NEW LANDS, OLD LANDS: A HISTORY OF THE LANDS ADDED TO JOSHUA TREE NATIONAL PARK, CALIFORNIA

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Historic Resource Study

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Cover Illustration:
1920s Model-T Automobile Body near Hobart No. 1 Mine in the Coxcomb Mountains
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EXECUTIVE SUMMARY

President Franklin D. Roosevelt created Joshua Tree National Monument by proclamation in 1936. The United States Congress transformed the nearly 558,000-acre Monument into Joshua Tree National Park in 1994 and increased its size by 234,000 acres. This Historic Resource Study reviews and evaluates the historical significance of the cultural resources associated with the history of these added lands. These cultural resources reflect the cumulative history of human activities in the nineteenth and twentieth centuries. The natural setting and cultural resources evoke images of and contain historical information about miners, ranchers and homesteaders, the Colorado River Aqueduct, the Desert Training Center, and recreational use.

Euroamerican exploration and colonization of the region began in the late eighteenth and early nineteenth centuries, but the earliest historic-era imprints on the land may be associated with cattle and sheep ranching, which emerged in the 1870s and continued into the 1950s. The Cram Brothers ran an extensive ranching operation in the added lands in the early twentieth century. Inventoried cultural resources associated with ranching include fence posts and wire, water conveyance and storage artifacts and features, building foundations, carved inscriptions, and concentrations of domestic refuse. The Historic Resource Study found none of these resources to be individually eligible for the National Register of Historic Places, while all evaluated resources may be potentially contributing elements to a National Register district or landscape. Homesteading around the added lands began as early as the 1880s and blossomed in the 1920s and 1930s. No homesteading actually took place in the added lands but may have occurred in some of the inholdings encompassed by the lands.

Mining of precious and base metals played an especially significant role in the history of the added lands. Historical mining in the area—mostly for gold and silver but also for iron and jadeite—began in the 1870s, reached a peak from the late 1880s to the 1910s, expanded again in the 1930s during the Depression era, and continued into the 1980s in some places. Organized or informally named mining districts wholly within or extending into the added lands include the Virginia Dale, Gold Park, Eagle Mountain, Cottonwood, and Ironwood. Mining-related cultural resources are associated with mine exploration (including prospects and claim markers); with mine development (including shafts and adits, underground workings, open pits, waste-rock dumps, hoisting works, roads and footpaths, domestic and industrial trash dumps, and mine buildings and structures); with ore beneficiation or upgrading (including arrastras, mill buildings and structures, and mill tailings); with mine support (including roads and water conveyance or storage structures); and with residential use (including remains of buildings and settlements). Of these, seven are likely eligible to the National Register: the El Sid Group and the Lang-Hunt Mine in the Ironwood District, the Paymaster or Black Warrior Mine in the Gold Park District, the Independence No. 1 Mine and the Golden Eagle (Bullfrog) Mine in the Eagle Mountain District, and the Coyote Mine and the Snow Cloud Mine in the Cottonwood District.

Water development played a significant role in the history of the added lands and left a distinctive imprint. Ranchers developed water sources—creating springs, wells, water tanks,
and dams/reservoirs—from the 1880s to the 1950s. The Metropolitan Water District of Southern California built the Colorado River Aqueduct in the 1930s to convey water from the Colorado River to the rapidly growing metropolis of Los Angeles. Extending 242 miles, the aqueduct in the added lands runs through the Eagle Mountains and along the eastern, southern, and western edges of the Coxcomb Mountains, Cottonwood Mountains, and Little San Bernardino Mountains. Cultural resources associated with the aqueduct include canals, drains, pipelines, a reservoir at the mouth of Boulder Canyon, aggregate deposits, power and communication transmission lines, water sources, and construction-camp foundations. None of these resources are considered potentially individually eligible for the National Register, but some may be contributing elements to an eligible district.

Military training is another theme that is imprinted on the added lands. The United States Army operated the Desert Training Center from 1942 to 1944 to train combat troops in desert warfare during World War II. Covering about 20,000 square miles in southeastern California, southern Nevada, and eastern Arizona, the Center impinged upon the southern and eastern edges of Joshua Tree National Monument. Camp Coxcomb and Camp Young, two base camps at the Center, conducted training activities that extended into the added lands. Cultural resources associated with military training in the added lands included tank and other military vehicle tracks, trash dumps, ordnance fragments and impact marks, foxholes, footpaths, rock foundations, firing ranges, and camping structures such as tent platforms. None of these resources are considered potentially individually eligible for the National Register of Historic Places, but some may be contributing elements to an eligible district.

Finally, rockhounding, automobile touring, camping, hiking, wilderness appreciation, and other recreational activities played a significant role in the history of the added lands in the twentieth century. Cultural resources associated with these activities in the added lands may include trails and footpaths, signposts, barriers, and camping sites, but no inventory has been undertaken.
Many individuals contributed to this project. The authors wish to particularly thank Jan Sabala (Cultural Resources Manager, Joshua Tree National Park), Melanie Spoo (Museum Curator, Joshua Tree National Park), Gary Lindberg (GIS Specialist, Joshua Tree National Park), Wayne Baczkowski, Jeff Ohlfs (Law Enforcement, Joshua Tree National Park), Sidney Ragsdale, Jim Carey, Art Kidwell, and Gordon Chappell (Historian, Pacific Great Basin Support Region, National Park Service) for their assistance. We also wish to acknowledge funding for the project from the National Park Service through a Task Agreement with the Great Basin Cooperative Ecosystem Studies Unit.
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APPENDIX A. (follows Bibliography)

Ownership of Inholdings in Joshua Tree National Park Added Lands
CHAPTER ONE. INTRODUCTION

Joshua Tree National Park lies in southeastern California in the counties of Riverside and San Bernardino. The history of the Park began when Mrs. Albert Sherman Hoyt, founder and president of the International Desert Conservation League, authored state of California Assembly Bill 1292 in 1932 to create a Desert State Park in the mountainous region south of Twentynine Palms. The bill passed in 1933, but Mrs. Hoyt—who had learned that President Franklin D. Roosevelt might declare the area a National Monument—encouraged Governor Rolph of California to veto it. At first President Roosevelt had more than one million acres set aside while preliminary surveying and evaluation took place. Two years later, Presidential Proclamation 2193 formally established the Monument, 825,340 acres in size, under the authority of the 1906 Antiquities Act, which recognized its significant cultural resources. While desert conservationists and recreationists celebrated the Monument’s creation, many local residents, especially miners, resisted its establishment. The monument permitted mining only on established claims, thus terminating all prospecting for new mineral finds. The Monument similarly affected ranching and homesteading, allowing only established operations. Somewhat of a compromise was reached in 1950, when President Harry S. Truman signed the Sheppard bill, which reduced the size of the monument to 557,934 acres.\(^1\) The land reduction also allowed the Kaiser Steel Corporation to expand its iron-mining operation at the Eagle Mountain Mine, started by the company in 1948.\(^2\) In 1994 Congress transformed the Monument into Joshua Tree National Park (JTNP) and returned most of the land contained within the original boundaries of the 1936 monument. The lands added to the Park encompass 234,000 acres (Figure 1).

Most of the added lands are in the Eagle Mountains in the southeast corner of the Park, the Coxcomb Mountains in the northeast corner of the Park, the Little San Bernardino Mountains in the southwestern part of the Park, and the Cottonwood Mountains in the south-central sector of the Park. In addition, some of the added lands are in the Pinto Mountains, in the north-central portion. Most of the area is in California’s Riverside County but a portion extends into San Bernardino County.

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Linda W. Greene completed a Historic Resource Study of the lands within the boundaries of the monument in 1983. Historic resources in the lands added in 1994, however, have not been documented and evaluated for historical significance and integrity in a similar way. The purpose of this document, therefore, is to conduct such a study of the added lands, which reflect a human past in the historical period dating back to the early nineteenth century. Toward this end, the Historic Resource Study (HRS) of the added lands in JTNP identifies and discusses the key themes in the local, regional, and national history of the lands encompassed in this addition to the Park. The themes include mining, ranching, water development and the Colorado River Aqueduct, military training and the Desert Training Center, and recreation.

Both primary and secondary documents, listed in the bibliography, contributed to the preparation of this report. The key sources consulted included mining district records, published and unpublished manuscripts, newspapers, photographs, maps, books and journals, and census records. In addition, the study made use of oral interviews and included field visits to 13 mining sites, selected as most likely to be eligible for the National Register of Historic Places and as a sample of historic resources from each of the four mining districts in the added lands. Repositories visited during the study included the library and archives at Joshua Tree National Park; the Recorder’s Office of Riverside, San Bernardino, and San Diego counties; the California State Bureau of Mines in Sacramento; the California State Library in Sacramento; the Los Angeles Public Library; the Riverside County Library; the San Bernardino County Library; the A.K. Smiley Public Library in Redlands; the Twentynine Palms Branch of the San Bernardino County Library; the Huntington Library; the Bancroft Library; the San Bernardino County Museum; the General Patton Memorial Museum in Chiriaco Summit; the Los Angeles

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County Museum of Natural History and History Center; the California State Archives; the Federal Archives and Records Center in San Bruno and Laguna Niguel; the California Historical Society in Los Angeles and San Francisco; the Twentynine Palms Historical Society; the Society for California Pioneers in San Francisco; the Mojave Desert Heritage and Cultural Association in Goffs; the Banning Public Library in Banning, California; the Bureau of Land Management (BLM) California State Office in Sacramento and BLM district office in Palm Springs; and the Metropolitan Water District of Southern California. Other repositories contacted but not visited include the National Archives in Washington, D.C., and College Park, Maryland; the Library of Congress; and the U.S. Geological Survey in Denver.

The report does not include archeological information on prehistoric human activity in the added lands of the Park, which falls outside the scope of the study.
CHAPTER TWO. THE HISTORY OF HUMAN LAND USE IN THE ADDED LANDS

The Joshua Tree National Park (JTNP) added lands encompass a natural setting that conveys the cumulative history of human–environmental interaction dating back to the Early Holocene. Alters and additions to the setting resulted from a history of human land use that included foraging, exploration and colonization, ranching and homesteading, mining, military training, water-conveyance engineering, and recreation. The landscape of the added lands also reflects connections with larger regional and global networks of commerce, population movements, and technology transfer. And the landscape expresses a history of changing meanings to human occupants and visitors (e.g., foraging lands, wilderness experience, commercial enterprise such as ranching or mining, military training ground). Distinctive landforms, vegetation and other biota, buildings, structures, settlement clusters, circulation networks, and small-scale elements such as fences mark the landscape of the added lands.

THE NATURAL SETTING

Most of the added lands lie in the Colorado Desert ecosystem, a low desert marked by ubiquitous creosote brush and occasional stands of ocotillo and cholla cactus. The added lands encompass major portions of the Coxcomb Mountains (Figure 2), the Eagle Mountains, the Little San Bernardino Mountains, and the Cottonwood Mountains, along with sections of the Pinto Mountains, the Clark Pass region between the Coxcomb and Pinto Mountains, and adjacent lowland valleys and washes (mostly in the Pinto and Cottonwood basins). Geologically, the study area falls into the eastern subprovince of the Transverse Ranges, a set of mountain ranges and basins running east–west—in contrast to almost all others in California—created by compression resulting from the convergence of the Pacific and North American plates. The Coxcomb Mountains, however, are aligned north–south. Several major faults bound the eastern Transverse Ranges, which mostly consist of Precambrian gneiss and plutonic rocks of Mesozoic age, with extensive mineralization associated with Mesozoic and Tertiary intrusives.

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THE HISTORY OF HUMAN LAND USE IN THE ADDED LANDS

Human modification of the added lands is based upon a wide variety of land uses beginning in the Early Holocene and extending to the present. The most prevalent historical land uses in and around the area are summarized below; each of these land uses left a distinctive historical imprint.

Foraging

Foraging of wild plants and animals by indigenous peoples by the Early Holocene left the earliest human imprint on the added lands. Indigenous foragers lived in the added lands and adjacent areas in the southern California deserts exclusively before the late 1700s. The archeological record of foragers in the added lands extends back to the Early Holocene, when they harvested wild resources along a river then flowing through the Pinto Basin. Post Pleistocene foragers in the added lands gathered acorns, mesquite beans, cactus fruits, and grass seeds and hunted small animals.

The Chemehuevi, Serrano, Cahuilla, and Mojave people lived in and around the added lands at the time of ethnographic contact in the late 1760s and 1770s. Bedrock mortars and other grinding stones, milling slicks, rock art, hunting blinds, cairns, lithic projectile points and debitage, pottery ollas, pit ovens, granaries and other food caches, footpaths, and brush house
sites marked the foraging lifestyle. Rock art evokes the meaning of the landscape to indigenous foragers. Footpaths used by indigenous foragers still exist in the added lands and mark watering places, trade routes, and other circulation networks throughout the region (e.g., the Yuma-Needles Trail and the Mojave Trail along the Colorado River). Foragers in the added lands used bedrock and other grinding stones to process seeds, nuts, and dried berries. They baked agave, yucca, and other cactus fruits in stone-lined ovens or pits. Hunting of small animals and birds made use of the bow and arrow, throwing sticks, fire, nets, and traps. They boiled, roasted, and dried the meat. Foragers cached dried plant and animal foods in large baskets or pottery ollas. In addition, some groups of Cahuilla, Mojave, and Chemehuevi used quasi-agricultural techniques.

The Cahuilla occupied the lowland Colorado Desert in and around the Santa Rosa and San Jacinto mountains, the north end of the Salton Sea, and the west slope of the Little San Bernardino Mountains in the vicinity of Fargo and Rockhouse canyons. They built large granaries in villages around residences and ceremonial buildings, and families and individuals also stored food in secret caches, such as caves. Nuclear and extended-family households constructed dome-shaped or rectangular brush shelters in each village or camp. In general, the Cahuilla divided their territory into about 12 territories of varying sizes, each claimed by a patrilineal clan and further divided into lineages (sibs) that occupied year-round villages (of varying size and layout but often in clusters around springs and wells) and temporary task camps within their area. In the lands to become JTNP, however, the Cahuilla, Chemehuevi, and Serrano appear to have occupied territories that overlapped and had variable boundaries; each group tended to use specific areas at a given time and to circumscribe specific resource areas.

The Chemehuevis, closely related to Southern Paiutes, occupied the Mojave Desert south of Death Valley to the Pinto Basin, the northern Coxcomb Mountains, and some low desert lands west of the lower Colorado River. They moved seasonally and gathered mesquite beans, chia seeds, pinyon nuts, and a variety of roots, which they prepared for consumption by

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10 Bean, *Mukat’s People*, 54.
boiling, roasting, drying, parching, and grinding. In addition, they hunted quail, duck, rabbit, lizards, mountain sheep, and mule deer. Chemehuevi settlements included four different types of houses: the brush house, the shade house, the earth house, and the flat house. The brush house provided temporary shelter during hunting forays. They used the shade house to protect against the afternoon sun. The earth house provided shelter for the elderly and for families wintering in one location, and was not for communal use. Finally, the Chemehuevis constructed flat houses for use during mourning ceremonies. While they traditionally occupied territories in the mountains, they established some settlements along the Colorado River. Ownership of territories passed down through hereditary songs. The Chemehuevis lived in both permanent and seasonal settlements. Their seasonal pattern of movement depended on the local headman and the availability and distribution of food and water resources in the area. They settled close to the Mojave and Yuma on the Colorado River sometime after 1776 and in 1867 fought with the Mojave, resulting in their flight to the area around Twentynine Palms and the establishment of a small Chemehuevi settlement there.\textsuperscript{13}

The Serrano occupied the Mojave Desert from the San Bernardino Mountains near Victorville east to Twentynine Palms and as far south as Cottonwood Springs. They ranged in elevation from 1,500 feet on the desert floor to 11,500 feet in the mountains and foraged for many of the same plants and animals as the Chemehuevis. Most Serrano groups lived near springs and other water sources, which determined the nature, duration, and distribution of their settlements. They lived in domed circular structures primarily used for shelter, sleeping, and storage. In addition, the Serrano built ceremonial houses and sweat houses close to water sources. Some localized kinship groups of the Serrano established a settlement at Twentynine Palms, which they named the Oasis of Mara, at the hub of several trading trails several centuries before the historical period. Spanish colonists forced most of the western Serrano to move to missions between 1819 and 1834. The subsequent population decline made reestablishment of their native lifestyles nearly impossible.\textsuperscript{14}

More than the other native groups in the area, the Mojave thought of themselves as a tribal or national entity. They traditionally occupied the Mojave Desert from the Mojave Valley of the Colorado River to the lands “extending south to the Whipple Mountains, the Turtle Mountains, the Granite Mountains, the Eagle Mountains, the little San Bernardino Mountains, the San Bernardino Mountains; extending west to the San Gabriel and Tehachapi Mountains, and extending north as far as the Granite, Soda Lake, Providence and New York Mountains,


including the valley now known as Paiute Valley extending north into the State of Nevada.”

They practiced flood-plain agriculture along the Colorado River, fished, foraged for wild plants and animals throughout their homeland, and traded with the Serrano as well as with the Chumash on the California coast. In the 1700s and 1800s, the Mojave also raided Spanish missions and Mexican ranchos for cattle and horses. They lived in large rectangular houses with thatched roofs, had granaries, used pottery, and were organized into patrilineal clans with hereditary great chiefs.

**Imprints of Exploration and Colonization**

Spanish and Euroamerican explorers and settlers traveled into the area of the added lands as early as the eighteenth century. Spanish military expeditions (including those led by Pedro Fages and Captain Juan Bautista de Anza) and missionaries (including Franciscan Friar Father Garces) first entered the area in the 1770s. Various parties traveled around the present-day boundaries of the Park through the San Bernardino Mountains, the San Bernardino Valley, the Salton Sea, the Mojave Desert, and the Colorado River. An exploration party led by Captain Jose Romero in 1823-1824 appears to have come closest at the current park’s southeastern border. None of these Spanish parties, however, appears to have actually crossed the Park’s boundaries.

American explorers, such as Jedediah S. Smith and Kit Carson, also traveled through the area in the 1820s, but they took essentially the same routes as the Spanish parties. Not until the California Gold Rush in 1849 did more extensive exploration of the Mojave and Colorado deserts take place. In 1842 Mountain Man Pauline Weaver marked the “Weaver Road,” which passed by the Oasis of Mara, to be known as Palm Springs and then, by the 1870s, as the Twentynine Palms Oasis; he used the oasis as a watering place sometime prior to 1855 on his trips between the Colorado River and the early Mormon settlement of San Bernardino. Colonel Henry Washington first recorded the oasis in 1855 for a U.S. government land survey and describes an “Indian wigwam (near a spring of good water, supposed to be permanent) and a small cluster of Cabbage Palmetto.” The Serrano who lived there, apparently engaged in cultivation. A band of Chemehuevi also moved to the oasis after a war with the Mojave in 1867, establishing a settlement alongside of the Serrano. In 1875 President U.S. Grant issued an Executive Order that officially created a reservation at the settlement of Twentynine Palms (but

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17 Bean and Vane, “Native American Ethnography and Ethnohistory of Joshua Tree National Park,” Section VII: Mojave.
not at the oasis) for the Serrano and Chemehuevi, who by then farmed and raised stock in addition to their traditional foraging lifestyle.  

