability limited	
Stovepipe Wells.....	9:00 a.m. - 9:00 p.m.
\$1.00 charge to non-guests, availability limited	

BARBER SHOP

Located across from Furnace Creek Inn

Every Thursday.....	9:00 a.m. - 4:00 p.m.
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BEAUTY SHOP

Furnace Creek Inn.....	9:00 a.m. - 4:00 p.m.
Tuesday through Saturday	

POST OFFICE

Furnace Creek Ranch	
Monday through Friday.....	7:00 a.m. - 7:00 p.m.
Saturday.....	10:00 a.m. - 2:00 p.m.

SHOWERS

Furnace Creek Ranch - check at registration desk	
Stovepipe Wells - check at registration desk	

RELIGIOUS SERVICES

INTER-DENOMINATIONAL (Sponsored by A. Christian Ministry in the National Parks)

Furnace Creek Visitor Center.....	Sunday 9:00 a.m. & 6:00 p.m.
Stovepipe Wells Auditorium.....	Saturday 8:30 p.m.
	Sunday 9:00 a.m.

CHURCH OF JESUS CHRIST OF LATTER DAY SAINTS

Furnace Creek Visitor Center	
(through mid-April).....	Sunday 4:30 p.m.

Check bulletin boards for time changes during holiday periods.

PARK WATCH



Numerous towns and cities across the nation have instituted a program called "Neighborhood Watch." The idea behind this program is to encourage residents to keep an eye on their neighbor's property and to report any suspicious activity to the local police or sheriff. Everyone makes a commitment to look out for each other's welfare.

Death Valley National Monument has implemented a similar

program called PARK WATCH. The objective of PARK WATCH is to encourage park visitors and neighbors to take a more active role in protecting and preserving their park. You are being asked to report safety problems, vandalism and crime. Vandalism is a special problem here at Death Valley. Remnants of past mining activity contain numerous old buildings, many of which are classified as historical structures. Vandals are

destroying YOUR heritage. Help us to protect these valuable resources. Report any act of vandalism. Together we can keep Death Valley National Monument a safe and enjoyable experience for all.

Report any crime or safety problems to a Park Ranger or call (619) 736-2330. **IMPORTANT:** If you observe someone violating park regulations or committing a crime, DO NOT attempt to take action

yourself. This is a job for Park Rangers. The best thing you can do is to note the location, description of the people involved, license numbers of any vehicles, and report the incident as soon as possible.

TO REPORT AN INCIDENT
CALL (619) 765-2330
OR
CONTACT A PARK RANGER