



SODA SPRINGS, SAN BERNARDINO COUNTY:

SEQUENTIAL LAND USE

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Soda Springs, a small San Bernardino County desert oasis, eight miles south of Interstate 15 and Baker, between Barstow and Las Vegas, goes unnoticed by the thousands of travelers that pass daily through the Mohave Desert by car, bus, or train. (Fig. 1) Little remains to indicate Soda Spring's former importance to the region's development. Only faint remnants of the former Mojave Road and the Tonopah and Tidewater Railroad are noticeable to the perspicacious rock climber or air traveler. The historical succession of land uses in Soda Springs has recently been continued by the addition of the Desert Research Center, under the auspices of the California State University and College System.

Before European Settlement

Soda Spring's strategic location in the eastern Mojave has had a major effect on the commerce and, as importantly, on human survival in the region. Before the advent of European explorers, ancient trade trails led some 283 miles from the Mojave Valley on the Colorado River to the Pacific Coast. The nomadic Mojave Indians maintained a large permanent village north of present day Needles. Acting as middle-men

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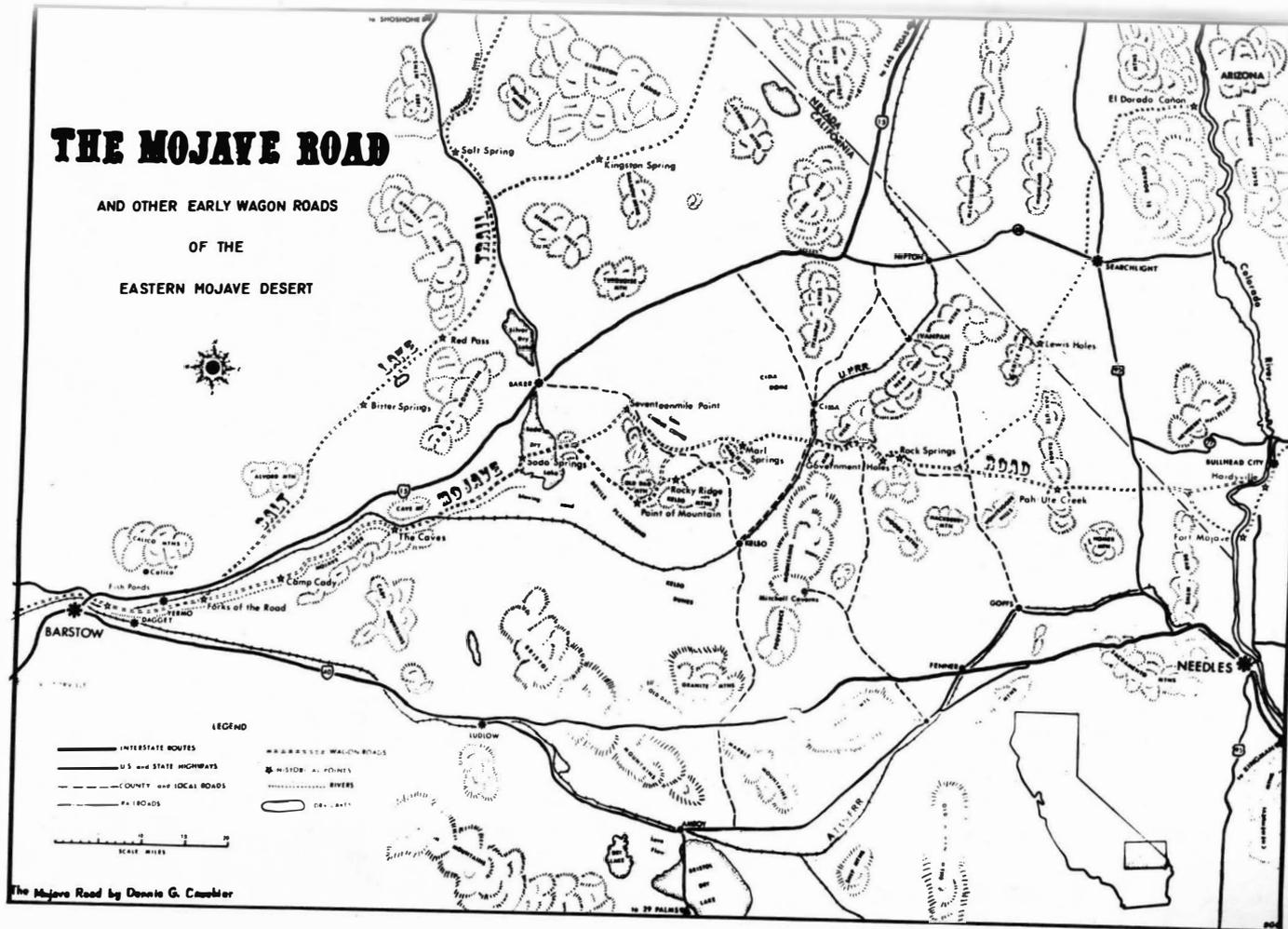