Spanish settlement in southern California began in the eighteenth century and was most prolific from the 1770s to the 1850s, the period of Spanish and Mexican rule. Land was divided into several agricultural ranchos owned and managed by prominent Spanish families. Rancho land eventually became divided as Euroamerican migration increased before and during the California Gold Rush. When California became a part of the United States in 1848, the U.S. government annexed Spanish land. Due to ensuing Indian threats and the harsh climate of the Californian desert regions, Euroamerican settlement did not immediately follow Spanish departure. In 1851 a colony of Mormons established the settlement of San Bernardino, which they occupied until 1857, when Brigham Young called the colonists back to Salt Lake City. In the 1870s a group of New England settlers established a colony in Riverside. Inhabitants in the region were subject to frequent Indian raids, especially after U.S. troops left Forts Tejon and Mojave to fight in the Civil War. Camp Cady, established in 1868 on the old Mojave road and manned with 100 U.S. troops, alleviated much conflict until it was abandoned in 1870.

**Ranching Imprints**

Ranching was a significant land-use pattern in the history of the added lands. European and Euroamerican settlers in the added lands introduced ranching into the area. As early as the 1600s, Spanish migrants established missions and ranchos in what is now southern California to farm and raise cattle and sheep. The United States annexed the land in 1848. Afterwards, farms and ranches were slowly re-established in some places by Euroamerican settlers, but not until the 1870s is there evidence of ranching in what is now park land. Ranching in the area peaked in the 1920s but continued in some places until the 1950s. Most ranching activities took place in the high desert of the western section of the Park; in contrast, during the first few decades of the twentieth century the Cram Brothers ran an extensive ranching operation in the eastern low desert that included the added lands. The key components of ranching in JTNP included vegetation zones with bunch grasses and shrubs such as saltbrush used for grazing by cattle and sheep; networks of trails for moving the stock seasonally among vegetation zones, to water sources, and from ranches to railroads for marketing; and water sources such as wells and catchment ponds or basins. Water sources played an especially important role in the origin and distribution of ranching-related cultural resources. Other typical components of ranching included buildings such as ranch houses, bunkhouses, and barns; structures such as corrals, windmills, and fences; and clusters of ranch buildings and structures, which typically were placed around water sources.

**Mining Imprints**

Mining began to transform the natural setting of the southern California region as early as the 1700s, when Spanish prospectors worked placer gold deposits in the Salton Sea and on the Lower Colorado River. The California Gold Rush and the discovery of the Comstock Lode in the mid-1800s intensified the search for precious metals. Mining of placer and hardrock deposits in lands to become JTNP began as early as the 1860s and 1870s in the Little San

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Bernardino Mountains and Pinto Mountains. Several precious metals mines in the Pinto Mountains, the Hexie Mountains, the Eagle Mountains, and the Little San Bernardino Mountains produced extensively from the 1880s to the 1940s. The Eagle Mountain Iron Mine, operated by the Kaiser Steel Corporation between 1948 and 1983, proved to be the most productive mine in the area; it currently lies just outside the Park boundaries. In the added lands, historic mining occurred in the Pinto Mountains, the Coxcomb Mountains, the Eagle Mountains, the Little San Bernardino Mountains, and the Cottonwood Mountains. Today, these areas are marked by distinctive landforms that include mine waste-rock dumps and mill tailings, open pits and other mine openings such as adits and shafts, and extensive underground workings (Figure 3). The imprint left by historical mining in the added lands also includes the remains of buildings, structures, and objects associated with mineral extraction and upgrading or beneficiation (see below), such as headframes, hoisting engine pads, tramways, ore bins, ore-crushing and classification equipment, dwellings and settlements, and travel networks such as roads and footpaths.

**Water Development**

Water development also played an important role in the history of the added lands. Ranchers used and developed water sources in the area such as springs, wells, tanks, and dams/reservoirs. Between 1932 and 1940, the Metropolitan Water District of Southern California constructed the Colorado River Aqueduct to convey water between the Colorado River and the city of Los Angeles. On its way west, the aqueduct tunnels through the Coxcomb Mountains in the added lands, crosses the northern end of the Chuckwalla Valley, flows through the West Eagle Mountain tunnel in the added lands, and then through a series of canals, conduits, and tunnels just outside the JTNP boundaries and along the southern edge of the Eagle Mountains, Cottonwood Mountains, and Little San Bernardino Mountains (Figure 4). Water-conveyance and storage structures such as canals, tunnels, and reservoirs left a distinctive imprint on the added lands. In addition, the Metropolitan Water District dug and developed Pinto Wells in the southeast corner of the Pinto Basin during the construction of the Colorado River Aqueduct. Other associated cultural resources in the added lands include aggregate rock dumps, access roads, fences, and the sites of construction camps.
Figure 3. Golden Eagle (Bullfrog) Mine in March 2005, looking northwest (photograph by Donald Hardesty).

Figure 4. Colorado River Aqueduct along the east side of the Coxcomb Mountains in November 2004 (photograph by Donald Hardesty).
**Military Training**

The United States War Department acquired, through public-land transfer or purchase, 20,000 square miles of California, Nevada, and Arizona to establish a military base—first known as the Desert Training Center and later as the California-Arizona Maneuver Area—to train troops for desert warfare in North Africa during World War II (Figure 5). During its operation, the facility extended into the southern and eastern edge of JTNP and left its mark on some of the added lands in the Coxcomb Mountains, the Eagle Mountains, and the Cottonwood Mountains, with both permitted and trespass training operations. Camp Young, the headquarters of the DTC, and Camp Coxcomb, a divisional camp, lay just outside the Park boundaries. Military activities on the base left an imprint that includes foxholes, targets and firing ranges, refuse dumps, tracks, and foundations.

![Figure 5. General George Patton Memorial Museum at Chiriaco Summit, California, in November 2004, looking northwest (photograph by Donald Hardesty).](image)

**Recreation and Roads**

The added lands also reflect recreational land use, which helped bring about the establishment of Joshua Tree National Monument in 1936 and JTNP in 1994. Automobile clubs as early as the first decade of the twentieth century encouraged travelers to drive into the remote desert regions of California. The proximity of the Park to Route 66, completed in 1926, and, later, to Highway 60-70 (now Interstate 10) brought automobile tourists from distant places. They stayed in local resorts such as the Twentynine Palms Inn (Figure 6) and made “day trips” into the Park.
As early as the 1930s, and increasing in the 1950s and 1960s, “rockhounds” searched the area for valuable minerals and gemstones. Visitors have come to JTNP in recent years to experience what was thought to be a land undisturbed by a human past and have found instead a network of trails and displays, campgrounds, picnic areas, hiking and biking trails, horse trails, viewpoints, parking areas, and toilet facilities. In the added lands, however, only a few roads and one biking trail occur; these include the Big Wash Corridor in the Eagle Mountains, the Pinkham Canyon Road in the Cottonwood Mountains, and the Thermal Canyon Route and the Berdoo Canyon Road in the Little San Bernardino Mountains. Congress designated most of the added lands as wilderness, except for the lands in the Little San Bernardino Mountains, which are currently being considered for a wilderness designation (Figure 7).
Commercial Imprints

Historical land-use patterns evident in and around the added lands include those from various commercial enterprises. The small settlement of Desert Center in the Chuckwalla Valley emerged as a commercial center in the region as early as the 1920s. “Desert” Steve Ragsdale moved to the valley and built a grocery store, gas station, bank, and other buildings at the present site of Desert Center in 1925.21 The construction of the Colorado River Aqueduct in the

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21 In a November 11, 2004, interview with Donald Hardesty, Sidney Ragsdale, who was born and raised in Desert Center, recalled several events in the town’s history, summarized as follows:

The original site of Desert Center was at Grundike Well, which is about 6 or 7 miles northwest of the present site. My grandfather “Desert” Steve Ragsdale founded the town in 1921. The place had a well, a store, and a gas station. He moved Desert Center to its present site in 1925 and built a grocery, bank, gas station, and other buildings. The present café building dates to 1925. Most of the other buildings date to World War II. Both the Colorado River Aqueduct and Patton’s Desert Training Center greatly impacted the growth and development of the town. I had two uncles – Casey and Tom Jones – who worked on the Colorado River Aqueduct. Also, Mr. Reay (first name unknown) built the garage at Desert Center and worked as a surveyor on the Colorado River Aqueduct for the MWD. My grandfather “Desert” Steve Ragsdale planned to be buried at Desert
1930s, operation of the Desert Training Center in the early 1940s, and the development of highway U.S. 60-70 (now Interstate 10) played major roles in the growth and development of the settlement. Joseph Chiriaco arrived in the area in 1934 and purchased water rights in Munsen Canyon and Lost Palms Canyon (just north of the present site of Chiriaco Summit and within the boundaries of JTNP) from the Cram Brothers. The settlement of Chiriaco Summit emerged by the 1940s as a truck stop on U.S. 60-70 and a museum for the Desert Training Center. Interstate 10 presently passes by both settlements.

THE EVOLUTION OF MEANING IN THE ADDED LANDS

In addition to diverse land uses, the added lands reflect diverse and changing cultural meanings and worldviews. Social groups ascribe cultural meaning to elements of the land (e.g., distinctive landforms and biota), transforming them into symbols that evoke images and memories from members of the group. Perceptions of the added lands changed dramatically during the area’s human history. Indigenous foragers assigned spirits and deities to the land. The first prospectors and miners viewed the land through the filters of contemporary geological knowledge and the expectation of “striking it rich” by laying claim to a valuable commodity. Later miners transformed the meaning of the land by introducing new geological knowledge and the industrial wage-labor culture, in which mines and mills represented a daily wage and corporations removed miners from ownership of the means of production. Other cultural systems transformed the land in different ways. The emergence of automobile tourism in the early twentieth century greatly changed human–environmental interaction and transformed the meaning of the added lands to many observers. The culture of the “mythic West” transformed many elements of the land, especially abandoned buildings and structures, into symbols of an imagined past. Wilderness ideology in the twentieth century further transformed the meaning of the added lands. The designation by Congress of most of the lands added to JTNP in 1994 as wilderness reflects this theme. Urbanism in southern California brought about the construction of the Colorado River Aqueduct through the area in the 1930s and introduced another meaning. Most recently a proposal by the Metropolitan Water District of Southern California to create a water-storage facility in Chuckwalla Valley for the aqueduct further changes the meaning of the area. World War II created the Desert Training Center in the early 1940s and introduced military training as another meaning. Yet another meaning emerged with the closure in 1983 of the Eagle Mountain Mine, just outside the boundaries of the added lands. The Mine Reclamation Corporation proposed the construction of a landfill at the now-abandoned mine Center and erected a plaque next to his grave site; however, his family buried him in a cemetery at Indio instead. The plaque and grave site still exist today. My grandfather recognized a bank robber from Blythe and shot out the robber’s car radiator in Desert Center. Both my father and grandfather worked as special deputies for Riverside County.

site, to which refuse from six counties in southern California could be transported by covered railroad cars.
Chapter Three. Mining

Mining left a strong imprint on the historical resources of the added lands. Small-scale and scattered mining of placer gold deposits probably took place around the Salton Sea in the 1700s and on the lower Colorado River by 1780. Spanish prospectors may have worked gold-bearing placer deposits at Jackson Gulch and the Potholes in Imperial County as early as 1780-1781, although the earliest Spanish mining in the area more likely dates to Anza’s Second Expedition in 1795. Prospectors found placer gold in Placerita Canyon near Los Angeles in 1842. In San Bernardino County, the earliest gold discovery occurred in 1849 at Salt Springs, along the Mormon Trail that connected Salt Lake City and the Mormon colony of San Bernardino. The California Gold Rush intensified exploration, transportation, and mining in the region. Miners developed large-scale gold mines in what later became Imperial County in the 1850s and extended mining operations in the following years to many other places throughout the region. The Comstock silver strike of 1859 in what became the state of Nevada further stimulated mining exploration of the southern California deserts and led to the discovery of Inyo County’s famous Cerro Gordo lead-silver mine in 1865. Darwin and Lookout, also in Inyo County, dominated mining in the desert region in the 1870s, followed by Calico and Ivanpah in San Bernardino County in the 1880s and the Olympus or Yellow Aster gold mine at Randsburg in Kern County in the 1890s.

In the area around JTNP, prospectors moved into the Morongo Valley in 1859, and William Holcomb and Ben Choteau discovered gold-bearing gravels in Bear Valley and Holcomb Valley in the San Bernardino Mountains in 1860. Holcomb Valley, later called Belleville, boomed to a population of 2,000 shortly afterward, and a 40-stamp mill appeared by 1870. M. Brown established the Jeff Davis Mine in Rattlesnake Canyon (presently in San Bernardino National Forest) in 1865. Titus Cronise reported copper near Morongo Pass in 1868. In 1873 Dave Gowen and Joseph Voshay discovered gold-bearing ores at the Blue Jay Mine and at the Gowen Mine, 12 miles northeast and 4 miles south, respectively, of the Twentynine Palms Oasis. The Anaconda Mine (CA-RIV-4208H) opened in 1874, and prospectors located the Last Chance, Little Giant, Drummer Boy, and Chumiwava Quartz Lode mines the same year. The oasis (CA-RIV-2052/H) soon became the social and milling center of what became known as the Palms or Twentynine Palms Mining District but lost most of its

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25 Ibid., 56.
26 Ibid., 275-276.
28 O’Neal, Peculiar Piece of Desert, 50.
29 Ibid.
30 O’Neal, Peculiar Piece of Desert, 85
31 Vredenburgh et al., Desert Fever, 138-140.
population to other mining discoveries by 1883. Most of the district lies north of the town, just outside the boundaries of JTNP in Townships 1, 2, and 3 North and Ranges 8, 9, and 10 East. Mines in the Twentynine Palms District continued to be worked during the 1890s and early 1900s and again in the 1930s. New gold discoveries as early as 1874, just south of the district and the town in Townships 1 and 2 South and Ranges 9 and 10 East, emerged as the Gold Park District (Figure 8) in the early twentieth century and reached a peak of mining activity between approximately 1905 and 1915. Some parts of the Gold Park District fall within the boundaries of the added lands and are discussed in more detail below.

In addition to the Twentynine Palms and Gold Park districts, miners organized several other mining districts in the area of what is now JTNP in the late nineteenth and early twentieth centuries. The discovery of placer gold in 1883 about 15 miles east of the town of Twentynine Palms, in canyons that drain into the northern end of Pinto Basin, diverted attention from the Twentynine Palms District and led to the establishment of the Virginia Dale district (Figure 8). Hardrock mining in the new district followed shortly thereafter. The boundaries of the Virginia Dale District lay mostly within Townships 1 North, 1 South, and 2 South and Ranges 12 and 13 East, in both San Bernardino and Riverside counties. Some parts of the Virginia Dale District fell within the added lands and are discussed below. The Rattler district is mentioned but not precisely located in a few references dating to the 1880s as being about 20 miles east of Twentynine Palms. It appears to include, or to be another name for, both the Twentynine Palms and the Virginia Dale districts. If actually a real district, however, it falls outside the boundaries of the added lands. Miners organized the Monte Negras district between 1890 and 1892, just southeast of the Virginia Dale District in Township 2 South and Ranges 12 and 13 East. Most of the district lies in the Pinto Basin and falls outside the boundaries of the added lands. The Piñon District emerged in the late nineteenth century around claims on Piñon Mountain in the Little San Bernardino Mountain Range but expanded north, east, and south; its western boundary ran north past the Lost Horse Mine to the Desert Queen Mine, it extended southeast to the Golden Bee Mine and to the edge of Pleasant Valley, and it encompassed Fargo and Berdoo canyons. Little of this district appears to have fallen within the added lands. Gold and silver prospecting as early as the 1860s led to the organization of the Eagle Mountain District directly south of the Monte Negras District in the Eagle Mountains by the 1880s (Figure 8). The first official account of mining activity in the district, however, appears in 1892. Mostly situated in Townships 3 and 4 South and Ranges 13 and 14 East, the district developed in the

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32 Ibid., 140.
33 California State Mining Bureau, Tenth Annual Report of the State Mineralogist, for the year ending December 1, 1890 (Sacramento: California State Printing Office, 1890), 526.
34 Greene, “Historic Resource Study,” 94.
35 See, for example, Anonymous, “Gold Park District, California,” Engineering and Mining Journal 90, no. 13 (September 24, 1910), 600.
37 California State Mining Bureau, Eleventh Annual Report of the State Mineralogist, (First Biennial) Two years ending September 15, 1893 (Sacramento: California State Printing Office, 1893), 368.
38 Ibid., 386.
twentieth century because of its vast iron deposits. Some parts of the Eagle Mountain District fall within the added lands and are discussed below. The Ironwood District appears to have emerged in the Iron Mountains just east of JTNP and the Coxcomb Mountains at the very eastern edge of the Park in Townships 2 and 3 South and Range 16 East by the early 1900s but little is known about its history (Figure 8). Most of the district lies within the boundaries of the added lands and is discussed in more detail below. The Cottonwood Spring District emerged by 1892 in the southern edge of the Park mostly in Township 5 South and Range 11 East (Figure 8). Some parts of the district lie within the added lands and are discussed below.

Figure 8. Historic Mining Districts around Joshua Tree National Park

Precious metals mining, and specifically gold mining, provided an economically viable source of income for many during the 1930s. During the 1920s, the gold-mining industry had largely declined as a result of stagnant gold prices. With the onset of the Great Depression and an increased gold demand, however, gold prices increased. In an effort to increase U.S. gold reserves, President Franklin D. Roosevelt encouraged gold mining; the Gold Reserve Act of

40 Eric Twitty, Riches to Rust: A Guide to Mining in the Old West (Montrose, Colo.: Western Reflections, 2002).
1934 set the gold price at $35 an ounce, more than $15 above its price in previous years. Roosevelt also signed an Emergency Loan Bill (often called Scrugham’s Bill after its main sponsor, Nevada congressman James Scrugham), which offered loans to small mining companies to develop and operate their properties. As many popular magazines and newspapers reported at the time, a new gold rush ensued. Many people with little mining experience migrated to old mining districts and became full-time miners. One reporter observed that “scores of miniature mines, operated single-handed with crude, home-made equipment, are springing up as an army of small-scale miners seek a livelihood refused by the city.” Other individuals used occasional or weekend gold mining to supplement agricultural or coal mining income.

As with other communities with a rich history of mining activity, the JTNP area was not immune to the mining boom of the 1930s. Mining districts in the area’s gold-rich mountains, abandoned since the 1880s, 1900s, or 1910s, were revitalized as amateur and professional miners took advantage of the ample ore reserves, the high price of gold, and the eternal sunshine. With the help of many old timers who settled in the area but were too old to mine by the 1930s, many people, especially young men, made a decent living working quartz ledges for a share of the profits. Those who could not mine found jobs working as mechanics for mine equipment or driving supply trucks. Newcomers also took leases on idle mines, a dangerous prospect because of the uncertain condition of the old workings.

Although isolated by distance, miners at individual mines in the JTNP area—such as the Supply, Eldorado (determined eligible by the California SHPO in 1993), Lost Horse (CA-RIV-4910/H, determined eligible by the Keeper of the National Register on March 7, 1978), Blue Bell, and Nightingale—formed a cohesive community. Much interaction occurred at supply centers and the region’s ore-processing plants. Unlike the large-scale operations of earlier times, when the several hundred tons of ore extracted each day could support an on-site mill, Depression-era mines were smaller in scale, with development and production taking place a ton at a time. With the inability (and often a lack of knowledge) to support a on-site mill, miners transported ore to custom mills for processing. For example, the Gold Crown Mill (just north of the JTNP boundary), hailed as one of the most modern and complete gold-reduction facilities in the Southland, provided custom milling to most mines in the Virginia Dale District throughout the 1930s. A sense of community also developed out of the migration of several families, as opposed to single men, to the region’s mines. For example, Charles Phelps, his wife Della and

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45 Federal Register 43, no. 45 (March 7, 1978).
daughter Marla lived at the Desert Queen Mine in the mid-1930s. Jepp Ryan and his wife manned the Lost Horse Well and the Ryan Ranch (CA-RIV-4942H), which provided travelers with much-needed refreshment throughout the 1930s. Several married couples, including newlyweds, formed a colony at the Gold Crown Mine, while the Gold Crown Mill added family housing to the already existing worker bunkhouse. Finally, a shared lifeway and set of circumstances created a sense of community. During the Depression many people were unemployed and most were poor. Mining families moved to remote and harsh places in an effort to eke out a living and take control of their lives. This shared experience brought many people together to form community and citizens’ groups that constructed roads, helped those less fortunate, and provided support to others in trying times.

From the onset of the Depression, mining activity gave the region life; employment opportunities in mining and many other service industries (e.g., equipment repair and grocery supply) allowed local communities to remain self-reliant and persist during the economic crisis. The establishment of Joshua Tree National Monument in 1936 greatly affected mining activities in the region by allowing mining to continue on already active claims within the monument but permitting no new mining entries. This stopped the migration of would-be miners from outside of the area and slowed growth in the region. All gold mining ceased with World War II and Executive Order L802, which forced able miners to mine copper and base metals for war production rather than gold.

MINING-RELATED CULTURAL RESOURCES

Many highly visible and variable cultural resources create historical landscapes that reflect the mining history of the added lands. The resources and the landscapes are associated with mine exploration, extraction and development, beneficiation, engineer-designed complexes, and mining-related activities such as residential settlement, transportation, and water conveyance. Mine exploration resources include hand-dug prospect pits, trenches, bulldozer cuts, and drill holes. It is quite likely that the geographical distribution or arrangement of the exploratory resources reflect changing ideas about the geological structure and composition of the ore bodies containing the minerals and metals being mined.

Cultural resources associated with extraction in the JTNP added lands include mine shafts and adits, ventilation shafts, mine waste-rock dumps, open pit mines, hoisting works (e.g., headframes, hoist engines and pads), underground workings, ore cars and tracks, air compressors, assay shops, trash dumps, roads and footpaths, cairns, mining-claim markers, and signposts. Most of these are linked to lode mining but also include some placering resources. Mine development and production in the added lands used both non-industrial and industrial

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47 Ibid.
49 See, for example, Joseph V. Tingley, Thomas P. Lugaski, and Alvin R. McLane, “Discovery of Mining Camps in South-Central Nevada,” *The Mining History Journal* 8 (2001), 18-29.
technologies. Non-industrial mines used human- or animal-powered tools and machines, such as windlasses and whims, to extract shallow ore bodies no deeper than around 300 feet. Such mines occurred in several places in the added lands and extended from the earliest activity in the late nineteenth century to the Depression era and later. In contrast, industrial mining depends upon tools and machines powered by steam, fossil fuels, or electricity to extract deep ore bodies. Large industrial mines occurred in the vicinity of the added lands—most notably the Supply Mine in the Virginia Dale District and the Eagle Mountain iron mine in the Eagle Mountain District, both just outside JTNP.

Beneficiation is the process of concentrating or upgrading ore that has been mined by separating the minerals or metals from their rock matrix using mechanical or chemical methods. Only a couple of the mines in the added lands included a beneficiation facility; the others shipped extracted ore to outside mills or smelters. A small ball and amalgamation mill processed ore at the El Sid No. 1 (Moser; CA-RIV-6638H) in the Ironwood District; in addition, the Independence No. 1 Mine in the Cottonwood District appears to have used an arrastra at Buzzard Spring.

Engineer-designed mine complexes integrate mine extraction, beneficiation, and infrastructure—such as company towns, power, and transportation—into a single system. No examples of this property type lie directly in the added lands, but the Eagle Mountain Mine is just outside JTNP. The Henry J. Kaiser Steel Corporation developed and operated the iron mine from 1948 until 1983. The engineer-designed mine complex included a large open-pit mine, a railroad, the company town, maintenance shops, a warehouse, a crushing plant, concentrating equipment, and a pelletizing plant.

Mining-related cultural resources are associated with activities and systems that support the mining operation but are not directly engaged in mining. In the added lands, residential settlements are the most common and include the architectural and archeological remains of small mining camps, isolated domestic residences, privy pits, wells, domestic trash dumps and scatters, fences, footpaths, and yards. Mining-related cultural resources associated with transportation networks and water-conveyance systems also occur within the added lands.

Historical mining left a distinctive imprint on the added lands. The land provides dramatic visual images of the region’s mining past. They are found within the named mining districts and reflect a historic land-use pattern of mostly underground mining using a variety of non-industrial and industrial technologies. The history of the districts that are part of the JTNP added lands is summarized below, as are the known cultural resources within those lands.

THE GOLD PARK DISTRICT

The southern part of the Twentynine Palms Mining District split off and became known as the Gold Park Mining District in the early twentieth century, although many sources continue to refer to the area as the Twentynine Palms District. William McHaney of the “McHaney gang” reputedly first discovered gold deposits in this area in the late nineteenth century. Surveyors established the boundaries of the Gold Park Mining District in May of
Some sources indicate that before 1908 miners called this area the “Washington Mining District.” This name, however, may refer to an area between the Twentynine Palms Mining District and the Gold Park Mining District. At first, prospectors worked scattered claims in the district and milled the ore at an arrastra at the Twentynine Palms Oasis. In 1905, a group of Los Angeles investors, including W.C. Winnie, John Edward Schweng, and C.W. Roach, organized the Gold Park Consolidated Mines Company and purchased most of the mining claims in the district. The company then played the key role in developing the district during the next several years. In 1920 it worked 52 claims, the most developed of which included the Atlanta, Black Warrior, Boss, Caledonia, Gold Park Nos. 1 and 2, Gold Park No. 27, and Oro Copio. The town of Gold Park emerged in the Pinto Mountains about 6 miles south of Twentynine Palms as the population and economic center for the area in the 1900s and 1910s; the company operated a stamp mill and several arrastras in the town during this time period. In addition, the company built the Anaconda Mill (CA-RIV-4208H) near Twentynine Palms with two stamps and a roller. William McHaney, Bill Keys, and C.W. Roach constructed Ivanpah Tank (CA-RIV-7185H) in 1920 to provide water for the Gold Park mill. Another episode of gold mining took place in the district from 1930 to 1942, followed by some small-scale mining in the 1950s.

**Associated Cultural Resources**

A few mining-related cultural resources associated with the Gold Park District occur within the boundaries of the added lands (Figure 9). They include mining and domestic features associated with three mines in the Paymaster Mine District and the Smith Brothers Claim. Only one, the Paymaster, is considered to be individually eligible for listing on the National Register of Historic Places.

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53 California State Mining Bureau, *Report XVII of the State Mineralogist: Mining in California During 1920* (Sacramento: California State Printing Office, 1921), 347.
54 Ibid.
55 Lucile Weight, “Gold Park was more than a legend,” *Desert Trail* (Twentynine Palms, Calif.), April 24, 1975, 5.
Figure 9. Mining-related cultural resources in the Gold Park District

Paymaster Mine District (33-15283, JTNP #S88)

Township 2S, Range 10E, Section 17 (Paymaster Site 1: 33-15284, CA-RIV-8075H)
Township 2S, Range 10E, Section 17 (Paymaster Site 2: 33-15285, CA-RIV-8076H)
Township 2S, Range 10E, Section 17 (Paymaster Site 3: 33-15286, CA-RIV-8077H)
USGS Fried Liver Wash 7.5-minute Quad

The Paymaster Mine District lies within the boundaries of the added lands and is recommended as eligible for listing on the National Register of Historic Places. An on-site inspection by JTNP physical science staff in 1999 located one shaft more than 20 feet deep, one adit, and one prospect. Another on-site visit in 2004—during fieldwork for the added lands HRS—documented a mine complex and two distinct habitation areas with associated roads (Figures 10-13). An adit, shaft, and equipment staging area, and a concrete equipment pad make up the mine complex (CA-RIV-8075H). Approximately 400 feet west of the mine are the remains of a dry-laid rock and wood dugout structure with dense 1930s historic debris (CA-RIV-8076H).

58 H.W. Baczkowski, Mined Lands Data Sheet, JTNP Mine Site #S88, Joshua Tree National Park, 4 January 1999.
Several hundred feet west of the structure is a settlement site with four building foundations or tent platforms and a trash scatter dating to the 1890s-1900s (CA-RIV-8077H). The Paymaster Mine District is considered to be individually eligible for listing on the National Register of Historic Places under Criterion D as a potentially significant source of information about the lifestyles of miners working in this locality.

Historical documents appear to use several names for this site, including the Black Warrior, Paymaster, and/or the Black Warrior Gold Park Consolidated No. 43; Paymaster is used here following its label on the USGS Quad map. It also may be one of several Black Warrior Mines in the Gold Park and neighboring districts in the Pinto Mountains. Robert Ruff et al. described a Black Warrior Mine with the same legal description as producing during the 1935-1940 time period. In 1945 the California State Mineralogist reported a Black Warrior Mine owned by William F. Keys in Section 16, T2S, R9E, and 12 miles south of Twentynine Palms. An article in the California Journal of Mines and Geology in the same year reported a Black Warrior Mine with two claims at the same location.

The Black Warrior Gold Park Consolidated No. 43 may be the same mine as the Paymaster. Historical documents suggest that it was the most productive mine in the district.

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60 California State Mining Bureau, 41st Report of the State Mineralogist (1945), 128.
61 “Mineral Resources of Riverside,” California Journal of Mines and Geology 41, no. 3 (July 1945).
Bill McHaney reportedly discovered the mine before 1900.\textsuperscript{62} Mining claim records on file at the Riverside County Recorder’s Office provide the following information about the mine in the early twentieth century. J.N. White filed a claim for a Black Warrior Mine in 1903.\textsuperscript{63} The Gold Park Consolidated Mines Company held the Black Warrior Gold Park Consolidated No. 43 in 1909. They also located the Black Warrior Extension Nos. 1 and 2 in 1910. The company leased both properties to C.W. Roach, the company’s mine manager.\textsuperscript{64} In 1911, the Black Warrior Consolidated Mines Company owned the Black Warrior Extension No. 2, but the status of the others remained unchanged. Consolidated Gold Mines of California (possibly Consuela Mines Company) acquired ownership of the Black Warrior Extension Nos. 1 and 2 in 1913 and held 11 claims in the Gold Park District in the same year. F. Carter filed claims on these two mines in 1917; his relationship to the above-mentioned mining companies is unknown. Mt. Vidal Mining Company filed a Black Warrior claim in 1918, but no information exists about its location or relationship to the other Black Warrior Mines.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure11.jpg}
\caption{Winze inside adit (Feature 2A) at the Paymaster Mine in March 2004 (photograph by Jessica Smith).}
\end{figure}

Several ownership changes took place in the 1920s. W.T. Maxey owned the Black Warrior Gold Park Consolidated No. 43 in 1922. In the same year, A.M. Jones owned the Black Warrior Extension Nos. 1 and 2. Donald Campbell owned the Black Warrior North Extension in 1926

\begin{itemize}
\item \textsuperscript{62} W. F. Keys, Oral Communication, 1960. \ marginnote{Linda Greene, Black Warrior Mine file. On file at Joshua Tree National Park.}
\item \textsuperscript{63} Riverside County Recorder’s Office, Mining Claim Records, Book 18 (1903), 147.
\item \textsuperscript{64} Lucile Weight, “Gold Park was More than a Legend,” \textit{Desert Trail} (Twentynine Palms, Calif.), April 24, 1975, 2.
\end{itemize}
and 1927. In 1929 William Keys owned a Black Warrior Mine that appeared to be in the same place as the Black Warrior Gold Park Consolidated No. 43. The Engineering and Mining Journal described the Black Warrior Mine in 1910 as having a 200-foot shaft and several drifts and crosscuts. In 1921, the California State Mineralogist also described the mine as having a 200-foot shaft with drifts and crosscuts worked by two miners using a 12-horsepower gas engine hoist and a 8 inch by 8 inch compressor. The mine hauled ore to Twentynine Palms for milling. Water filled the mine below the 70-foot level in 1928. Miners leased the property in the 1930s and hauled away much of the mine waste-rock dumps to be milled. In 1960 W.F. Keys recalled in an interview that the mine was later renamed the Gold Master. The mine workings also appear to include an adit, which is not mentioned in earlier reports and probably dates to the 1930s.

![Figure 12. Equipment pad (Feature 1A) with air line in foreground at the Paymaster Mine in March 2004, looking south (photograph by Jessica Smith).](image)

Some sources, however, suggest that the Black Warrior may not be the same mine as the Paymaster. Mining-claim records on file at the Riverside County Recorder’s Office list the Black Warrior Mine and the Paymaster Mine in separate entries in the 1920s. In 1922 for example,

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67 California State Mining Bureau, Report XVII of the State Mineralogist: Mining in California during 1920 (Sacramento: California State Printing Office, 1921), 348.
68 California State Mining Bureau, Report XXV of the State Mineralogist: Mining in California during 1928 (Sacramento: California State Printing Office, 1929), 476.
W.T. Maxey owned the Black Warrior Gold Park Consolidated No. 43 Mine, and A.M. Jones owned the Black Warrior Nos. 1 and 2. And in 1926, Donald Campbell owned the Black Warrior North Extension Mine. At the same time, the record book lists William F. Keys as the owner of the Paymaster Mine in 1923, 1924, and 1926. In all of these entries, the record book lists the word “Washington” beside the mine’s name; miners called the district Washington before changing its name to Gold Park in 1908. The Paymaster, which the Riverside County mining-claim record books list as located in T3S, R10E, Section 15, outside the current Park boundaries, appears to have operated in the 1920s and 1930s. The U.S. Bureau of Mines recorded the production of the Paymaster in 1935 as 160 tons of ore yielding 22.9 ounces of gold, in 1936 as 240 tons of ore yielding 55.66 ounces of gold, and in 1940 as 46 tons of ore yielding 30 ounces of gold.

![Figure 13. Rock structure (Feature 5D) at the Paymaster Mine in March 2004, looking west (photograph by Jessica Smith).](image)

**Smith Brothers Claim (33-15111, CA-RIV-8027H, JTNP #S277)**

Township 2S, Range 10E, Section 8
USGS Twentynine Palms Mountain 7.5-minute Quad

The Smith Brothers claim lies within the boundaries of the added lands and is not considered to be eligible for listing on the National Register of Historic Places. An on-site inspection of this site by JTNP physical science staff in 1999 located one shaft 25+ feet deep and

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70 Ruff et al., “Mineral Resources of the Eastern Transverse Ranges,” 228.
four prospects. Another on-site visit in 2004 during fieldwork for the added-lands HRS documented one shaft 25+ feet deep, three prospects, a road, and a small campsite, with the remains of a wooden tongue-and-groove tent platform and a rock campfire ring (Figures 14-15). The physical remains of the mine are sparse and unlikely to provide information that could be used to answer significant scholarly or scientific questions or to convey significant historical events or patterns.

Figure 14. The camp at the Smith Brothers Claim in March 2004, looking north (photograph by Jessica Smith).

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72 H.W. Baczkowski, Mined Lands Data Sheet, JTNP Mine Site #S277, Joshua Tree National Park, January 6, 1999.
This may be the site of the North Star mine, although some historical documents place its location elsewhere in Section 6, T2S R10E. In 1920 the Gold Park Consolidated Mines Company owned the North Star, which was originally located as the Atlanta at an unknown earlier date. J. Klugh of Pasadena owned the mine in 1929, when it was known as the North Star Group, and the Floyd Mining and Milling Company owned the property in 1945. In 1955 John Uland, Milton B. Smith, and Albert H. Smith located several claims in the area with the No. 1, No. 4, and No. 8 being the most notable. Lack of mine development at the site suggests that the mining operation was extremely small-scale.

THE VIRGINIA DALE DISTRICT

Some sections of the Virginia Dale Mining District, which lay mostly within Townships 1 North, 1 South, and 2 South and Ranges 12 and 13 East in both San Bernardino and Riverside counties, also fall within the added lands (Figure 16). The district produced an estimated 185,000 ounces of gold during its history, the most productive of all the mining districts in the eastern Transverse Ranges. The Virginia Dale Mining District had its beginnings in 1883, when Lew Curtis discovered placer gold in the canyons draining into the Pinto Basin east of the

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73 California State Mining Bureau, Report XVII of the State Mineralogist (Sacramento: California State Printing Office, 1921), 347.
74 California Journal of Mines and Geology (1945), 140.
Twentynine Palms District. John Burt dug a well at what later became Dale Dry Lake and built an arrastra there to work the gold from Pinto Basin; the town of Virginia Dale (also known as Dale), which is not in JTNP, grew up around the well and reputedly reached a size of 1,100 people in the 1880s.78

The district produced mostly placer gold until the late 1890s.79 In 1885 John (Chuckwalla) Wilson and Tom Lyons discovered the Virginia Dale, the first hardrock mine in the district, which lies outside JTNP, and organized the Virginia Dale Mining Company to work the mine.80 The California state mineralogist reported in 1887 that the company built a five-stamp mill at the mine, described as being in the Rattler District, but that the mine and mill stopped operating two years later.81 In 1896 work began again at the mine, and the miners moved a five-stamp mill from the Twentynine Palms Oasis to the mine.82 In 1899 the Mining and Scientific Press reported the population of Virginia Dale to be 150 people.83 The mine operated intermittently until World War II.

Other hardrock mines soon joined the Virginia Dale in the district. John Burt located the O.K. (McKinley Bill) Mine (sometimes described as being in the Monte Negras District), the Brooklyn Mine, and the Los Angeles Mine, all of which are situated at the east end of the Pinto Mountains about 12 miles east of Twentynine Palms and which lie outside JTNP, in the early 1890s.84 In 1892 he teamed up with F.J. Botsford and worked the Brooklyn and Los Angeles mines until 1899, after which the partnership dissolved.85 The Mining and Scientific Press stated that the O.K. Mine produced 100 ounces of gold in 20 days in 1899.86 In the same year, the O.K. mine is reported to be the most developed, and with the best ore. Also in 1899 some of the mines and mills in the district had to suspend operation because of lack of water and summer temperatures. However, the O.K. and Arbois mines continued to operate. In 1902 the O.K. mine had 1,800 feet of development and ore averaged $18.50 gold per ton.87 The Brooklyn Mining Company formed in 1901 and operated both mines until 1916.88 At first, the mine hauled water from Cottonwood Springs, but later the company dug a deep well “at the south shore of Dale Dry Lake” to supply the mining operation and, in 1904, formed a water corporation to charge

77 San Bernardino County Records, March 9, 1896; Vredenburgh et al., Desert Fever, 140.
78 Ibid.
80 Ronald Dean Miller, Mines of the High Desert (Glendale, Calif.: La Siesta Press, 1968), 15-16.
81 California State Mining Bureau, Ninth Annual Report of the State Mineralogist (Sacramento: California State Printing Office, 1890), 238.
82 California State Mining Bureau, Thirteenth Annual Report of the State Mineralogist (Sacramento: California State Printing Office, 1896), 314.
83 Mining and Scientific Press 78-79 (February 25, 1899), 211.
84 Miller, Mines of the High Desert, 29.
85 Ibid.
88 Ibid.
for the pumping facility.\(^89\) In 1916 the company employed 8 to 10 men at the Brooklyn Mine, which included a Nissen stamp mill, a cyanide plant, and workings to a depth of 650 to 700 feet.\(^90\)

The Supply Mine, which became the top producer in the district and which also lies outside JTNP, began operations around 1900.\(^91\) During this time, the social center of the district moved from the town of Virginia Dale or Old Dale to Dale the Second, closer to the quartz mines in the Pinto Mountains, and by the early 1900s to the town of New Dale close to the Supply Mine.\(^92\) In 1902, miners renamed the district as the Dale Mining District.\(^93\) Moderate mining activity in the district took place in the early 1900s and in the 1920s, increased in the 1930s and early 1940s, but dropped dramatically afterwards.\(^94\) In 1917, the working mines in the district included the Supply Group, O.K. Group, Brooklyn, Virginia Dale, Ivanhoe, Carlisle, Leota, and BonTon, all situated at the east end of the Pinto Mountains and outside JTNP.\(^95\) Of these, the Supply Mine produced more than $500,000, the most in the district by far; the Brooklyn Mine reportedly produced $150,000 in gold before 1930 and, together with the Los Angeles Mine, another $13,000 in the 1930s.\(^96\) Garry Manulkin and three partners operated the mine in the mid-1970s, and in 1975 they transported a John Deere #350 crawler tractor to the mine.\(^97\)

**Associated Cultural Resources**

Several mining-related cultural resources associated with the Virginia Dale District occur within the boundaries of the added lands (Figure 16). Existing accounts portray the cultural resources as sparse and mostly consisting of scattered and isolated exploration prospects, trenches, and cuts. Fieldwork for the added lands HRS visited only the Bolero (4 By) Group. They do not appear to be individually eligible but may contribute to a district or cultural landscape; further research is needed to make a determination.