Figure 1. The Mojave Road
(Permission of Dennis S. Casebier)

between the coastal tribes and Hopi of Arizona and New Mexico they traded blankets for sea shells. They also bartered their pottery, dried gourds, pumpkins, and other food products. The trail routes varied depending on the condition of various desert seeps and springs, but all led to the Mojave River sink, the dry Soda Lake.¹ This sink is formed under the lake surface as a large aquifer and is the terminus of the underground Mojave River which begins its subsurface flow at a point twenty miles to the west. With knowledge of desert water sources, the journey was arduous, often lasting more than two weeks, although a swift Mojave runner could make the trip from the Colorado River to the Pacific in a few days subsisting on local water sources along the way.²

Small settlements and temporary rancherias were established at some of the springs. One of the earliest land uses near Soda Springs, survives today -- an ancient cornfield south of Rasor Ranch. This plot dates back an estimated 1,000 years and is a possible indication that once more surface water was available.³

With the exception of the Pah-Ute (Paiute) Indians which were adapted to the region, the desert formed a barrier to other groups and, subsequently, its main land use has been for transportation and related services. Until highways and railroads by-passed Soda Springs, almost everyone traveling through the region stopped there for water, shade, and forage.

Early European Exploration:

In 1776 Father Garces, a Spanish missionary from the Tubac Mission

near Tucson, traveled to the Mojave village and a guide took him over the trail to the Mission San Gabriel. Conflict brought Lt. Gabriel Moraga with fifty men to Soda Lake in 1819. Well-known figures from western history stopped there. Mountain man Jedediah Smith came to Soda Springs in 1826 and 1827 on a fur trapping expedition. He named the Mojave River the "Inconsistent River" although the Indians had called it the "Upside Down River" because it is wider at its source in the San Bernardino Mountains, disappears underground, and never reaches the sea.⁴

In the winter of 1829-1830 Kit Carson stopped at Soda Springs. Traffic on the Mojave Trail west of Soda Lake was increasing as the Old Spanish Trail from New Mexico shared that portion of the route to the coast.

Explorers crossed the desert with increasing regularity. The Young-Wolfskill group in 1831 came down the Colorado from Utah to the Mojave Village and then on the trail to Los Angeles.

Lt. J. C. Frémont traveled east from Tehachapi Pass to Soda Lake. In 1853, Lt. R. S. Williamson made perhaps the first written description of Soda Springs in his survey report of the Mojave River area. He first reported that the Mojave River did not continue east to the Colorado as many had believed.⁵ A survey from Ft. Smith, Arkansas began in 1853 when Lt. A. W. Whipple led an expedition in search of a 35th parallel rail route. He crossed the southern edge of Soda Lake, apparently missing Soda Springs. Deputy Land Office surveyors were hired, between 1855 to 1857, to set stone markers, stake out township lines

and to perform other surveying functions. They brought the first wagons into the area, and for the time, used Soda Spring as a base.⁶ (Fig. 1).