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\(^93\) *Engineering and Mining Journal* 73 (February 22, 1902), 286.
\(^97\) Homer L. Rouse, Superintendent of Joshua Tree National Monument, to Gary Manulkin, August 8, 1975. On file at Joshua Tree National Park, Cultural Resources Branch.
Bolero Group (4 By) (JTNP #29)

Township 1S, Range 13E, Sections 20-21
USGS New Dale 7.5-minute Quad

An on-site inspection of this mine by JTNP physical science staff in 1995 located three shafts, four prospects, one trench, mine waste-rock dumps, several cairns and posts, several bulldozer cuts, and scattered debris, including a campsite, iron pipe, and barrel stove. Another on-site visit in 2004 during fieldwork for the added lands HRS found the same resources and documented a wooden ladder and a windlass as well. The Bolero Group claims date to 1981 and consist of barite and quartz veins in meta-igneous rock. 

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98 Jeff Ohlfs, AML Inventory Form, ID #14, JTNP Mine Site #29, Joshua Tree National Park, August 20, 1995.

Murry, and R.J. Dickert filed a Notice of Location on May 9, 1988.\textsuperscript{100} GPS readings during the HRS visit suggest that the recorded UTM coordinates for the site are incorrect and that the mine is either right on the boundary or outside of the Park.

**Bolero No. 1 (No JTNP #)**

Township 1S, Range 13E, Section 16
USGS New Dale 7.5-minute Quad

The added lands HRS fieldwork did not include a visit to this mine. An on-site inspection of this mine by JTNP physical science staff in 1998 located two prospects with associated waste-rock dumps and two wooden posts. One of the posts included a “Lode Mining Claim – Location Notice,” dated November 10, 1984 and signed by E.R. Jernberg of North Palm Springs, California.\textsuperscript{101}

**Hot Hell No. 2 (JTNP #357)**

Township 1S, Range 13E, Section 16
USGS New Dale 7.5-minute Quad

The added lands HRS fieldwork did not include a visit to this mine. A geological survey of the Coxcomb Mountains Wilderness Area in 1982 found one pit and one trench and described the claim as containing “sub-economic amounts of magnetite nodules in hydrothermically altered monzonite porphyry.”\textsuperscript{102} An on-site inspection of this mine by JTNP physical science staff in 1998 failed to find the prospect or trench but located two claim cairns, one with a Notice of Location. Albert McGuire, James Ocello, and Paul Ocello placed a Notice of Location at this site on April 15, 1956.\textsuperscript{103}

**Jubilee No. 1 (JTNP #356)**

Township 1S, Range 13E, Section 15
USGS Clarks Pass 7.5-minute Quad

The added lands HRS fieldwork did not include a visit to this mine. A geological survey of the Coxcomb Mountains Wilderness Area in 1982 found one cut and described the claim as

\textsuperscript{100} Information contained on a Notice of Location recovered from the site and curated in the NPS Collections, Accession #23319. On file at Joshua Tree National Park.

\textsuperscript{101} Information contained on a Notice of Location recovered from the site and curated in the NPS Collections, Accession #658, Catalog #20474, Joshua Tree National Park.

\textsuperscript{102} Lszczykowski and Causey, “Mineral Investigation of the Coxcomb Mountains Wilderness Area,” 608-610.

\textsuperscript{103} Information contained on a Notice of Location recovered from the site and curated in the NPS Collections, Accession #698, Catalog #20507, Joshua Tree National Park.
“altered Syenite . . . with a strong radioactive anomaly.” An on-site inspection of this mine by JTNP physical science staff in 1998 located one prospect, four cairns, a footpath, and trash scatter (wood and ore car) (Figure 17).

Figure 17. Prospect at Jubilee No. 1 Mine in 1998 (photograph by Jeff Ohlfs).

Marion (JTNP #352)
Township 1S, Range 13E, Section 15
USGS Clarks Pass 7.5-minute Quad

The added lands HRS fieldwork did not include a field visit to this mine. A geological survey of the Coxcomb Mountains Wilderness Area in 1982 found one cut and described the claim as “Syenite, porphyry with magnetite nodules.” An on-site visit by JTNP physical science staff in 1998 located one prospect.

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105 Jeff Ohlfs, AML Inventory Form, JTNP Mine Site #356. Joshua Tree National Park, October 8, 1998.
107 Jeff Ohlfs, AML Inventory Form, JTNP Mine Site #352. Joshua Tree National Park, October 8, 1998.
**Unnamed (No JTNP #)**
Township 1S, Range 13E, section unknown
USGS Clarks Pass 7.5-minute Quad

The added lands HRS fieldwork did not include a visit to this mine. A geological survey of the Coxcomb Mountains Wilderness Area in 1982 found one adit and several cuts and pits and described the claim as “altered Syenite with silicified shear zones.”

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**Unnamed (No JTNP #)**
Township 1S, Range 14E, section unknown
USGS Clarks Pass 7.5-minute Quad

The added lands HRS fieldwork did not include a visit to this mine. A geological survey of the Coxcomb Mountains Wilderness Area in 1982 found one bulldozer trench and described the claim as “alluvium, no anomalous mineral content.”

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**Unnamed (No JTNP #)**
Township 1S, Range 14E, section unknown
USGS Clarks Pass 7.5-minute Quad

The added lands HRS fieldwork did not include a visit to this mine. A geological survey of the Coxcomb Mountains Wilderness Area in 1982 found one adit and described the claim as “granite porphyry, no anomalous mineral content.”

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**Unnamed (No JTNP #)**
Township 1S, Range 14E, section unknown
USGS Clarks Pass 7.5-minute Quad

The added lands HRS fieldwork did not include a visit to this mine. A geological survey of the Coxcomb Mountains Wilderness Area in 1982 found one pit and described the claim as “granite with pegmatite and aplite veins, no anomalous mineral content.”

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109 Ibid.
110 Ibid.
111 Ibid.
Unnamed (No JTNP #)
Township 1S, Range 14E, section unknown
USGS Clarks Pass 7.5-minute Quad

The added lands HRS fieldwork did not include a visit to this mine. A geological survey of the Coxcomb Mountains Wilderness Area in 1982 found one pit and described the claim as “pegmatite, no anomalous mineral content.”\textsuperscript{112}

Possibly Lode Star 2 and 3 (No JTNP #)
Township 1S, Range 14E, section unknown
USGS Clarks Pass 7.5-minute Quad

The added lands HRS fieldwork did not include a visit to this mine. A geological survey of the Coxcomb Mountains Wilderness Area in 1982 found three pits and described the claim as “pegmatite, no anomalous mineral content.”\textsuperscript{113}

Condor No. 3 (No JTNP #)
Township 1S, Range 14E, Section unknown
USGS Clarks Pass 7.5-minute Quad

The added lands HRS fieldwork did not include a visit to this mine. A geological survey of the Coxcomb Mountains Wilderness Area in 1982 reported one pit and described the claim as “granite with pegmatite and aplite veins, no anomalous mineral content.”\textsuperscript{114} An on-site visit by JTNP physical science staff in 1998, however, failed to find the pit at the site.

Condor No. 5 (No JTNP #)
Township 1S, Range 14E, Section 10
USGS Clarks Pass 7.5-minute Quad

The added lands HRS fieldwork did not include a visit to this mine. An on-site inspection of the mine by JTNP staff in 1994 found only one wooden claim post with a Notice of Location, which stated that Forest H. White, John H. Miller, Roy E. Torry, and Bill Bailey, Jr., placed a Notice of Location on this claim on October 15, 1961.\textsuperscript{115}

\textsuperscript{112} Ibid.
\textsuperscript{113} Ibid.
\textsuperscript{114} Ibid.
\textsuperscript{115} Information contained on a Notice of Location recovered from the site and curated in the NPS Collections, Accession #849, Cat. #28652. On file at Joshua Tree National Park.
Unnamed (No JTNP #)
Township 1S, Range 14E, Section unknown
USGS Clarks Pass 7.5-minute Quad

The added lands HRS fieldwork did not include a visit to this mine. A geological survey of the Coxcomb Mountains Wilderness Area in 1982 found several pits and described the claim as “granite with pegmatite, no anomalous mineral content.”

THE EAGLE MOUNTAIN DISTRICT

Several sections of the added lands in Townships 3 and 4 South and Ranges 13 and 14 East fall within the boundaries of the Eagle Mountain Mining District, in the southeastern part of the Park. The district emerged as an important mining center in the region by the late nineteenth century. Prospectors may have discovered gold and iron in the Eagle Mountains as early as 1865. R.W. Waterman recorded the Black Eagle Mine, which appears to be the earliest in the district, in March 1880. In 1881 prospector Jack Moore from Banning, California, recorded the original Eagle mine claim and shortly thereafter “located claims on what became the Iron Chief Mine.” Moore, his father R.B. Moore, F.L. Talmadge, and E. Stumpf then organized the Eagle Mountain Mining District in 1882. The California state mineralogist reported dry placering and the discovery of gold-bearing quartz deposits in the Eagle Mountains in 1892.

The Iron Chief area produced gold intermittently between 1895 and World War II. In 1897 Charles Lane of San Francisco purchased the Iron Chief Mine from William Stevens and Thomas Doffelmeyer and built a small mill; Stevens and Doffelmeyer, however, soon reclaimed the property when Lane defaulted and constructed a 50-ton cyanide plant. The Engineering and Mining Journal reported in 1898 that the mine reduced 60 tons of gold-bearing ore, which assayed $10 to $100 a ton, per day and that water for the operation came through a pipeline from a pumping station at Cottonwood Spring, 18 miles away.

In 1899 the activity in Eagle Mountain increased due to numerous claims being established. In 1901 the Mining and Scientific Press reported that Eagle Mountain District

117 Vredenburgh et al., Desert Fever, 29.
118 San Diego County Records, March 1880.
120 Belden, ibid.
121 California State Mining Bureau, Eleventh Report of the State Mineralogist (Sacramento: California State Printing Office, 1893), 386.
123 Vredenburgh et al., Desert Fever, 29.
124 Engineering and Mining Journal 66, no. 24 (December 10, 1898), 705.
contained 26 claims on 538 acres. In 1902 J.F. Collins of Pittsburgh, Pennsylvania, purchased the Iron Chief Mine, and E.H. Harriman of the Southern Pacific Railroad “acquired and patented virtually all of the claims in the district that contained outcrops of iron ore” in 1908. Sometime during this period, however, the Iron Chief ceased operations. The Eagle Mountains District produced few, if any, precious or base metals in the following years. In 1923 the nearby Black Eagle Mine began to mine deposits containing mostly gold, silver, and lead and continued its operation intermittently until the mid-1950s. The mine produced about $30,000 in its first period of operation between 1923 and 1928 and reputedly produced $250,000 in the last three years of the 1930s.

The historic Iron Chief Mine lay dormant until the 1940s. In 1940 Harlan H. Bradt of Pasadena, California, had acquired the Southern Pacific mining claims in the Eagle Mountains for the Riverside Iron and Steel Company. The Henry J. Kaiser Steel Corporation purchased the claims in 1944 for a reported one million dollars. Kaiser eventually developed the Iron Chief and the other properties into a very large iron mine called the Eagle Mountain mine that operated from 1948 until 1983. The mine lies at the edge of Joshua Tree National Park. Congressional legislation in 1950 returned monument land in the vicinity of the mine to the public domain and made it possible for the corporation to expand into what was once part of the monument. Beginning in 1948, the company shipped iron ore from the mine to its steel mill, built in 1942 at Fontana, California, by means of a newly constructed 51-mile industrial railroad to the Southern Pacific mainline at Ferrum Junction near the Salton Sea. The mine facility included a company town, maintenance shops, a warehouse, and a crushing plant; the company added concentrating equipment in 1954 and a pelletizing plant in 1965. In the 1960s, 3,000 employees and their families lived at the mine. Kaiser constructed another development for the employees at Lake Tamarisk, 10 miles south of the mine near Desert Center in 1967. The company closed the Eagle Mountain Mine in 1983 after losing contracts to export iron ore and

125 Mining and Scientific Press 82-83 (January 19, 1901), 53.
128 California State Mining Bureau, Report XXV of the State Mineralogist, 1929, 476; Superintendent, Joshua Tree National Monument, Memorandum for the Director, August 12, 1941, Federal Archives Records Center, San Bruno, Calif.
130 Vredenburgh et al., Desert Fever, 30.
132 Collins, “Mineral Resources of the Eagle Mountains,” 418; Miller, Mines of the High Desert, 64.
pellets to Japan and other countries. Since it opened in 1948, the mine produced more than 100 million tons of high-grade iron-ore concentrate and pellets.\textsuperscript{136}

The state of California used the abandoned townsite as a Youth Correctional Facility from 1988 to 2002. In 1991 the Mine Reclamation Corporation, a subsidiary of Kaiser Ventures, Inc., proposed the construction of a landfill at the now-abandoned Eagle Mountain Mine, to which refuse from six counties in southern California could be transported by covered railroad cars. Riverside County submitted an Environmental Impact Report for the proposed project in 1992 to the California Integrated Waste Management Board, which oversees landfills in the state of California, but the board rejected the study. Kaiser submitted and acquired approval for a new EIR in 1999; lawsuits brought by the Sierra Club, the Desert Protection Society, the Center for Environmental Justice, and Citizens for the Chuckwalla Valley, suspended the project. The Metropolitan Water District of Southern California also included the area in a feasibility study to assess the potential of the Upper Chuckwalla Valley to store surplus water from the Colorado River Aqueduct for distribution in southern California during dry years. In 2004 Citizens for the Chuckwalla Valley started a campaign to return 29,775 acres covered by the mine to Joshua Tree National Park and to prepare a National Historic Landmark nomination for the mine.\textsuperscript{137} Figures 18-20 show the mine and town site as it looked in March 2005.

\textsuperscript{136} Collins, “Mineral Resources of the Eagle Mountains,” 418.
Figure 18. The abandoned townsite at the Eagle Mountain Mine in March 2005 (photograph by Donald Hardesty).

Figure 19. The railroad tracks at the Eagle Mountain Mine in March 2005 (photograph by Donald Hardesty).
Associated Cultural Resources

Several known mining-related cultural resources associated with the Eagle Mountain District occur within the boundaries of the added lands (Figure 21). They include adits, shafts, waste-rock dumps, tent platforms or foundations, machine pads, roads, and extensive trash deposits. None of these is considered to be individually eligible for listing on the National Register of Historic Places.
Storm Sulfide (JTNP #247)
Township 3S, Range 13E, Section 32
USGS Conejo Well 7.5-minute Quad

The added lands HR5 fieldwork did not include a visit to this mine. An on-site inspection of the Storm Sulfide mine by JTNP physical science staff in 1994 located one quarry 70 feet deep, one shaft 15 feet deep, four prospects, one trench, mine waste-rock dumps, several cairns and posts, and scattered debris.\textsuperscript{138}

Storm Jade (Storm Sulfide #2) (33-000253, CA-RIV-253H; JTNP #114)
Township 4S, Range 13E, Section 4
USGS Conejo Well 7.5-minute Quad

\textsuperscript{138} Jeff Ohlfs, AML Inventory Form, ID #118, JTNP Mine Site #247, Joshua Tree National Park, November 17, 1994.
The Storm Jade Mine is historically significant for its association with Barry Storm, a colorful local personality, but is not considered to have retained enough integrity to be eligible for listing on the National Register. An on-site inspection of the Storm Jade Mine by JTNP physical science staff in 1994 located three adits, five prospects, mine waste-rock dumps, several cairns and posts, an airstrip (Figure 22), four concrete foundations, three abandoned cars, and scattered debris. Another on-site visit in 2004 during fieldwork for the added lands HRS documented three concrete building pads, two shallow adits with metal doors and a shallow raise/shaft, a concrete equipment pad, footpath, and the ruins of a burned trailer associated with a partial cinderblock trailer foundation (Figures 23-24). Household debris likely dating to the 1960s and 1970s lies adjacent to the trailer ruins. The site fronts a massive jadeite rock outcrop, likely the “jade” deposit exploited by Barry Storm, the mine’s former owner.

Figure 22. Airstrip at the Storm Jade Mine in November 1994 (photograph by Jeff Ohlfs).

139 Jeff Ohlfs, AML Inventory Form, ID #117, JTNP Mine Site #114, Joshua Tree National Park, November 17, 1994.
Figure 23. Adit with iron door and concrete pad at the Storm Jade Mine in March 2004, looking north (photograph by Jessica Smith).

Figure 24. Building pads at the Storm Jade Mine in March 2004, looking southwest (photograph by Jessica Smith).
The Storm Jade Mine is historically significant in its association with its former owner and quite colorful local character, Barry Storm (Figure 25). Storm, a self-described hunter of lost treasures and mines, is best known for his book, Thunder God’s Gold (1967), in which he gives an account of his search for and location of the Lost Dutchman Mine in Arizona’s Superstition Mountains. Storm started hunting for lost mines in the Mojave area in 1956. He found what he determined to be a prehistoric jadeite quarry near an abandoned prospector’s camp in the Eagle Mountains in 1961.

Storm believed that the quarry was a primary source for jade used by several ancient civilizations of Mesoamerica—most notably the Maya. To support his claims, he identified several rectangular stone foundations, stone quarry tools, a stone effigy of a conventionalized Mayan jaguar face, a ceremonial dance floor, and an unfinished jade figurine at the Storm Jade mining site. He reported in a news article in 1961 that excavations had uncovered “old working chambers, shards of precious jade left by the Indian workers of centuries ago, and the valuable ledges of jade yet to be mined.” Storm also espoused that the road leading to the old prospector’s camp is a short segment of a one-time Indian commerce trail extending north-south through California, connecting the jade quarry and other precious stone sources to Mesoamerican population centers. (Supposedly, the prehistoric trail later became the El Camino Viejo or “Outlaw Trail,” allowing for inconspicuous travel from Baker, California to northern Mexico.) Other artifacts found on site and sent to “scientific institutions” for analysis included a partially completed tiger god scepter, a stone battleaxe stained with human blood, and several samples of the jadeite.

While the blatant embellishments in Storm’s history of the Storm Jade mine are easily recognized (e.g., his suggestion that the jadeite was radiocarbon dated to 3500 B.P.), a couple of elements of Storm’s account seem plausible. First, he likely encountered an abandoned prospector’s camp at the Storm Jade site, although no historic refuse is discernable. Second, there likely was prehistoric use of the area and perhaps of the jadeite deposit, but no prehistoric artifacts are observable. Lastly, as opposed to fictionalizing a story to gain publicity, it seems that Storm truly believed that he had discovered a source for Mayan jade. Regardless of the validity of his account, as of February 1961, Storm had established a temporary camp at the Storm Jade Mine but had erected no buildings. He eventually built a cabin and a few outbuildings and lived at the mine site, marketing his jadeite deposit to rockhounds and others interested in quarrying jade and other locally available minerals. Storm received a Special Use Permit from the National Park Service in 1962 to haul materials from the mine across the boundaries of what was then Joshua Tree National Monument. He remained at the mine until 1970, when he moved to a motel in Chiriaco Summit, California; he died the following year on May 18, 1971, at the V.A. hospital in Long Beach, California.

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142 Ibid.
143 Ibid.
In addition to its association with Barry Storm, the Storm Jade Mine is significant in that it provides an example of two recreational activities occurring historically in the Joshua Tree National Park vicinity: rockhounding and treasure-seeking. In terms of the former, Barry Storm marketed his jadeite outcrop to weekend rockhounds, or mineral and gem collectors. He allowed individuals to camp on his property and look for mineral specimens, while charging one dollar per pound of rock with a 5-pound limit. In this instance, his claim for links with Mayan jade was a clever marketing tool and likely increased his rockhounding business.

In terms of treasure-seeking, Storm asserted that with the discovery of the Storm Jade Mine, he had found a lost Maya jade source. His previous search for the Lost Dutchman Gold mine in Arizona and his reputation as a successful treasure-hunter likely lent him some credence among the treasure-seeking community that his Storm Jade claims were valid. Storm revealed his infinite creativity when he weaved his jade find into already existent lost-mine mythology. He claimed that “Pegleg” Smith’s black nuggets were actually “Mayan balls either lost on the [Outlaw] trail or wrested from the ancient artisans during a skirmish....” In addition, Barry Storm was scouting for another lost mine, originally owned by Henry Brant,

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144 Unauthored paper in JTNP National Park Service Collection Mine files (Storm Jade).
146 Belden, “Years of Search Rewarded with Storm Jade Find.”
when he found the jade source. In one news article he asserts that near the jade deposit were some samples of moderately rich gold ore.\textsuperscript{147} Thus, the Storm Jade Mine encompassed the location of two lost mines. His assertion that he found the Lost Dutchman Mine in Arizona’s Superstition Mountains in the 1940s, the Henry Brant’s lost mine, and a Mayan lost mine likely encouraged others to scout the mountain ranges of the Joshua Tree National Park looking for other hidden treasures.

Although the site is historically significant, the Storm Jade Mine contains sparse physical remains and therefore does not convey its significance. While there is evidence for Barry Storm’s residence in the form of three concrete pads and two shallow adits, historical refuse is scarce. The site appears to have been bulldozed and trash has been removed. In addition, the 2004 on-site visit found no camping areas associated with weekend rockhounds. In terms of the seven aspects of integrity the property retains location and setting (especially with the conspicuous jadeite outcrop), while lacking design, materials, workmanship, feeling and association.

\textbf{Independence No.1 Mine (33-15201, CA-RIV-8059H, JTNP #251)}

Township 4S, Range 14E, Section 9
USGS Buzzard Spring 7.5-minute Quad

The Independence No. 1 is considered eligible under Criterion D for the National Register of Historic Places. An on-site inspection by JTNP physical science staff in 1995 located one shaft 100+ feet deep, one trench, a mine waste-rock dump, three cairns, a winch, a historic sign “Independence #1,” and scattered debris. Another visit on June 10, 2005, by Donald Hardesty and Wayne Baczkowski during fieldwork for the added lands HRS, included mapping the same archeological remains (Figures 26, 27). The 1995 inspection also located a cluster of building foundations, a chimney, three prospects with associated waste-rock dumps, a foot path, five cairns, a rock with the initials “JM” carved into it, and a trash scatter (amethyst bottle glass, barrel hoops, and tin cans), which were interpreted as the remains of the “Independence #2 millsite.”\textsuperscript{148} In 2005, the same features remain but, rather than a mill, they appear to be the remains of a small residential settlement with five domestic structures or buildings. The domestic trash scattered around the residential settlement dates to the 1890s or early 1900s. A footpath extends from the settlement to an arrastra, which lies near the head of Buzzard Spring canyon in the added lands but in a private inholding.\textsuperscript{149}

\textsuperscript{147} Ibid.
\textsuperscript{148} Jeff Ohlfs, AML Inventory Form, ID #66, JTNP Mine Site #250, Joshua Tree National Park, October 19, 1995.
\textsuperscript{149} Jeff Ohlfs, AML Inventory, No ID or Site Number, October 19, 1995.
Figure 26. Independence No. 1 Mine, Feature 8 (shaft and collapsed headframe) in June 2005 (photograph by Donald Hardesty).

Figure 27. Rock chimney and house foundation (Feature 5) at the Independence No. 1 Mine in June 2005, looking north (photograph by Donald Hardesty).

Unnamed Mine (JTNP #S117)
Township 4S, Range 13E, Section 33
USGS Buzzard Spring 7.5-minute Quad
The added lands HRS fieldwork did not include a visit to this mine. An on-site inspection of this mine by JTNP physical science staff in 1999 located one shaft more than 25 feet deep, one prospect, one trench, a possible well, mine waste-rock dumps, three rock building or structure foundations, and scattered debris, including barrel hoops.\(^{150}\) No historical information has been located.

**Unnamed Mine (JTNP #S118)**
Township 5S, Range 13E, Section 2
USGS Buzzard Spring 7.5-minute Quad

The added lands HRS did not include a field visit to this mine. An on-site inspection of this mine by JTNP physical science staff in 1999 located one shaft 15 feet deep, a mine waste-rock dump, and scattered milled lumber (Figure 28).\(^{151}\) No historical information has been located.

![Figure 28. Mine shaft at Site 118 in 1999 (photograph by H.W. Baczkowski).](image)

\(^{150}\) H.W. Baczkowski, Mined Lands Data Sheet, JTNP Mine Site #117, Joshua Tree National Park, February 2, 1999.

\(^{151}\) H.W. Baczkowski, Mined Lands Data Sheet, JTNP Mine Site #118, Joshua Tree National Park, February 2, 1999.
Unnamed Mine (JTNP #S119)
Township 4S, Range 13E, Section 36
USGS Buzzard Spring 7.5-minute Quad

The added lands HRS did not include a field visit to this mine. An on-site inspection of this mine by JTNP physical science staff in 1999 located one shaft of unknown depth, one prospect, a mine waste-rock dump, a possible arrastra, and a petroglyph (Figures 29-30). No historical information has been located.

Figure 29. Mine waste-rock dump at Site S119 in 1999 (photograph by H.W. Baczkowski).

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Figure 30. Possible arrastra at Site S119 in 1999 (photograph by H.W. Baczkowski).

**Unnamed Mine (JTNP #256)**
Township 5S, Range 13E, Section 23
USGS Hayfield Spring 7.5-minute Quad

The added lands HRS fieldwork did not include a visit to this mine. An on-site inspection of this mine by JTNP physical science staff in 1995 located one adit. No historical information has been located.

**Unnamed Mine (JTNP #257)**
Township 5S, Range 13E, Section 14
USGS Hayfield Spring 7.5-minute Quad

The added lands HRS fieldwork did not include a visit to this mine. An on-site inspection of this mine by JTNP physical science staff in 1995 located one adit. No historical information has been located.

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153 Jeff Ohlfs, AML Inventory Form, ID #189, JTNP Mine Site #256, Joshua Tree National Park, August 31, 1995.
154 Jeff Ohlfs, AML Inventory Form, ID #189, JTNP Mine Site #257, Joshua Tree National Park, August 31, 1995.
THE GOLDEN EAGLE GROUP

Several mines in the Eagle Mountains and within the boundaries of the JTNP held the name “Golden Eagle.” In 1896 the Mining and Scientific Press mentions a mine named Golden Eagle located in San Bernardino County and owned by Chas. Smithson.\textsuperscript{155} Two individuals named Hyatt and White also owned a mine named Golden Eagle in Riverside County in 1901.\textsuperscript{156} The mining claim records on file at the Riverside County Recorder’s Office contained the following information (but nothing about location) about the early history of the Golden Eagle claims. In 1900 Walter W. Brown owned a Golden Eagle claim. P.M. Hodges and Matthew Gillespie each owned a Golden Eagle claim in 1901; Gillespie’s claim lay close to an iron mine. In 1903 George H. Barker owned a Golden Eagle claim associated with Hodges (which may be a district) and W.H. Bradley owned another claim with the same name near the Iron Chief Mine. The German American Mining and Milling Company owned a Golden Eagle Group in 1908. B.P. Jolly owned a Golden Eagle claim in the Eagle Mountains in 1918. In 1919 Frederick Hotze and McKenna Hemet (sp.?) each owned a Golden Eagle Claim. The 1929 mining claim records listed two Golden Eagle claims, one in the Dale Mining District and the other in Pinecate. Charles A. Goodale owned the claim in Pinecate. Bureau of Land Management Mineral Survey No. 6702 California completed on December 5, 1963, shows several mining claims including Golden Eagle Nos. 1-6; the claims, however, are in unsurveyed sections of Township 3 South, Range 14 East, which doesn’t correspond to the locations given for any of the Golden Eagle claims discussed below.\textsuperscript{157}

Associated Cultural Resources

Golden Eagle No. 6 (Shooting Star #1) (JTNP #122)

Township 5S, Range 13E, Sections 12 and 13
USGS Hayfield Spring 7.5-minute Quad

The added lands HRS did not include a field visit to this mine. An on-site inspection of this mine by JTNP physical science staff in 1996 located one adit, one shaft of unknown depth, three prospects, seven trenches, mine waste-rock dumps, several cairns and wooden posts, and scattered debris including lumber, lawn chairs, wheel barrow, and tin cans.\textsuperscript{158} Vince Newbury, Elaine Newbury, Weldon Newbury, Bill Farman, and Orlo Anderson of unknown address posted a Notice of Mine Location at this site on October 18, 1988.\textsuperscript{159} Vince Newbury, Weldon Newbury, and Al Wells, all of Desert Hot Springs, California, posted a Lode Mining Claim

\textsuperscript{155} Mining and Scientific Press 72-73 (July 4, 1896), 9.
\textsuperscript{156} The Engineering and Mining Journal 71 (March 30, 1901), 410.
\textsuperscript{157} U.S. Department of the Interior, Bureau of Land Management, Division of Engineering, Sacramento, California.
\textsuperscript{158} Jeff Ohlfs, AML Inventory Form, ID #55, JTNP Mine Site #122, Joshua Tree National Park, February 7, 1996.
\textsuperscript{159} JTNP museum collections, Accession #634, Catalog #17382.
Location Notice at this site on January 12, 1992, naming the mine the “Shooting Star.”

No other historical information is known.

**Golden Eagle (Bullfrog) (33-15202, CA-RIV-8060H, JTNP #124)**

Township 5S, Range 13E, Section 23

USGS Hayfield Spring 7.5-minute Quad

The Golden Eagle (Bullfrog) Mine is considered eligible under Criterion D as a potential repository of archeological information about miners and mining technology in the Eagle Mountains. An on-site inspection of this mine by JTNP physical science staff in 1995 reported six adits and shafts, five prospects, mine waste-rock dumps, a house foundation, a possible mill site, footpath, road, and scattered debris, including 55-gallon drums. Another on-site visit in 2005 during fieldwork for the added lands HRS, the team found several additional features, including a prospect, several rock foundations, and a trash scatter (Figures 31-33). The early history of the mine is unknown. In 1941 W.H. Wolcott of Riverside, California, owned the property. The only production records for the mine came from the year 1941, when one ton of ore yielded one ounce of gold.

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160 JTNP museum collections, Accession #634, Catalog #17381.
161 Jeff Ohlfs, AML Inventory Form, ID #53, JTNP Mine Site #124, Joshua Tree National Park, August 21, 1995.
Figure 31. Golden Eagle (Bullfrog) Mine in March 2005, looking northwest and upslope (photograph by Donald Hardesty).

Figure 32. Golden Eagle (Bullfrog) Mine in March 2005, looking southwest toward Feature 2, an adit (photograph by Donald Hardesty).
Golden Eagle No. 1 (JTNP #67)
Township 4S, Range 13E, Section 33
USGS Buzzard Spring 7.5-minute Quad

The added lands HRS fieldwork did not include a visit to this mine. An on-site inspection of this mine by JTNP physical science staff in 1997 located a shaft about 100 feet deep and wire fenced, a trench, mine waste-rock dumps, rock structures or buildings, rock platforms or foundations, concrete barrels, trash scatters, and cairns. An undated claim marker found at the site identifies the owner as the American Gold Mining Corporation, Rolling Hills Estate, California.

Golden Eagle No. 10 (JTNP #349)
Township 4S, Range 14E, Section 33
USGS Hayfield Spring 7.5-minute Quad

The added lands HRS fieldwork did not include a field visit to this mine. An on-site inspection of this mine by JTNP physical science staff in 1997 located a prospect and associated

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164 Jeff Ohlfs, AML Inventory Form, ID # unknown, JTNP Mine Site #67, Joshua Tree National Park, March 27, 1997.
165 JTNP museum collections, JOTR-627, Catalog #17285.
waste-rock dump, cairns, and a trash scatter (cable, cable hook, and wood). No historical information about the mine has been found.

**Golden Eagle (No JTNP #)**

Township 5S, Range 13E, Section 14

USGS Hayfield Spring 7.5-minute Quad

The added lands HRS did not include a field visit to this mine. Robert Ruff and others reported a “Golden Eagle” mine at this location as having produced 1 ounce of gold in 1941. No other historical information is available.

**Hobart No. 1 (Lucky Dollar) (JTNP #123)**

Township 5S, Range 13E, Section 24

USGS Hayfield Spring 7.5-minute Quad

The Hobart No. 1 is not considered to be individually eligible for the National Register but may be a contributing element to a district or a cultural landscape. An on-site inspection of this mine by JTNP physical science staff in 1994 located one adit, one shaft 70 feet deep, one prospect, mine waste-rock dumps, one cairn, an inscription reading “Hobart #1” carved in rock near the shaft opening, and a glass bottle and tin can trash dump that also includes old car parts. Another on-site visit in 2005 during fieldwork for the added lands HRS identified the same cultural resources (Figures 34-35). Very little historical information about the mine has been found. In the years 1940 and 1941, this mine and the nearby Golden Eagle (Bullfrog) together produced “a total of 10 tons of ore …, averaging 1.10 ounces per ton of gold.”

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166 Jeff Ohlfs, AML Inventory Form, ID # unknown, JTNP Mine Site #67, Joshua Tree National Park, March 27, 1997.
168 Jeff Ohlfs, AML Inventory Form, ID #64, JTNP Mine Site #123, Joshua Tree National Park, August 21, 1994.
Figure 34. Adit at Hobart No. 1 Mine in March 2005, looking southeast (photograph by Donald Hardesty)

Figure 35. 1920s Model-T automobile body near Hobart No. 1 Mine in March 2005, looking east (photograph by Donald Hardesty)

Diane (No JTNP #)
Township 4S, Range 13E or Range 14E, Section unknown
USGS Buzzard Spring 7.5-minute Quad
The added lands HRS fieldwork did not include a visit to this mine. R.A. Theobold located the Diane claim in 1934; the mine processed 60 tons of ore from the Hulsey Mill at Cottonwood by 1937.\textsuperscript{170}

**Rainbow Lode (JTNP #965 and 966)**

Township 4S, Range 13E, Section unknown
USGS Buzzard Spring 7.5-minute Quad

The added lands HRS fieldwork did not include a visit to this mine. Chester Moorten and Edith Hopper located the Rainbow Lode claim in 1935; they developed the mine with one shaft by 1937 and milled the ore at the Hopper (Moorten) mill in Cottonwood Wash.\textsuperscript{171} C.E. Lyman located another Rainbow Lode in 1930 in the same area. The California State Mining Bureau reported in 1929 that the Rainbow is part of the Liberty Group of claims; however, the relationship of this Group to other Rainbow Lode claims is unknown.\textsuperscript{172}

**Muleshoe Lode (No JTNP #)**

Township 4S, Range 14E, Section unknown
USGS Buzzard Spring 7.5-minute Quad

The added lands HRS fieldwork did not include a visit to this mine. Unknown miners located two claims on the Muleshoe Lode quartz vein in 1935.\textsuperscript{173} No additional information has been found.

**Grassy Hill Lode (No JTNP #)**

Township 4S, Range 13E, Section unknown
USGS Buzzard Spring 7.5-minute Quad

The added lands HRS fieldwork did not include a visit to this mine. Chester Moorten and Edith Hopper located the Grassy Hill Lode claim on December 17, 1934, for semi-precious minerals (vesuvianite and marble).\textsuperscript{174}

**Unrecorded Campsite**

Township 4S Range 14E, Section 15
USGS Buzzard Spring 7.5-minute Quad

\textsuperscript{170} Guthrey to Director of Investigations, May 6, 1937, 14. On file at Joshua Tree National Park.
\textsuperscript{171} Ibid., 16.
\textsuperscript{172} California State Mining Bureau, *Report 25 of the State Mineralogist*, 1929, 483.
\textsuperscript{173} Guthrey to Director of Investigations, May 6, 1937, 16. On file at Joshua Tree National Park.
\textsuperscript{174} Ibid.
The added lands HRS did not include a field visit to this site. JTNP physical science staff visited the site in 1995 and observed several rock shelters constructed with natural boulders and rock walls, rock fire rings, and a tin can dump.\footnote{Jeff Ohlfs, AML Inventory, No ID or site number, Joshua Tree National Park, October 19, 1995.}

THE COTTONWOOD SPRING MINING DISTRICT

The Cottonwood Spring Mining District is associated with Cottonwood Spring\footnote{Greene, “Historic Resource Study,” 166.} (CA-RIV-2049H, eligible but not listed), which is not in the added lands but is one of the eight oases (also including 49, Mara, Victory, Lost Palms, and Munson 1, 2, and 3) within the boundaries of the Park. Development of the Virginia Dale Mining District from the 1870s until the 1900s led to heavy use of the oasis as a stopover place for freight traffic on the road to the mines from Mecca and Banning.\footnote{Miller, Mines of the High Desert, 29-34.} The oasis also served as a source of water for the mines in the early years of the Virginia Dale District. Teamsters hauled water from the springs north to the Brooklyn Mine in the early twentieth century, for example, but the mine later developed a well at Dale Dry Lake.\footnote{Cactus Slim Moorton, interview by H. Sansum, October 28, 1969; transcribed by Pat Rimmington, 1982, 3-4. On file at Joshua Tree National Park.} Water from the springs also played a key role in the early development of the Iron Chief Mine in the neighboring Eagle Mountain Mining District, including the construction of a pump house at the spring in the 1890s.\footnote{California State Mining Bureau, Thirteenth Annual Report of the State Mineralogist (Sacramento: California State Printing Office, 1896), 313.} In addition, Cottonwood Springs is the location of an arrastra in the mid-1890s that was used to work ores from mines in the southern part of the Monte Negras district.\footnote{San Diego County Records, June 4, 1881.} The Cottonwood Mining District appears to have been organized sometime before 1881, when the name first appeared in the San Diego County Records.\footnote{San Diego County Records, December 28, 1882.} Miners claimed the oasis as a millsite in 1882.\footnote{Greene, “Historic Resource Study,” 168-170.} Mining-claim records in early 1889 for the Coyote Mine within its boundaries state that it was located in no established mining district, but the Coyote later became the most productive mine in the Cottonwood Springs District. Other mines in the district, most of which began in the 1930s, included the Snow Cloud (CA-RIV-6918H), Southern Cross, Yucca Butte, Eureka, Snow White, and Mastodon (CA-RIV-2047H).