Mormons from Utah made numerous attempts to turn Mojave Indians against Americans and the military.⁷ The road soon became known as the "Camel Express" from the experiments of E. F. Beale using camels for desert travel. He journeyed from New Mexico westward to the Mojave Road in his search for a 35th parallel route for a wagon and railroad, part of his route later becoming Route 66.⁸

In 1859 alternate water sources, reservoirs, and wells were constructed subsequent surveying expeditions along the road to supplement supplies, allowing pack trains from Los Angeles to travel the Mojave Road to supply Fort Mojave.⁹ The success of subsequent trips on the road opened the door for Los Angeles to become the major military supplier for Fort Mojave and insured its commercial importance as terminus for local agricultural supplies as well as seaborne supplies.

United States Military Occupation

Temporary land use change in Soda Springs occurred in 1860 when it was known as Hancock's Redoubt. The First Dragoons manned a small fort, an adjunct to Camp Cady, some thirty five miles west. They patrolled to Marle Springs thirty-three miles east of Soda Springs. This change in land use was associated with transportation--trying to protect travelers and military supply shipments.¹⁰

Communication led to an associated land use. Throughout the period, various attempts at a regular mail service between Los Angeles and Arizona

had been attempted--with varying degrees of success. Two years after Prescott became the capital of the Arizona Territory in 1864, George Andrews, a mail express rider, was attacked by renegade Indians near Soda Lake. This led to the establishment of a permanent outpost and relay station at Soda Springs in 1865.¹¹

In the late 1870s most military traffic from Los Angeles was shipped up the Colorado from the Sea of Cortez and the Mojave Road was only occasionally used. In 1875 a mail contract opened the road to regular stage service from Arizona with a stop at the Soda Springs station. Hundreds of thousands of sheep and cattle were driven on the road as new grazing lands opened and were made safe from Indian harassment. An Indian uprising in 1880 led to a six-week reinstatement of Soda Springs as a military patrol center; no Indian confrontations, however, were recorded on that site.

The end of the Mojave Road as a major trans-desert artery was approaching. The 35th parallel rail line from the Mississippi River to Los Angeles was completed near Needles, California, on August 4, 1883. It is still the route of the Santa Fe Railroad.¹²

Mining traffic continued to increase as miners traveled by rail to Ludlow, thirty-three miles south then taking a wagon to the various mines. In the late 19th century, a group of German immigrants mined salts in the areas, and added another stage of land use. They built evaporation vats adjacent to Soda Springs and, over a period of several years, shipped them by wagon to the nearest rail head.

The first major change in transportation in the area occurred on January 30, 1905 when the San Pedro, Los Angeles and Salt Lake Railroad was completed under the aegis of Senator William H. Clark. It ran through Crucero, $7\frac{1}{2}$ miles south of Soda Springs, eventually becoming the Union Pacific Railroad's Salt Lake Route to Los Angeles.

But it was the Tonapah & Tidewater Railroad that made "Soda," as it was known during the Railroad's operating periods. Since 1906 it was a scheduled watering stop on the line which ran through the site to serve the rich Nevada mining districts of Beatly, Rhyolite and Goldfield 145 miles north.

With such a descriptive title, one could easily imagine, coinciding with the dreams of the line's founder, F. M. Smith, that the two termini of the railroad would be the rich goldfields of Tonopah, Nevada and the Tidewater of Coronado Bay in San Diego. Not only did the line fail to extend to either Tonopah or to San Diego, but it was originally envisioned to service the Lila C. borax mine in Death Valley. Smith had earlier acquired this and other borax mines, and since the Lila C. was the most inaccessible, the others were mined out first. After failure of other forms of transportation such as mule trains and wagons, Smith confided to Clark. With his Montana copper fortune, Clark's advice persuaded Smith to begin his railroad at Las Vegas, incorporating in June, 1904. Surveys were procured, men and materials were assembled in Las Vegas, and on May 29, 1904 construction began.