Associated Cultural Resources

Several mining-related cultural resources associated with the Cottonwood District occur within the boundaries of the added lands (Figure 36). They include prospects and trenches, adits, shafts, waste-rock dumps, tent platforms or foundations, machine pads, roads, and extensive trash deposits. One, the Snow Cloud Mine, is considered to be individually eligible for listing on the National Register of Historic Places.
Coyote (33-15203, CA-RIV-8061H, JTNP #128)

Township 5S, Range 11E, Section 21
USGS Cottonwood Spring 7.5-minute Quad

The Coyote Mine is the earliest precious-metals mine in the Cottonwood Springs Mining District and is considered to be eligible for the National Register of Historic Places under Criterion A. An on-site inspection by JTNP physical science staff in 1994 located two shafts, one prospect, one mine waste-rock dump, one stone cairn, and scattered trash including four wooden beams, a metal pipe, a concrete block, and miscellaneous debris. Another on-site visit in 2004 during fieldwork for the added lands HRS found that the mine shafts had been partly backfilled since 1994 and the historical artifacts removed (Figures 37, 38).

Jeff Ohlfs, AML Inventory Form, ID #29, JTNP Mine Site #128, Joshua Tree National Park, December 4, 1994.
Figure 37. The collapsed primary shaft at the Coyote Mine in March 2004, Looking southeast (photograph by Jessica Smith).

Figure 38. Debris northeast of the collapsed shaft at the Coyote Mine in March 2004, looking northeast (photograph by Jessica Smith).
The Coyote Mine dates to the period before the formation of the Cottonwood Mining District. On January 12, 1889, A. Brown and another person whose name is illegible recorded a quartz mining claim called the “Coyote” located “westerly from Cottonwood Springs 2 miles and one mile west off the Water Wagon Road” in what was described as a not yet established mining district. At the time of his visit to what was now known as the Cottonwood Mining District in 1892, William H. Storm describes two shafts at the Coyote mine. Sol Vines, G.W. Suttenfield, and James Brown relocated the Coyote claim a few years later and recorded it as the “Tip Top Mine” on January 3, 1896. They described the location as “lying and situated about two miles west of Cottonwood Springs.” Two years later, Fred S. Luce, William McGinness, and C.W. Suttenfield once again relocated the claim in what was recorded as the “Cottonwood Springs Mining District.” They described the claim as follows:

This claim lies about 1-1/2 miles westerly from Cottonwood Springs Riverside County and was originally known as the Coyote Mine and later as the Tip Top Mine. The original Locators not having complied with sections 2324 revised statutes, we the undersigned have located same in compliance with section 2324 revised statutes....

G.W. Suttenfield recorded another location notice for the “Coyote Quartz Mining claim” in what was described as the “Cottonwood Mining District” on January 19, 1900. The notice describes the location as “two miles west of Cottonwood Springs. Twenty miles north of Walter’s Station S.P.R.R.” Suttenfield renewed his claim on March 15, 1902. The Coyote Mine appears to have been abandoned shortly thereafter. Not until the 1930s is there evidence of new activity at the mine. Cactus Slim Moorten, an old-time miner who lived in the area in the 1930s, recalled that a family worked the Coyote Mine in 1934 and lived in the old Iron Chief pump house at Cottonwood Springs. He also mined the Coyote for a while, but “the ore wasn’t good enough.” In 1937 Chester Morten and Edith Hopper owned the mine and had milled several tons of ore worth $12 per ton. The Coyote Mine appears to have been abandoned after the 1930s.

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185 San Bernardino County Recorder’s Office, Mining Claims Book 3, Location Notice #152, January 12, 1889.
187 San Bernardino County Recorder’s Office, Mining Claims Book 3, Location Notice #181, January 1, 1896.
188 San Bernardino County Recorder’s Office, Mining Claims Book 7, Location Notice #63, January 3, 1898.
189 San Bernardino County Recorder’s Office, Mining Claims Book 13, Location Notice #208, January 19, 1900.
190 San Bernardino County Recorder’s Office, Mining Claims Book 13, Location Notice #233, March 15, 1902.
192 Guthrey to Director of Investigations, May 6, 1937, 17-18.
Snow Cloud Mine (White Cloud Mine) (CA-RIV-6198/H, JTNP #109)

Township 5S, Range 10E, Section 6 (Some earlier reports erroneously place the mine in Township 4S)
USGS Washington Wash 7.5-minute Quad

The Snow Cloud Mine lies within the boundaries of the added lands and is considered potentially eligible for listing on the National Register of Historic Places. A report in 1973 revealed that the Snow Cloud was “a very hazardous mine with shafts and tunnels very weakly shored up.”\(^{193}\) An on-site inspection of the Snow Cloud Mine, which is in Pinkham Canyon, by JTNP physical science staff in 1994 observed one shaft, one adit, four prospects, one mine waste-rock dump, one stone structure, one concrete pad, one headframe, campfire rings, and scattered trash including a car body, tin cans, and lumber.\(^{194}\) The inspection also found the mine to have “extremely dangerous openings.” Archeologists from the Western Archeological and Conservation Center of the National Park Service visited and recorded the site in 2000 and also prepared a preliminary Determination of Eligibility.\(^{195}\) Another on-site visit in 2004 during fieldwork for the added lands HRS documented a mine complex (with a shaft, adit, prospects, and mine waste-rock dump), a campsite, and trash scatters dating to both the 1890s-1900s and the 1930s (Figures 39-42). Artifacts on the surface are not prolific, but the site may have buried components.

\(^{193}\) Memo from Don Colville to Jerry Moore, March 11, 1973, Joshua Tree National Park Administrative Files, Folder 143.

\(^{194}\) Jeff Ohlfs, AML Inventory Form, ID #113, JTNP Mine Site #109, Joshua Tree National Park, June 2, 1994.

Figure 39. The Snow Cloud Mine in March 2004, showing an adit and waste-rock dump (Feature 2) and looking east (photograph by Jessica Smith).
Figure 40. Adit at the Snow Cloud Mine in March 2004, showing Feature 2 and looking east (photograph by Jessica Smith).

Figure 41. Underground workings at the Snow Cloud Mine in March 2004, showing Feature 2d and looking south. The wooden planks on the floor of the tunnel were likely used as wheelbarrow track (photograph by Jessica Smith).

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Although the early history of the mine is somewhat murky, a preliminary location notice filed in the Riverside County Recorder’s Office suggests that Chester Pinkham (Figure 43) along with William L. McHaney first located the Snow Cloud Mine on March 18, 1899. Chester Pinkham was one of many participants in the “prospector rush” of the late nineteenth century in the region now within the boundaries of Joshua Tree National Park. He has been called a “lone-wolf prospector” because of his preference for solitude when scouting out new gold finds, although historical accounts suggest he did not have a disagreeable character. He was an atypical desert rat in that he did not partake in the usual vices of drinking, smoking, or

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196 Preliminary location notice #122, Riverside County Recorder’s Office, March 29, 1899.
197 Miller, Mines of the High Desert, 31.
gambling, and he was intelligent with a reasonably good education. From the late nineteenth century to 1920, Pinkham scoured the desert West for high-grade gold deposits; he spent most of his time in the Mojave, north of the Southern Pacific Railroad and south of the Santa Fe line.

In 1899, while on one of his “tramps,” Pinkham discovered a gold-bearing vein about 12 miles west of Cottonwood Springs. A later autobiographical novel portrays the story of the discovery as follows. Pinkham was prospecting one day when a rainstorm suddenly hit. He took shelter underneath a ledge in a canyon and found the ledge to be a quartz vein capped by iron ore. He carried a sample of the find to his partner Bill McHaney and the two found the quartz to be very high in gold. The two filed a location notice on the property immediately and based on the method in which it was found, dubbed the claim, Snow Cloud. The notice named no mining district but described the location as “in the Cottonwood range of mountains about 12 or 15 miles northwesterly from Cottonwood Springs and 5 miles in a westerly direction from Mt. Vernon.” After procuring a mule team and necessary supplies, Pinkham and McHaney developed the Snow Cloud prospect. They discovered that their gold-bearing vein carried no values beyond particles of free gold and that the extent of the vein could not be determined and on September 22, 1899, McHaney sold to Pinkham “an undivided half interest in the Snow Cloud Mine, Vein, Lead or Lode, containing gold or silver and other precious metals” for the sum of two dollars. Pinkham sold the claim, along with several other mining properties, on January 12, 1901 to Thomas J. Dofflemeyer and Monroe Stewart for $4,000.

The sale also included a mill site “located in connection with the said Snow Cloud mine, containing five acres of land, more or less, and situated about four miles westerly from said Snow Cloud mine, and about one half mile from the Indian trail leading from Cottonwood Springs to Indio.” No further information on the millsite could be located. Dofflemeyer, along with several others, owned and operated the Iron Chief Mine in the Eagle Mountains at the time. The Snow Cloud Mine appears to have been abandoned shortly thereafter. Chester Pinkham continued to prospect until 1920. He later moved to Eagle Rock near Pasadena, married, became an avid gardener, and died in 1946.

The Great Depression brought a new period of activity to the Snow Cloud Mine. Alfred A. Bell of Thermal, California, relocated the claim on August 9, 1934. In 1935 the only year of recorded production for the Snow Cloud, the mine produced 35 tons of ore averaging 1.34 ounces of gold and 0.023 ounces of silver per ton. Bell had developed the mine by 1937 to include a 60-feet deep inclined shaft, adits, and ore bin still containing ore. Prospecting at the mine continued until at least the 1950s (Figure 44).

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198 Ibid.
200 Pages 91-93 of Book unknown of the Riverside County Recorder’s Office. On file at Joshua Tree National Park.
201 Riverside County Recorder’s Office, Deed Book, unknown number, 395-397, January 12, 1901.
202 Vredenburgh et al., Desert Fever, 29.
203 Kohler-Anteblin, “Mineral Land Classification of the Eastern Half of Riverside County, California,” 44.
204 Guthrey to Director of Investigations, May 6, 1937, 17-18.
Figure 43. Chester Pinkham and John Thornton camped at night, no date or location (Joshua Tree National Park, JTNM #1620).

Figure 44. Prospector’s cabin at the Snow Cloud Mine in 1956 (Joshua Tree National Park, JTNM #98).

**Copper Giant (JTNP #231)**

Township 4S, Range 9E, Section 28

USGS Rockhouse Canyon 7.5-minute Quad
The added lands HRS fieldwork did not include a visit to this mine. An on-site inspection by JTNP physical science staff in 1996 observed an adit associated with mine waste-rock dump, a footpath, and scattered debris. No historical information could be found.

**IRONWOOD DISTRICT**

The Ironwood Mining District lies at the very eastern end of Joshua Tree National Park. Very little information about the district could be found; however, the district appears to have been recognized as early as the early 1900s and to have included copper and gypsum mines in the Iron Mountains on the east side of Cadiz Valley and to have also included the Coxcomb Mountains on the west.  

**Associated Cultural Resources**

Several known mining-related cultural resources associated with the Ironwood District occur within the boundaries of the added lands in the Coxcomb Mountains (Figure 45). They include adits, shafts, waste-rock dumps, standing buildings, a mill, tent platforms or foundations, machine pads, roads, and extensive trash deposits. The El Sid Group is considered individually eligible under Criteria C and D for listing on the National Register of Historic Places as a district.

**El Sid Group (Moser, Maxi, Leo)**

The El Sid Group lies within the boundaries of the added lands and is considered to have sufficient physical remains, integrity, and association with significant historical events, people, or architecture or engineering to be eligible for listing on the National Register as a historical mining landscape. The group includes what originally was the Moser Mine and lies next to and on the same quartz-filled shear zone as the Fortuitous and Vault mines. Prospectors discovered gold on the claim in the 1880s, and the mine produced high-grade ore in 1911 and 1931. In 1947 and 1948, the only recorded years of production, the Moser shipped 18 tons of ore worth $125. Another episode of small-scale mining took place in the 1960s. Sidney F. Ragsdale claimed the abandoned mines in 1979 and operated it until 1994 as the El Sid Group, which included the El Sid No. 1-4 mines.

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205 Jeff Ohlfs, AML Inventory Form, ID #24, JTNP Mine Site #231. Joshua Tree National Park, January 21, 1996.
206 The Engineering and Mining Journal, 80 (July 6, 1905), 36, mentions a copper mine in the Ironwood district; volume 84 (August 17, 1907), 327, of the same journal mentions gypsum claims in the same district.
208 Vredenburgh et al., Desert Fever, 29.
210 Saul et al., “Riverside County Mines and Minerals.”
211 Jeff Ohlfs, personal communication to author.
Figure 45. Mining-related cultural resources in the Ironwood District

**El Sid #1 (CA-RIV-6638H, JTNP #35, Moser)**

Township 2S, Range 16E, Section 20
USGS Coxcomb Mountains 7.5-minute Quad

An on-site inspection of the El Sid #1 by JTNP physical science staff in 1996 located three adits, two shafts, six prospects, one trench, mine waste-rock dumps, several cairns and location monuments, a mill site and associated tailings, cart tracks, machinery, ruins of several buildings or structures, dynamite, and scattered debris. Other on-site visits in 2002 by Jan Sabala (JTNP), when the site was recorded, and in 2004, when the added lands HRS team found the same cultural resources (Figures 46-55). The Riverside County Recorder’s Office issued a Lode Location Notice for the El Sid #1 to Ragsdale on June 10, 1980. A geological survey of the Coxcomb Mountains Wilderness Area reported that “ore is currently being mined and milled”

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212 Jeff Ohlfs, AML Inventory Form, ID #42, JTNP Mine Site #35, Joshua Tree National Park, October 17, 1996.

213 Joshua Tree National Park museum collection (Assession #715, Cat. #23322); Riverside County Recorder’s Office, Book 1980, 108316, June 10, 1980.
at the Moser mine in 1982.\textsuperscript{214} The study also reported more than 1,000 feet of drifts and stoping, numerous pits, and several short adits at the mine. Ragsdale recorded assessment work on the claim on September 17, 1986, and owned and operated the mine when JTNP added the added lands in 1994.\textsuperscript{215}

Figure 46. The El Sid #1 Mine in August 2004, looking south (photograph by Donald Hardesty).

An interview with Sidney Ragsdale at Desert Center, California, by Donald Hardesty on November 11, 2004, added some historical information about the mine, summarized as follows:

Carl Moser owned the mine and worked it since the 1930s, probably with a partner whose name is unknown. I worked for Mr. Moser at the mine at one time. He owned lots of property in Pasadena and had two sons – Carl and Max. After he died, I worked at the mine, which now belonged to his son Max Moser, who failed to pay me for the work. As a consequence, I claimed ownership of the El Sid #1 in lieu of back wages in 1979. Mr. Moser had lots of mining claims, but I laid out the claims differently than he did after acquiring them. My brother Gregory Ragsdale and Larry Oldman worked the mine in the 1980s and early 1990s.

During the same interview, Mr. Ragsdale revealed numerous details about the technology used at the El Sid #1 mine and mill. The following is a summary of his comments about the mining operation:

We used an old technology. An air compressor ran a rock drill mounted on an adjustable leg, also raised and lowered with compressed air. The drill cut into the rock with carbide drill bits and used a stream of water from a line directed

\textsuperscript{215} Riverside County Recorder’s Office, Notice of Assessment Work No. 227017, September 17, 1986; Kohler-Antablin, “Mineral Land Classification of the Eastern Half of Riverside County, California,” 42.
at the bit to help in the drilling process. We inserted dynamite into the drill holes and attached a fuse and blasting cap to each and ignited the series of explosives using a spitter cord and an igniter cap. And we placed a metal shot plate under the ore to catch the deposits removed by blasting so that they could be more easily shoveled by hand into the ore cars. Some of the deposits also went into wooden chutes and loaded into ore cars underneath. We then pushed the ore cars on tracks leading outside of the mine adit. The tracks then diverged, with one spur going to a waste rock dump and the other to a rock crusher. Ore passing through the rock crusher ended up in a bin before going into the mill.

Figure 47. Ore car in the El Sid #1 Mine in August 2004 (photograph by Donald Hardesty).
Ragsdale also described the milling operation at the El Sid #1, which is summarized as follows:

The bin for crushed ore and the rest of the mill at the El Sid #1 stood at the end of the tracks leading to the rock crusher. Crushed ore from the bin was fed into a ball mill with a magnesium liner. The ore from the ball mill then flowed over a 16 foot concentration table, which used water flowing over the table to separate the lighter sand from the heavier metallic particles or “concentrates.” The concentrates then flowed into an amalgamator “tub” about two feet in diameter built by Sid Ragsdale and friends. They mixed the concentrates with mercury and then tumbled the tub to mix the ingredients. After tumbling, they removed the mixture and squeezed it through a chamois cloth, leaving the amalgam of mercury and precious metals inside. They then put the amalgam into a retort, either at the mill or at a shop in Desert Center. The retort, which was lined with carbon to prevent gold from sticking to the inside, volatilizes the mercury. They then used a torch to heat what was left, which was mixed with 20-mule team boraxal (sp.), and produced a dore bar or button of gold, leaving “glass” as a residue.
The name “Cecil Ottinger” is etched into the concrete structure of the mill but is not
dated.\textsuperscript{216} Sidney Ragsdale stated during an interview by Donald Hardesty on November 11,
2004, that Cecil Ottinger was a “drinking buddy” who still lives in Desert Center and who
frequented the mine on social occasions but never actually worked at the El Sid #1. He later
worked with Ragsdale and John Tiffy at the El Sid #4.

Figure 49. The mill at the El Sid #1 Mine in August
2004, looking southwest (photograph by Donald
Hardesty).

\textsuperscript{216} Janet Keswick and Chris Holbeck, “Draft Determination of Eligibility for Nomination to the National
Register of Historic Places and Mitigation Plan for the El Sid #1 Mine, Joshua Tree National Park,”
Figure 50. Tracks from the mine to the mill at the El Sid #1 Mine in August 2004, looking northwest (photograph by Donald Hardesty).

Figure 51. The machine shed at the El Sid #1 Mine in 2002 (photograph by Jan Sabala).
El Sid #1 Camp (patented Mill Site)
Township 2S, Range 16E, Section 20
USGS Coxcomb Mountains 7.5-minute Quad

The miners working the El Sid #1 Mine lived at a camp 400 meters north on the road into the mine (Figures 52-54). During a November 9, 2004, field interview by Donald Hardesty, Sidney Ragsdale recalled that although the camp is situated on a patented 5-acre mill site, no milling was actually done there. Carl Moser built the house and lived periodically at the camp, and Sidney Ragsdale recalled that his brother Gregory Ragsdale and Larry Oldman lived there and remodeled the house when they worked the mine in the 1980s. An on-site inspection of the site by JTNP physical science staff in 1996 located two wooden residential structures, a house trailer, a utility trailer, trash scatters, and wooden posts. Another on-site visit in 2004 for the added lands HRS found the same cultural resources.

Figure 52. Residential complex near the El Sid #1 Mine in August 2004, looking southwest (photograph by Donald Hardesty).
Figure 53. Wooden residential building (CA-RIV-6735H) near the El Sid #1 Mine in August 2004, looking west (photograph by Donald Hardesty).

Figure 54. Inside the wooden residential building (CA-RIV-6735H) near the El Sid #1 Mine in August 2004, looking south (photograph by Donald Hardesty).
Figure 55. Extensive tin can scatter in the drainage to the south and east of the residential complex (CA-RIV-6735H) near the El Sid #1 Mine in August 2004, looking east (photograph by Donald Hardesty).