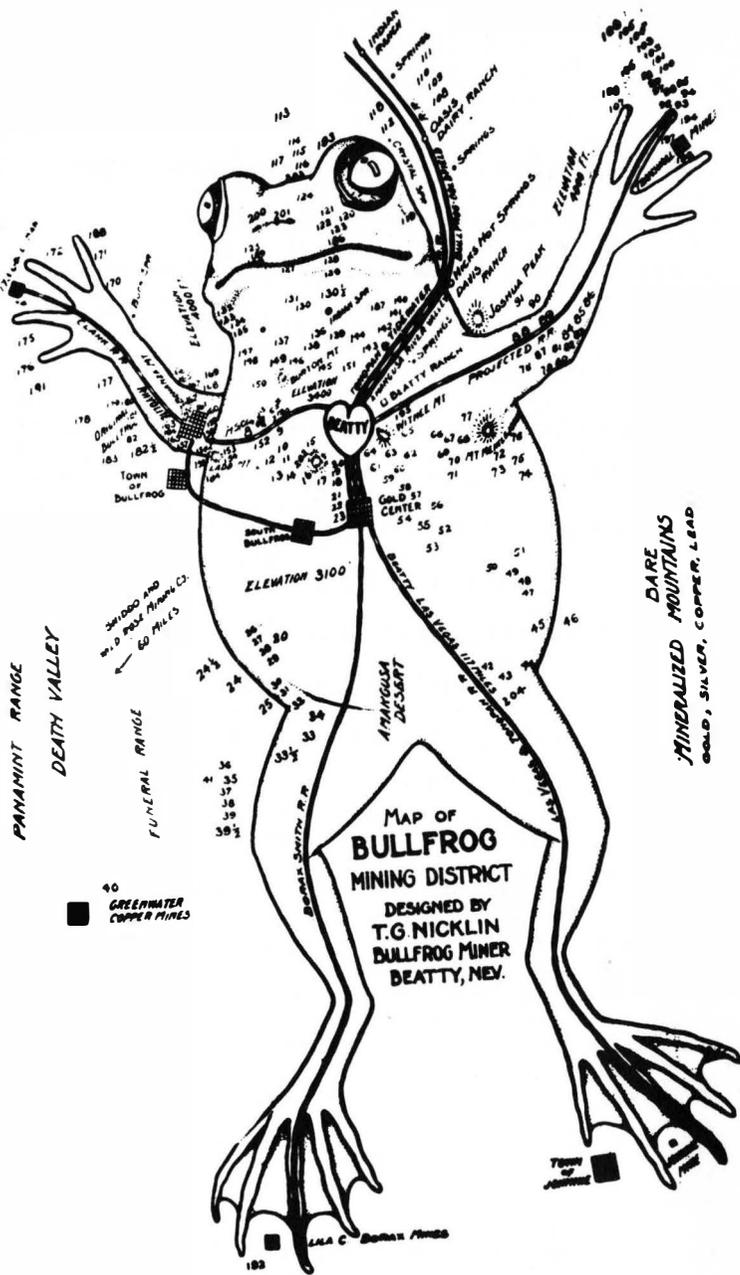
A change of heart perhaps the most polite description of Clark's subsequent actions. After nine miles of track and twelve miles

of grade had been finished, Smith learned that Clark wanted to build his own railroad to Tonopah and to the newly discovered gold bonanzas of Rhyolite, Bullfrog, Gold Center, and Goldfield. Clark was overcharging the T & T for supplies shipped on the Salt Lake route, refusing to allow the T & T rail connection at Las Vegas. (Fig. 2).

During the subsequent decade several spur lines were opened from new and short-lived mines but an even greater number were closed. Overall, traffic diminished and, except for a trickle of supplies and passengers, haulage consisted of mining products: borax, gold, marble, clay and copper. Most mining activity was located near the northern terminus of the line but in the south turquoise was found west of Silver Lake and gold was thought to be present in the mud of Soda Lake. No reports indicated that gold was found. There was also a resumption of salt mining attempts at Soda using evaporation of brine. The mineral was loaded on the T & T for shipment from mule-powered cars on narrow guage tracks, relicts of which can still be found in the area.¹³

During the late 1920's borax mining shifted from Death Valley to Boron, west of Barstow, where large deposits were found. The Death Valley Railroad was the first victim of the closure of the (New) Ryan mine, followed shortly by the closure of the Bullfrog Goldfield Railroad in January, 1928.