**El Sid #2 (JTNP #156)**

Township 2S, Range 16E, Section 20
USGS Coxcomb Mountains 7.5-minute Quad

An on-site inspection of the El Sid #2 mine by JTNP physical science staff in 1996 located one prospect and associated waste-rock dump, a jeep trail and footpath, and claim corner markers. Sidney Ragsdale located the El Sid #2 lode mining claim on June 11, 1980. He recorded assessment work on the claim on September 17, 1986. In a November 11, 2004, interview with Donald Hardesty at Desert Center, California, Ragsdale stated that he had done no mining on the claim.

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217 Jeff Ohlfs, AML Inventory Form, ID #44, JTNP Mine Site #156, Joshua Tree National Park, October 24, 1996.
219 Riverside County Recorder’s Office, Notice of Assessment Work No. 227017, September 17, 1986.
El Sid #3 (JTNP #155)
Township 2S, Range 16E, Section 20
USGS Coxcomb Mountains 7.5-minute Quad

An on-site inspection of the El Sid #3 mine by JTNP physical science staff in 1996 located one trench and associated waste-rock dump, a jeep trail and footpath, trash scatter, and claim corner and location markers. Sidney Ragsdale and Diana L. Ragsdale located the El Sid #3 lode mining claim on April 22, 1980. Sidney Ragsdale recorded assessment work on the claim on September 17, 1986. In a November 11, 2004, interview, Ragsdale stated that he had done no mining on the claim; who excavated the trench is unknown.

El Sid #4 (CA-RIV-6893H; CA-RIV-6894H; JTNP #39)
Township 2S, Range 16E, Section 20
USGS Coxcomb Mountains 7.5-minute Quad

CA-RIV-6894H is the mine. An on-site inspection of the El Sid #4 by JTNP physical science staff in 1996 located two adits, one shaft, one prospect, mine waste-rock dumps, cairns and location monuments, shed, trailer, ore cart tracks, and scattered debris. They also located CA-RIV-6893H, a wooden house associated with the mine. Other on-site visits in 2002 by Jan Sabala (JTNP) and in 2004 during fieldwork for the added lands HRS documented essentially the same remains (Figures 56-62). During a November 11, 2004, interview with Donald Hardesty at Desert Center, California, Sidney Ragsdale provided some additional information about the mine, summarized as follows:

Carl Moser originally owned the mine and thought that its vein was “huge” in comparison to El Sid #1. He (Moser) excavated into the mine about 40 feet and then turned. I (Ragsdale) began drifting at this point and hit the vein in the 1980s but couldn’t continue because of a medical problem with my back. I used the same excavation technology as at the El Sid #1.

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220 Jeff Ohlfs, AML Inventory Form, ID #45, JTNP Mine Site #155, Joshua Tree National Park, October 24, 1996. In addition, the mine included a rock structure that appears to be a “defensive position” from Camp Coxcomb.
222 Riverside County Recorder’s Office, Notice of Assessment Work No. 227017, September 17, 1986.
223 Jeff Ohlfs, AML Inventory Form, ID #46, JTNP Mine Site #39, Joshua Tree National Park, October 17, 1996.
Figure 56. Residences and road to the El Sid #4 Mine and trestle (CA-RIV-6894H) in August 2004, looking northeast (photograph by Donald Hardesty).

Figure 57. Residence (CA-RIV-6893H) on the road to the El Sid #4 Mine in 2002, looking northwest (photograph by Jan Sabala).
Figure 58. The El Sid #4 Mine (CA-RIV-6894H) in 2002, looking south (photograph by Jan Sabala).

Figure 59. Shed at the El Sid #4 Mine in 2002, looking southwest (photograph by Jan Sabala).
Figure 60. Adit track building at the El Sid #4 Mine (CA-RIV-6894H) in August 2004, looking south and showing Sidney Ragsdale on the Right (photograph by Donald Hardesty).

Figure 61. Ingersoll Rand Air Compressor at Desert Center, California, used at the El Sid #4 Mine according to Sidney Ragsdale, November 2004 (photograph by Donald Hardesty).
Vault Mine (JW claim) (JTNP #37)

Township 2S, Range 16E, Section 21
USGS Coxcomb Mountains 7.5-minute Quad

The added lands HRS did not include a field visit to this mine, which is close to the El Sid Group. An on-site inspection of the mine by JTNP physical science staff in 1996 located two adits, one trench, four prospects, mine waste-rock dumps, corner posts/cairns and location monuments, one flattened plywood house, and scattered debris, including wire, tin cans, and a hub cap.\(^{224}\) Katherine Lane of Desert Center, California, filed a Notice of Location Quartz Claim for the Vault lode mining claim in the Coxcomb Mountain Mining District on December 7, 1965.\(^{225}\) She amended the claim on August 17, 1979, to “include 600 feet width and correct description location.”\(^{226}\) Katherine Lane and Ralph E. Lane filed Proofs of Labor with the Bureau of Land Management on September 4, 1985, September 12, 1986, September 17, 1987, September 15, 1988, September 13, 1989, September 12, 1990, and September 16, 1991.

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\(^{224}\) Jeff Ohlfs, AML Inventory Form, ID #190, JTNP Mine Site #37, Joshua Tree National Park, August 8, 1996.

\(^{225}\) Riverside County Recorder’s Office, Notice of Location Quartz Claim, Book 1965, 138004, March 7, 1966.

\(^{226}\) Riverside County Recorder’s Office, Notice of Location Quartz Claim, Claim Number 138004, Book 1979, 176725, August 17, 1979.
Fortuitous (33-15204, CA-RIV-8062H, JTNP #164)
Township 2S, Range 16E, Section 33
USGS Coxcomb Mountains 7.5-minute Quad

A geological survey of the Coxcomb Mountains Wilderness Area in 1982 reported one pit and an adit at the Fortuitous mine. An on-site inspection of the Fortuitous Mine by JTNP physical science staff in 1996 located one adit, two prospects, mine waste-rock dumps, and scattered debris including a ladder and tin cans. Another on-site visit in 2004 during fieldwork for the added lands HRS found only a shallow prospect and a wooden ladder in the wash below the prospect. No information about the history of this mine has been located. The Fortuitous is not considered to have sufficient physical remains, integrity, or association with significant historical events, people, or architecture or engineering to be eligible for listing on the National Register.

Lang-Hunt Mine District (33-15114, JTNP #165)
Township 2S, Range 16E, Section 32 (Lang-Hunt Site 1: 33-15112, CA-RIV-8028H)
Township 3S, Range 16E, Section 5 (Lang-Hunt Site 2: 33-15113, CA-RIV-8029H)
USGS Coxcomb Mountains 7.5-minute Quad

The Lang-Hunt Mine District is considered to be individually eligible for the National Register under Criterion D as a potential repository of archeological information about miners and mining technology in the Coxcomb Mountains during the Great Depression. A geological survey of the Coxcomb Mountains Wilderness Area in 1982 reported several pits and a long open cut with a shaft at the mine. An on-site inspection of the Lang-Hunt by JTNP physical science staff in 1996 located one shaft, two trenches, two prospects, mine waste-rock dumps, possible cyanide mill tailings, corner posts and cairns, rock wall (possible entrance to a building), and scattered debris including a wheelbarrow, tin cans, and a cable and pulley system (aerial tramway). Another on-site visit in 2004 during fieldwork for the added lands HRS documented the remains of a mine site (shaft, associated mine waste-rock dump, and the remains of an aerial tramway pulley system) (CA-RIV-8028H) and a settlement site (CA-RIV-8029H) connected by a footpath (Figures 63, 64).

228 Jeff Ohlfs, AML Inventory Form, ID #47, JTNP Mine Site #164, Joshua Tree National Park, July 25, 1996.
230 Jeff Ohlfs, AML Inventory Form, ID #74, JTNP Mine Site #165, Joshua Tree National Park, June 20, 1996; Joshua Tree National Park museum collections, Accession #658, Catalog #20474.
The added lands HRS team found no mill or mill tailings at or near the site. Although the mine is collapsed, the camp contains the remains of at least two structures and several historic trash scatters; the deposits may have depth. In addition, a dry-laid rock wall with the possible
remains of a gate against a natural rock outcrop creates an enclosure and may represent a corral. All of the historical artifacts in the trash scatters support a Depression-era occupation of the site and some tools, such as a wheelbarrow, show evidence of local fashioning and innovation. The Lang-Hunt Mine may have begun in 1911, when J.J. Casey, Thomas Conners, and William Bailey located a gold-bearing ledge in the area. In 1931 “Chuckwalla” Frank Webb and “Granite” Nick Moliter rediscovered the mine and in late December of the same year shipped a truckload of ore from the mine to the Selby Smelter in San Francisco. Webb, Moliter, and S.A. Ragsdale filed a Notice of Location of Mining Claim for the Lang-Hunt mine in the Ironwood Mining District on April 13, 1931. They also filed a Notice of Location of Mining Claim for the Lang-Hunt No. 2 in the same district on April 24, 1931. The mine appears to have been abandoned shortly thereafter.

CA-RIV-7311H
Township 3S, Range 16E, Section 9
USGS Coxcomb Mountains 7.5-minute Quad

The added lands HRS fieldwork did not include a visit to this site, which is a historic trash dump (tin cans, wire hangers, and glass bottle fragments).

CA-RIV-7314H
Township 3S, Range 16E, Section 9
USGS Coxcomb Mountains 7.5-minute Quad

The added lands HRS fieldwork did not include a visit to this mine. The site consists of a paper mining claim inside a beer can, which appears to date to the 1970s, nailed to a wooden post. No historical information about the site could be found.

Unnamed (JTNP #172)
Township 4S, Range 16E, Section 14
USGS East of Victory Pass 7.5-minute Quad

The added lands HRS did not include a field visit to this mine. An on-site inspection of Mine Opening #172 by JTNP physical science staff in 1996 located one shaft 30 feet deep, mine waste-rock dumps, and scattered wood and metal debris (Figure 65).

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231 Vredenburgh et al., Desert Fever, 31.
232 Ibid., 31-32.
233 Riverside County Recorder’s Office, Notice of Location of Mining Claim, Book 17, 494, April 13, 1931.
234 Riverside County Recorder’s Office, Notice of Location of Mining Claim, Book 23, 299, April 24, 1931.
235 Joshua Tree National Park Museum Collections, Accession # 799, Catalog 27,727.
Figure 65. Mine waste-rock dump at Site 172 in 1996 (photograph by Jeff Ohlfs).

Figure 66. Mine shaft at Site 174 in 1996 (photograph by Jeff Ohlfs).

236 Jeff Ohlfs, AML Inventory Form, ID #181, JTNP Mine Site #172, Joshua Tree National Park, May 10, 1996.
**Unnamed (JTNP #174)**

Township 4S, Range 16E, Section 14  
USGS East of Victory Pass 7.5-minute Quad

The added lands HRS fieldwork did not include a visit to this mine. An on-site inspection of Mine Opening #174 by JTNP physical science staff in 1996 located one shaft 15 feet deep with a wooden ladder and head frame, mine waste-rock dump, one cairn, and scattered debris (Figure 66).

The added lands HRS team located no historical information about this mine.

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**Gold Flake (JTNP #906)**

Township 2S, Range 16E, Section 33  
USGS Coxcomb Mountains 7.5-minute Quad

The added lands HRS fieldwork did not include a visit to this mine, which appears on W. B. Tucker and R. J. Sampson, Map of Riverside County, 1945. No other historical information was located.

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**Patches (No JTNP #)**

Township 2S, Range 16E, Section 34  
USGS Coxcomb Mountains 7.5-minute Quad

The added lands HRS fieldwork did not include a visit to this mine, which appears on W. B. Tucker and R. J. Sampson, Map of Riverside County, 1945. No other historical information was located.

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237 Jeff Ohlfs, AML Inventory Form, ID #183, JTNP Mine Site #174, Joshua Tree National Park, May 3, 1996.
CHAPTER FOUR. RANCHING AND HOMESTEADING

RANCHING

Historical resources in the added lands also reflect ranching activities. The early settlers included a few ranchers in the vicinity of JTNP but outside the Park boundaries and not close to the added lands. Ranching within the boundaries of JTNP began as early as 1896. Early cattle drives generally originated in Arizona and New Mexico via the Coachella Valley and moved northward through the Cottonwood Springs area to pasture in the Queen, Lost Horse, and Pleasant Valleys. The cattle spent the spring and summer in the high country before being driven down to Morongo Valley to be sold in southern California markets. Later on, local ranchers moved herds to high areas in the spring and summer and lower areas in the fall and winter. Grazing operations exploited the abundant grasses in shrubs located in both the high desert of the western portion of JTNP (and the added lands) and the low desert along the flanks of the eastern and southern ranges in the eastern portion of the Park and the added lands (Figure 67).

Western High Desert

The abundant galleta and bunch grasses, saltbrush, and other shrubs growing in the winter and spring in the western high desert of JTNP attracted a number of ranching operations. Oliver Smith appears to have been the first to graze cattle in the area (near Quail Spring just south of the town of Joshua Tree), from about 1870 to 1876. Bill McHaney moved into the area in 1879 and ran Texas Longhorn cattle; he became the first permanent non-indigenous resident of the Twentynine Palms Oasis. Other ranchers ran cattle and sheep in the 1870s in Lost Horse Valley, Queen Valley, and Pleasant Valley. The so-called “McHaney Gang” operated a cattle-rustling ring as early as 1879 until the 1890s in Hidden Valley (Township 2S, Range 8E near Quail Springs within the JTNP boundaries but not in the added lands). Probably the best known rancher during this time period, however, was William F. Keys, who played a prominent role in the folklore of the area. Use of the western high desert for grazing cattle and sheep continued into the 1950s but reached a peak in the 1920s. The key player at this time was the Barker and Shay Company, which operated the Whitewater Ranch just west of the JTNP boundaries and grazed several hundred cattle in JTNP between 1895 and

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239 Patricia Parker, “One Hundred Years of History in the California Desert,” 1980, 73. On file at Joshua Tree National Park, Cultural Resources Branch.
240 Bill Keys, “Historical Notes, Joshua Tree National Monument, as told to Superintendent King by Bill Keys on November 9, 1954,” 1954, 1. On file at the Western Regional Office, National Park Service, San Francisco, Calif.
241 Ibid.
1923. The Talmadge Brothers purchased the Barker and Shay interests in 1925 and dominated ranching in JTNP’s high desert into the 1940s.

Figure 67. Historic grazing areas around Joshua Tree National Park (adapted from Automobile Club of Southern California, “Map of a Portion of Southern California and Southwestern Nevada embracing the Arid Region of Mojave Desert, Colorado Basin, and Death Valley,” Los Angeles, 1930).

Eastern Low Desert

Ranchers used the eastern low desert of JTNP much less extensively than the western high desert. James Cram of San Bernardino grazed cattle in the area between 1915 and 1930. Other cattle ranchers in the eastern low desert during the first few decades of the twentieth

243 Mrs. W.R. Shay, interviewed by Reino Clark, May 2, 1975. On file in Local History Collection at Twentynine Palms Branch of Riverside County Library.
244 Carolyn Evans, ed., A Glimpse into the History of Yucca Valley, Morongo Valley, Palm Wells and Yucca Mesa, California (Yucca Valley, Calif.: Artcraft Print Shop, 1965), 16.
century included Jerry Wolford of Blythe, John P. Coy, and John C. Brinton of Banning.\textsuperscript{246} In 1925 the Talmadge Brothers purchased the Barker and Shay interests and ran cattle in the southeastern low desert of JTNP until 1929, when they sold out to Captain Barry. James W. Stocker and Harry Stacey acquired Barry’s cattle and land in 1936.\textsuperscript{247}

**The Cram Brothers Ranch**

William Henry Cram (1869-1952) and James Eaton Cram (1879-1965) ran one of the major cattle operations early in the twentieth century using grazing areas in the added lands. The brothers were two of the seven children of Lewis Fillmore Cram and Sarah Ann Wakefield Cram born and raised in the Highland area, east of San Bernardino. According to Stanley Ragsdale, the founder of Desert Center, California, the Cram Brothers Ranch was headquartered in Redlands.\textsuperscript{248} Although Redlands may have been one base of operations (likely associated with the Crams’ orange production interests), the brothers owned a ranch near Essex, California. From around 1915 to the 1930s, they ran cattle from the Essex area south, skirting the eastern part of what is now Joshua Tree National Park, to the Chuckwalla Mountains.\textsuperscript{249}

Possession of water rights was crucial in the cattle business.\textsuperscript{250} The Crams filed a water claim in 1912 “in Boulder Canyon about three miles [and a half] southeast of Cottonwood and about . . . miles northwest of the Hayfields, in Riverside Co., to the extent of fifty inches, measure under a four inch pressure.”\textsuperscript{251} The claim states the water was north of Hayfields, likely where the Hayfield pumping station now sits. This area just south of the JTNP boundary likely had luscious grass and hay before its desiccation from droughts in the 1930s. The brothers used the area north of Hayfield, in the added lands, quite extensively because of all of the natural springs that flowed there. Anshultz Well, in the added lands, was one of these reliable water sources.\textsuperscript{252} According to oral interviews, the Crams built several concrete troughs, a pipeline, and a concrete house in that area.\textsuperscript{253}

On February 6, 2006, Jessica Smith interviewed Tom Carey, a retired San Bernardino police officer. He recalled that his father, Frank Carey, worked as a “cow-puncher” for the Crams from about 1923 to 1927.\textsuperscript{254} Frank Carey was born in Oregon in 1897 and then moved to Arizona, where he met his wife, Mabel. The couple moved to the Los Angeles area where Mabel could receive treatment for cancer and rented a house behind Mabel’s sister’s place in Mentone. Mabel’s sister and brother-in-law worked for a packing house and likely had connections with

\textsuperscript{246} Ibid.


\textsuperscript{248} Stanley Ragsdale, Oral History #29, August 24, 1995.

\textsuperscript{249} Tom Carey, personal communication to author, February 6, 2006.

\textsuperscript{250} Parker, “One Hundred Years of History in the California Desert,” 76.

\textsuperscript{251} Water Appropriation Notice signed by W.H. and J.E. Cram December 9, 1912, Water Claims Book 3 Page 79, Riverside County.

\textsuperscript{252} Stanley Ragsdale, Oral History #29, August 24, 1995.

\textsuperscript{253} Herman Price, Oral Interview at Cottonwood Springs, April 10, 1962; Stanley Ragsdale, Oral History #29, August 24, 1995.

\textsuperscript{254} Tom Carey, personal communication to author, February 6, 2006.
the Cram Brothers cattle business. Perhaps because of the connections, Frank Carey began working for the Crams in 1923. His duties included tending to the herds and making sure that they had a steady supply of water. To furnish the cattle with water, Mr. Carey constructed a pipeline from multiple springs to a set of six tanks located in a grassy area just north of the Hayfield pumping station road. The pipeline was composed of one-inch iron pipe interconnected with inner tube rubber and wire and relied on gravity to convey water from the sources over a mile to the tanks. In addition to wages, Frank Carey received a small cabin (not in the added lands) on the Cram Brothers land. He lived there with his wife, Mabel, and son Tom while he worked for the ranch. Frank Carey left the ranch in 1927, moved to Arizona, and then returned to the Highland area of southern California. He continued working for the Cram Brothers, but this time he helped them plant hundreds of orange trees near Redlands.