In 1930, T & T passenger service was reduced to one train per week. Three years later, the section of the line (25.68 miles) between Ludlow and Crucero was closed with all westbound traffic using the Salt Lake



THE BULLFROG MAP

Figure 2.

The Lila C. mine site is about 60 miles north of Soda Springs.

route. Company headquarters and service moved to Death Valley Junction.

Traffic further diminished, much of the movement occurring only for short distances carrying, for instance, drinking water from Rasor, about four miles south of "Soda," to the 58 inhabitants of Baker. The desert, always threatened by flash flooding, was severely hit by heavy rains in March 1938.

Heavily damaged areas included Crucero, Soda, Baker and Silver Lake, plus several sections of railroad. The final day for the Tonopah and Tidewater was June 15, 1940. Rails were left in place until requisitioned for use as scrap iron in World War II and were finally removed by July 1943. Many ties were removed; large piles may yet be seen near the maintenance area at Soda Springs.¹⁴

Zzyzx Mineral Springs

In 1944 Dr. Curtis Howe Springer and his partner, J. Monet, who emigrated from Florida, came to the Soda Lake basin to open a health spa. The "reverend" Springer claimed 12,800 acres of Bureau of Land Management holdings under an old mining rights law giving ownership to anyone who would mine the natural resources.

The claim centered at Soda Springs which he renamed Zzyzx, intended to be the last word in any gazetteer, extending from Rasor Ranch south, north almost to Baker and including the entire lake bed and land between the Soda and Cowhole Mountains. A hammer mill was constructed to process the alkali salts (called Zy-Crystals) from the lake bed, which

were mixed at the ratio of 1 to 4 with Epsom salts to make bath salts selling at \$1.50 per pound. Local mineral water was the main constituent of another product, "HAIR-FLO", advertised as "direct from Hollywood, the Land of Sunshine and Stars."¹⁵

If mining was the ostensible *raison d'être* of Springer's settling at Zzyzx (rhymes with SKY-SIX), the real purpose of his presence was to establish a health spa, replete with mineral baths, health food, clean desert air, and the evangelical sermons of the gospel according to the "Reverend" Springer. After that, plans were initiated to sell parcels of land to Easterners who wanted to make Zzyzx their permanent residence. The Springer group had ample experience to carry out plans. He had developed health spas in Florida again using mining claims to federal land. However, the government had evicted him for illegally squatting on Florida federal land.

Tents on concrete pads were used to house the first visitors, who paid \$25 per month for these facilities and meals. Soon the first permanent structures, a bathhouse over one of the wells and a row of east-facing apartments collectively called "Sunrise" were completed.

The "warm mineral baths" were actually heated artificially as the well water, at 78 degrees F , was too cool for comfortable bathing for many. The bathhouse contained individual tubs and a common pool. Construction was mainly of concrete blocks, made on site with imported cement and local sand and gravel. The block molds are still visible in the maintenance area. Labor came from some volunteer help from tenants and visitors.

Springer was known as a contractor among visitors and co-workers. He designed the sewer system, the overflow from which was also ducted to the lake. The kitchen, dining room for the tenants and administrative offices were housed in the "Castle". In soundproof recording studios Springer recorded his weekly radio programs which were sent to radio stations from coast to coast, also using his programs to advertise the health spa.

He entertained radio station executives, some of whom flew in and landed on the airstrip he constructed on the Tonopah and Tidewater Railroad road bed adjacent to the complex. Throughout his 30-year stay Springer claimed to have received 1/4 million visitors. During that time, unfortunately for him, some of his visitors were officials from the Bureau of Land Management and the Internal Revenue Service. From the very beginning of Zzyzx, the federal agents questioned the legality of his occupancy. Springer countered their accusations by insisting that he had established a mining settlement. To the IRS he claimed that his was a tax exempt religious foundation. In 1972 Springer was under court order to cease development on the property except for mining.

In 1974 the Federal Court ruled against his tax exempt status, evicted him and returned the property to the Bureau of Land Management. The 80-year old Springer was given a jail sentence, serving six months. Dr. Springer currently lives in Las Vegas and continues to tape radio sermons for broadcast on several Eastern stations.

It was augmented by prisoners on probation, who initially came from the Los Angeles skid row district, the courts responding to Springer's request that some of the non-felons be released to live and work at Zzyzx in his custody. In addition to workers' room and board, Springer had to pay money to the courts, but this was done only when he could afford to.¹⁶

Springer claimed to have planted 2000 shade trees, 2000 palm trees and 4000 flowering shrubs. If he did, relatively few have survived. But he did plant vegetables and raised goats and rabbits for residents' consumption. In addition to the original well, others were dug into Mojave River aquifers. Some of these supplied water to two ponds, one of which was a long, ornamental pond with a stone foundation. (Fig. 3) An overview system fed water to the nearby evaporation vats that had been left by earlier Soda inhabitants. Excess water was drained into Soda Lake.

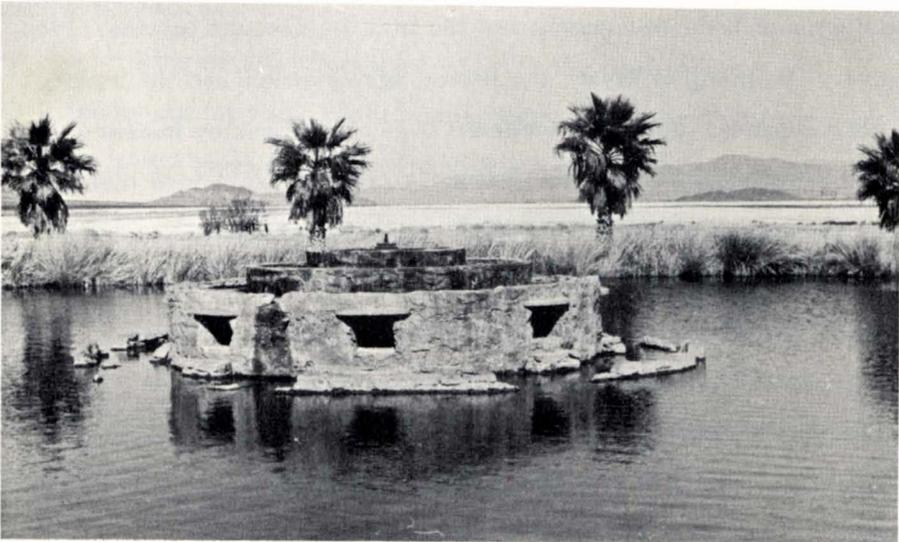


Figure 3

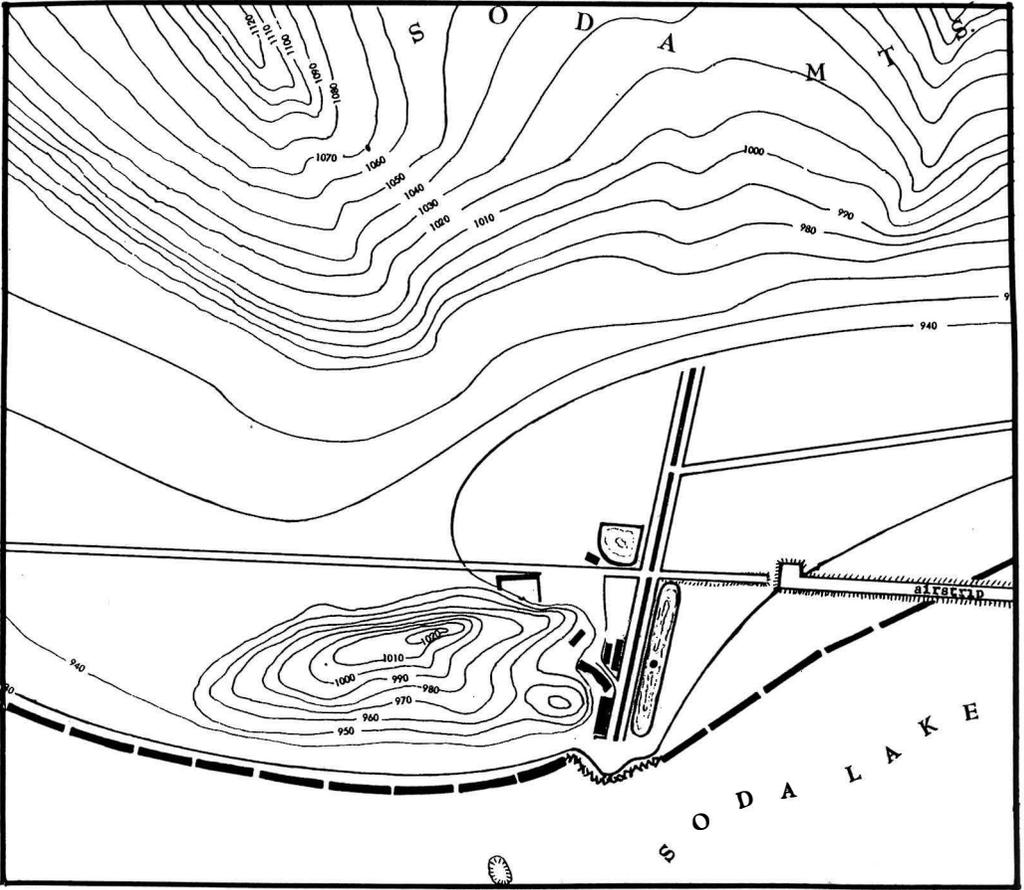
A Desert Research Center

The publicity arising from the trial caught the eye of Dr. D. Harrington, Biology Department, California State College, San Bernardino. Harrington immediately recognized the value of the site for high desert research and after a couple of years of red tape, the Bureau of Land Management, ready to bulldoze Zzyzx, granted the California State University and College system a five-year lease to use Springer's land claim as a Desert Research Center. (Fig.4)

With student volunteer labor from the Desert Studies Consortium (the seven southern California State Colleges and Universities which will be the users of the Center), the property was cleaned up and two dormitory buildings were renovated for weekend occupancy. The clean up is presently in process.¹⁷

To utilize more fully the Center, a proposal was suggested, along with an Environmental Impact Report from members of the Geography Department, California State University, Dominguez Hills, to construct a laboratory and dormitory for up to 100 students and faculty west of the present structures. The center would be used during semester breaks and vacations in mini-semester of highly concentrated live-in study of subjects ranging from archaeology to photography. Moreover, the center is intended to be self-sufficient with respect to energy, water and waste disposal requirements.

Several campuses have used the present facilities for weekend field



C.S.U.C.
 Desert Studies Center
 Soda Springs, Ca.

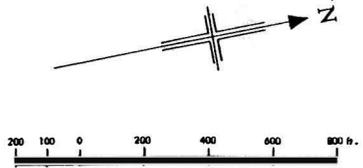


Figure 4.

trips as an adjunct to on-campus classes, and during spring break, 1979, 27 students and three faculty members spent six days of study on a field course featuring micrometeorology, geological surveying, and archaeology. At least one step in the proposed explained use of the facility has thus been initiated.

In addition to educational uses, requests to use the site for recreational purposes have gone to the BLM. The Huntington Beach YMCA has asked for a lease to establish a boy's camp. No action has yet been taken. In 1974, Soda Springs was on the route of a proposed motorcycle race from Barstow to Las Vegas, but the permit was rejected by the BLM.

Changes in Soda Springs' land use sequence since 1944 have occurred with greater frequency with the traditional support functions of mining and transportation giving way to recreational and educational roles. The greater mobility of southern California urbanities has caused greater stress to these desert regions. It is not expected, however, that the land would have been opened for public sale had the California State Universities and Colleges not leased it from the BLM. This once prevalent practice has been replaced by the routine transfer of federal land from one agency to another. A permanent transfer to the CSUC Constortium could result from continued successful use of the site as a Desert Research Center.

NOTES

¹Dennis G. Casebier, *The Mojave Road* (Norco, CA: Tale of the Mojave Road Publishing Co., 1976) pp. 13-15.

²*Ibid.*

³Malcolm J. Rogers, *Report of an Archeological Reconnaissance in the Mojave Sink Region* (San Diego, San Diego Museum Archaeology, 1929), Vol. 1, No. 1. While this observation is disputed by some, it is known that later Mojave Indians and their successors, the Pah-Utes and the Chemehuevis practiced limited agriculture. In 1853, Lt. Amiel Weiks Whipple, leading an expedition from Ft. Smith, Arkansas consisting of an official government survey team in search of a new rail route close to the 35th parallel, commented at Piute Creek (east of Soda Lake) the following year, ". . . A little basin of rich soil still contains stubble of sheat and corn, raised by the Pai-Utes (Pah-Utes) of the mountains. . ." See: Grant Foremen (ed.), *A Pathfinder in the Southwest* (Norman, University of Oklahoma Press, 1941), p. 250.

⁴D. G. Thompson, *The Mojave Desert Region, California, A Geographic, Geologic and Hydrologic Reconnaissance*, U.S. Geological Survey Water Supply Paper; 578, p. 513.

⁵*Op. cit.*, footnote 1, pp. 22-38; 54-55.

⁶Dennis G. Casebier, *Carleton's Pah-Ute Campaign* (Norco, CA: Tales of Mojave Road, 1972) p. 3; *op. cit.*, footnote 1, pp. 54-55.

⁷Hutson Horn, *The Pioneers of the Old West* (Alexandria, VA: Time-Life Books, 1974 rev. 1979), p. 178.

⁸*Op. cit.*, footnote 6, p. 3, footnote 1, p. 64.

⁹*Op. cit.*, footnote 1, pp. 103-105, 119.

¹⁰Dennis G. Casebier, Camp Rock Springs, California (Norco, CA: Tales of the Mojave Road, 1974), p. 68, 84, 92. Casebier, personal communication on the history of Soda Springs (Norco, CA, July, 1979) ". . . desert writers, tending toward the romantic side, invented FORT SODA. Spring called it that. L. Burr Belden called it that. And so it was..FORT SODA!--its natural name. It is correct that there was an army outpost there. Naturally folks would think of it as a fort...so Fort Soda it became." L. Burr Beldon T & T Built to Top Death Valley Borate Deposits (San Bernardino, Sun Telegram, 1 Feb. 1953) ". . .Five miles south of Baker, on the west side of the glaring white surface of Soda Lake was a station named Soda. It was an old stone fortification left over from Indian war days and had been a stop for stages on the Old Government road. The fort had been built by Col. Carlton (Carleton) and manned Hancock Redoubt."

¹¹Op. cit., footnote 10, pp. 39, 60, footnote 1, pp. 141-53.

¹²Op. cit., footnote 1, pp. 154-162.

¹³Belden, op. cit., footnote 10, ". . . A German group came along in 1914 and tried extracting quicksilver from Soda Lake. They . . . built the old fort's walls higher and roofed it. The quicksilver operation was a failure and the Germans turned to manufacture of soda and salt only to have their operation halted when the United States declared war on Germany. The soda project was never revived after the armistice. Its promoters had sunk considerable money, built an elaborate system of evaporating ponds, developed springs and installed the area's first swimming pool. Many a T & T freight crew stopped their trains while all hands took a swim at Soda during hot summer days."

¹⁴Jerry Gates, personal interviews on Zxyzx Mineral Springs, 1977.

¹⁵Charles Spagnola and Melanie Wenger, personal communication on a conversation with Jerry Gates, Soda Springs, 1977.

¹⁶Op. cit., footnotes 14 and 15.

¹⁷Dr. Dalton Harrington, personal interview on the California State Universities and Colleges Desert Research Center at Soda Springs (San Bernardino, October, 1977). The Consortium includes California State Universities at Dominguez Hills, Fullerton, Long Beach, Los Angeles, Northridge, California State Colleges at San Bernardino, and Cal. State Polytechnic University, Pomona.