Although Tom Carey did not recall exactly what duties his father performed on the Cram Brothers ranch, desert ranching was a labor-intensive business. Betty Pettit Papierski, whose family managed the 7IL ranch near Fenner, California from 1929 to 1934, writes of the difficulties of maintaining a profitable ranch.\textsuperscript{255} Mending fences, cleaning out water holes, castrating and branding calves, dehorning raucous bulls, gathering cattle to ship to Los Angeles, and moving the herd to the best feed areas were some of the duties of ranch hands. They also had to constantly replace horseshoes lost on the rocky desert soil, train horses, repair automobiles and other machinery, and retrieve firewood from forested areas. Meager wages usually forced cowboys to supplement their income with odd jobs at local mines and homesteads. Although Tom Carey is not aware of his father’s wages, he stated that he probably just “scraped by.”\textsuperscript{256}

The Crams used the water from the springs north of Hayfield until the 1930s. They leased the land to Joseph L. Chiriaco and in 1941 Mr. Chiriaco purchased land along modern Interstate 10 from four Cram brothers. In 1947 James E. Cram and his wife gave to the Chiriacos a grant deed as well as the water rights and the pipeline conveying water to that land.\textsuperscript{257} The Crams continued to manage hundreds of orange groves in Highland and became intimately involved with business and politics in southern California. The Cram family’s influence continues, as former San Bernardino County Supervisor Barbara Cram Riordan is a granddaughter of James.\textsuperscript{258}

**HOMESTEADING**

Historical resources in and around the added lands may also reflect homesteading. Ranchers filed some of the earliest homestead claims, but most homesteaders were subsistence

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\textsuperscript{255} Betty Pettit Papierski, *Flat Tires and Coffee Fires: Tales from the 7IL Ranch* (Essex, Calif.: Tales of the Mojave Road #20, 1993).

\textsuperscript{256} Tom Carey, personal communication to author, February 6, 2006

\textsuperscript{257} Art Kidwell, personal communication to author, February 19, 2006; State Water Rights Board from Harry E. Woolpert, Attorney at Law, Sacramento, Calif., July 20, 1965.

\textsuperscript{258} Art Kidwell, personal communication to author, February 19, 2006. Mr. Kidwell attempted to contact Mrs. Riordan on several occasions to discuss her family’s history to no avail.
farmers or migrants to the desert for health or other reasons. On March 17, 1873, M.J. Boshy filed the earliest known homestead claim on the Twentynine Palms Oasis.259 Joseph Preston and R.J. Martin homesteaded Morongo Valley in 1889.260 More homesteaders filed claims in the Yucca Valley and Joshua Tree vicinity around 1910.261 Homesteading in this region, however, peaked in the 1930s. Thousands of individuals moved to the desert to escape from the hardship of the Great Depression by living off the land (Figure 68). The United States government allowed individuals to file 160-acre or 320-acre land claims for agricultural use; land officials, however, changed their policy when they discovered that most homesteaders moved to the desert to restore mental and physical health rather than grow crops. Accordingly, the Small Tract Act of 1938 allowed people to lease 5-acre “jackrabbit” homesteads on vacant, surveyed public land. Leases filed with the U.S. District Land Office in Los Angeles entitled individuals to inhabit their homesteads at the rate of $1.00 per acre per year. After lessees erected a substantial habitable structure costing $300.00 or more and conforming to local building codes, they were permitted to purchase their land for a minimal price.

Figure 68. Homestead at Cottonwood Springs (just outside the added lands) in 1940 (Joshua Tree National Park, JTNM #166).

As a result of this act, three kinds of homesteaders developed.262 The first type, which included both World War I veterans seeking improved health and desert lovers, desired to build a permanent dwelling in picturesque surroundings. They often cleared their land, erected a house, and had all of the amenities necessary for permanent habitation, such as outhouses and water tanks. The 1938 act was directed at assisting this type of homesteader. The second type of homesteader leased a tract of land for recreational use. These part-time occupants built

261 Ibid., 118.
makeshift cabins with the barest of amenities to use as weekend getaways. The final type of homesteader filed for a land tract, erected small impermanent dwellings, and lived on the land for a while but then lost interest and moved away, leaving the structures to decay over time. Unfortunately, the third type of homesteader was the most prevalent, resulting in hundreds of abandoned and deteriorating land tracts and buildings.

For many of those homesteaders who permanently relocated to the desert, their homesteads represented the first tract of land they ever owned and became a source of pride. For example, Bill and Elizabeth Campbell, who conducted some of the earliest archeological research on early people in southern California, homesteaded for health reasons in the Twentynine Palms region in the 1920s. At first they lived in a canvas tent and hauled in water from Twentynine Palms; later they built a rock cabin, dug a well, erected a windmill, planted crops, and the built a larger house. Although life was difficult, the Campbells enjoyed creating a home in the desert. In her autobiography, The Desert Was Home, Elizabeth Campbell wrote:

We always tried to tell people that things could be done on the desert. Of course you had to work hard and care for things, but if you did, you could have much beauty. We had created something. Now we had [a] house, plumbing, barn, pool and shade. When we topped the rise on approaching home we could see our windmill, buildings and green trees nestling against our golden hill that rose behind them.263

In the 1950s, homesteading associations such as the High Desert Association for Homesteaders, founded by Colonel E.B. Moore, worked to bring about the development and progress of roads, electricity and water, and the release of more public land for homesteading (Figure 69).264

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Figure 69. Tent used as office for filing and locating homesteads by E.B. Moore’s Company in 1950 (Pat Rimmington, “Homesteading in the High Desert.” American Desert Magazine, November 1992, pp. 28-30).

Colonel Moore, “a transplanted Vermonter who . . . converted to desert life,” and The High Desert Association published a 30-page pamphlet, Five Acres of Heaven, encouraging people to homestead.\textsuperscript{265} The pamphlet discussed homesteading in spiritual terms:

[Five-acre homesteads] are transforming the face of the desert. They are bringing man and his creator close together amid the echoes of atom bombs and world wars in the Twentieth Century. They are a phenomenon of social release. They are emblematic of a spiritual renaissance.\textsuperscript{266}

And out there in the vast American desert a new spirit dwells. It is the multiplied heartbeat of humanity. . . . . . Every lung that breathes in the fragrant air, every eye that dwells upon the long sweep of arroyo, plain and mountain and moves to the azure sky of day and the glittering stars of night, every intake of the heartening odors of sage and the murmuring breeze is symbolic of a boon enjoyed by untold thousands.\textsuperscript{267}

Colonel Moore helped people locate five-acre homesteads for a fee. He claimed responsibility for moving approximately 12,000 families to the desert.

In the late 1950s, the BLM implemented a program to sell land outright at public auctions. Hundreds of tracts were sold to homesteaders who no longer had to improve their acreage with habitable structures. Many tracts were never occupied or developed and those that were quickly fell into disuse. Most homesteading within JTNP occurred before the Monument’s creation in 1936 and, therefore, the Small Tract Act of 1938 did not stimulate homesteading within present-day Park boundaries. In 1950, however, 300,000 acres mostly in the southwest and eastern end were removed from the Monument. The California Desert Protection Act of 1994 then transferred much of this land, which the BLM administered and made available for

\textsuperscript{265} Ibid., 3.
\textsuperscript{266} Ibid., 2.
\textsuperscript{267} Ibid., 30.
homesteading, into the newly created Joshua Tree National Park. Many of the private inholdings in the added lands are old homesteads, either purchased from the BLM or the Southern Pacific Railroad during the 1950s (Figure 70; Appendix A). No homesteads are located within the added lands.

ASSOCIATED CULTURAL RESOURCES

Only a few cultural resources that appear to be associated with ranching have been documented in or close to the added lands. None of these is considered to be individually eligible for listing on the National Register of Historic Places, but some or all may be contributing elements of a cultural landscape associated with ranching.

Cram Brothers Hayfield Dry Lake Cattle Operations\textsuperscript{268}

Township 5S, Range 13E, and Township 6S, Range 13E, Sections 4, 34, 27
USGS Cottonwood Spring 7.5-minute Quad

These unrecorded sites include water troughs, water reservoir, pipelines leading to troughs, and possible ranch building foundations associated with can dumps at Hayfield Spring and Hayfield Summit Spring. It appears to be associated with water development in Lost Palms Canyon, which is situated in the Eagle Mountains just north of the present settlement of Chiriaco Summit. A Memorandum to the Regional Director, Region Four, U.S. Department of the Interior, Joshua Tree National Monument, from Superintendent James Cole, dated July 3, 1946, gives the following information about the history of water rights in Lost Palms Canyon: On April 4, 1900, C.W. Anshutz and Charles Garrett recorded a notice of water location in Boulder Canyon, now Lost Palms Canyon. The same two people recorded a water claim in Sheep Canyon, a tributary of Lost Palms Canyon, on March 13, 1901. On Dec. 12, 1912, W.H. and J.E. Cram recorded a water appropriations notice for Boulder Canyon. Joseph L. Chiriaco purchased the water rights in Boulder Canyon (Lost Palms Canyon) from the Cram brothers in 1933. This is likely the site of several water troughs constructed and maintained by Frank Carey for the Cram brothers between 1923 and 1927. One of the building foundations may be the cabin that the Careys lived in while working for the Crams.

\textsuperscript{268} Cultural Resources ArcMap Database. On file at Joshua Tree National Park, Cultural Resources Branch.
Figure 70. Inholdings in the Joshua Tree National Park added lands

**Berdoo Corral**

Township 4S Range 8E, Section 11
USGS Rockhouse 7.5-minute Quad

This unrecorded site is situated on an inholding in the added lands: Possible habitation site, curly barbed wire, posts, and pottery.

**Coxcomb Inscription**

Township 2S Range 16E, Section 16.
USGS Cadiz Valley SE 7.5-minute Quad

This unrecorded site is situated in the added lands (Figure 71). The inscription reads: “Apr. 15 1922 JH Wat. Ea?le 1/2 mi We.”

**Coxcomb Inscription**

Township 1S Range 15E, Section 36.
USGS Cadiz Valley SE 7.5-minute Quad

This unrecorded site is situated in the added lands: Inscription reads: “GWO 1-9-37.”
Figure 71. Coxcomb Inscription, 1990s (photograph by H.W. Baczkowski).
CHAPTER FIVE. WATER DEVELOPMENT

WATER SOURCES

The development of water sources played an important role in the origin and distribution of cultural resources associated with ranching, homesteading, mining, and recreation in JTNP. Only a few of these, however, occur in the added lands (Figure 72). They include springs (Buzzard Spring, Christmas Spring, and Hayfield Summit Spring; Figure 73), wells (Anschutz Well and Pinkham Well #3), tanks (Dengler Tank and Buckhorn Spring Tank), and seeps (Strong Seep and Coxcomb Guzzler). The Coxcomb Guzzler was installed in the late 1950s in the Coxcomb Mountains as the first bighorn sheep guzzler in Joshua Tree National Park and may be the oldest guzzler in California (Figures 74, 75). It is potentially eligible for listing in the National Register of Historic Places. The Anschutz Well was extremely important in cattle grazing, as discussed in the previous section, and also for automobile tourism, as discussed in a later section. The most significant water-related historical event in the added lands, however, is construction of the Colorado River Aqueduct.

THE COLORADO RIVER AQUEDUCT

Constructed by the Metropolitan Water District of Southern California between 1933 and 1941, the Colorado River Aqueduct (Figure 76) gained fame as one of the largest and most labor-intensive water-development projects of the twentieth century American West and as the most significant public works project to occur in southern California during the Depression. The American Society of Civil Engineers, for example, selected the aqueduct in 1955 as one of its “Seven Modern Civil Engineering Wonders because of its unprecedented cost, length, pumping rate, and lift as well as its construction under conditions of severe climate and difficult terrain,” and in 1994 as a “Designated Historic Civil Engineering Landmark.” It was constructed to meet the ever-increasing water demands of residents in metropolitan southern California. During the early twentieth-century, local water supplies dwindled, and while other waterworks projects such as the Owens River Aqueduct helped to alleviate the problem, water demand continued to rise. Seeing the impact of decreasing water supplies on their future growth and livelihoods, 13 cities (Anaheim, Beverly Hills, Burbank, Compton, Fullerton, Glendale, Long Beach, Los Angeles, Pasadena, San Marino, Santa Ana, Santa Monica, and Torrance) formed the Metropolitan Water District (MWD) and made a concerted effort to transform their environment by delivering adequate water supplies into their region.


270 American Society of Civil Engineers website (http://www.asce.org/history/landmark/search.cfm).
Figure 72. Springs, tanks, and wells in Joshua Tree National Park added lands
Figure 73. Concrete Dam at Hayfield Summit Springs, 1990s (photograph by H.W. Baczkowski).

Figure 74. Coxcomb Guzzler in June 1996 (photograph by Jeff Ohlfs).
Figure 75. Coxcomb Guzzler apron in June 1996 (photograph by Jeff Ohlfs).

Figure 76. The Colorado River Aqueduct in and Adjacent to Joshua Tree National Park
With a length of 242 miles and a capacity of approximately one billion gallons of water per day, the Colorado River Aqueduct represents the longest and largest domestic water supply line in the United States. Included in the supply network are all of the components of a grand feat of engineering: 108 miles of tunnels, 63 miles of concrete-lined canals, 55 miles of concrete-covered conduits, 29 miles of inverted siphons, 153 miles of distributing mains, a massive diversion dam, 6 reservoirs containing 150,000 acre feet of water, and 5 pumping plants lifting the water a total height of 1,617 feet over the course of the system. The aqueduct is a symbol of the human ability to adapt and control nature as needed. By assuring that the growing demand for water in southern California would be met, the Colorado River Aqueduct secured a prosperous future of economic growth and development for southern California, which in 1930 had a total population of 2,491,000 people. Today, the population of the MWD (also now encompassing most of Los Angeles, San Diego, Orange, Riverside, and San Bernardino counties) is roughly 17.5 million. The Colorado River Aqueduct played a significant role in facilitating this population growth.²⁷¹

As with the Hoover Dam and other large engineering works of the 1930s, the Colorado River Aqueduct project also alleviated the economic upheaval of the Great Depression. Upon hearing about aqueduct construction, thousands of unemployed men and women migrated to southern California seeking employment. In a time with scarce jobs, at least 4,000 people received direct employment on the project; in addition, related service industries sustained an equal number of wage earners. Aqueduct construction stimulated both regional and local economies. Regionally, the aqueduct was constructed during the hard times of the 1930s when thousands of southern Californians were forced to subsist on various make-work projects or accept direct relief. The aqueduct project provided many residents of southern California the ability to earn a living. The aqueduct also sustained regional industries. For example, semi-idle cement and manufacturing plants received hundreds of orders for aqueduct supplies. In addition, the transportation industry and especially railroad companies profited from the need to freight supplies to the desert locations. Lastly, regional retail and wholesale businesses were stimulated by the influx of wage-earning customers.

On a local level, aqueduct construction facilitated the population growth of many small desert towns. Workers and their families established the local communities of Crossroads, Earp, Vidal, Grommet, Gene Wash, Copper Basin, Freda, Iron Mountain, and Rice. Such communities had schools, churches, stores, community centers, restaurants, bars, and other businesses. Growth, for example, was such that the town of Vidal boasted a weekly newspaper, the Vidal Herald. Workers living in construction camps played a part in sustaining the small communities. They often traveled to the towns to purchase personal and luxury items. In addition, established local communities, such as Desert Center and Indio, benefited from the local population growth. Desert Center reportedly jumped from a service station and lunch counter into a bustling city over night, and Indio enjoyed one of the wildest booms of record.²⁷²

²⁷² Ibid.
As one journalist reported, the Colorado River Aqueduct helped the Southland whip the Depression and in doing so brought economic and social stability to many on the local and regional levels. The economic boom incited by the aqueduct and other large engineering projects has caused some to surmise that “it is not surprising that California was both about the last state to hit depression levels and the first to leave them.”

Origins

Beginning in the early twentieth century, regional domestic, industrial, and agricultural development in semi-arid Southern California depleted incipient water supplies. Increasing water demand resulted in the construction of the first water-supply system: the Owens River Aqueduct built by the Los Angeles Department of Water and Power in 1913. This water system brought water to the city of Los Angeles from the Owens Valley on the eastern flank of the Sierra Nevada in central California. By the 1920s, rapid economic and population growth in southern California required the importation of additional water supplies. The Colorado River seemed a suitable water source based on its close distance, adequate flow, water quality, and ability to be diverted.

In 1927 the California state legislature passed the Metropolitan Water District Act, which allowed groups of cities to join together to supply their area with water for domestic and industrial uses. The act permitted the organization of a public corporation, the Metropolitan Water District of Southern California (MWD) in 1928. The MWD originally encompassed 13 southern California cities mentioned above. In 1930 the total population of the cities reached 2,491,000 people, or 44 percent of the population of the state of California. A board of directors containing one representative from each of the 13 cities governed the MWD; the board had the authority to acquire, construct, and operate a waterworks system, do all the things incidental to such functions, and sell water and levy taxes to provide funds for carrying on its business and for paying interest and principal of any bonded indebtedness.

Planning for the selection of an aqueduct route from the Colorado River to metropolitan southern California began in the early 1920s before the organization of the MWD. The process considered several economic, topographic, and geologic factors, including ability of diversion from the Colorado River, freedom from cross-drainage difficulties, accessibility to existing transportation lines, cost of construction, cost of rights of way, cost of operation, safety, and permanence of the line (especially in earthquake-ridden southern California). Upon consultation with several survey crews and engineers, including chief project engineer F.E.

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273 Ibid.
274 The Department of Water and Power (DWP), which owns and operates the Owens Valley Aqueduct, has no connection to the Metropolitan Water District (MWD). The DWP is a Los Angeles city proposition while the MWD is a public corporation that includes Los Angeles as well as other Southern California cities.
276 Ibid., 3.
277 Ibid., 11.
Weymouth, the board of directors decided on the present-day Parker–Iron Mountain route (Figure 77). The plan diverted the Colorado River 16 miles up river from Parker, Arizona, where it is confined in a narrow rock canyon. From a constructed dam at Parker, the Colorado River Aqueduct ascends to Gene Wash, a small reservoir, and is pumped to Copper Basin, a larger reservoir. From Copper Basin the aqueduct extends west to Rice and north of present-day Highway 62. Some tunneling was needed but over the broad fan west of the Whipple Mountains favorable contours permitted a gravity canal on the surface direct to the pumping plant and reservoir at Iron Mountain. The water is lifted at Iron Mountain and flows by gravity through the Coxcomb Mountains. The water is lifted again at the eastern Eagle Mountains and flows through the Eagle Mountain tunnels to Hayfield. (Initially, Hayfield was planned as another intermediate reservoir, but the region’s porous soil caused excessive seepage loss.) From Hayfield the water passes through several other tunnel systems (Cottonwood, Mecca Pass, Coachella, and Whitewater) to the Potrero shaft (the eastern entrance of the Mount San Jacinto tunnel) by gravity, with no pumping required over the long span. From Mt. San Jacinto, the aqueduct extended to a reservoir site west of Perris originally named Cajalco, but now known as Lake Matthews. From Lake Matthews it crosses north to Fontana and turns west through the northern part of Ontario extending in the same direction all the way to Pasadena and the terminal Morris Reservoir. From here the water is distributed to the various members of the MWD.

A bond issue of $220 million dollars authorized by popular vote in 1931 financed the Colorado River Aqueduct. The total cost of the project including the aqueduct and various improvements and power lines is estimated at $225 million dollars. Definitely to the benefit of project managers, the aqueduct was built in the 1930s when prices were at historic lows; it is likely that the aqueduct was constructed for a fraction of present-day prices (accounting for inflation). The MWD and landowners reached agreements for the purchase or use of land. The aqueduct crosses over mostly public and railroad lands. A special act of Congress granted the district a right of way up to 250 feet in width across all public lands without cost and a right to purchase other lands as it reasonably required at the set price of $1.25 per acre.\(^\text{279}\) The MWD acquired railroad, Indian, and private lands by purchase condemnation and temporary easements for construction utilities. Several contract firms constructed the Colorado River Aqueduct. The MWD advertised for work to be completed, and construction companies bid on individual jobs. The most difficult aqueduct components to construct, such as the tunnels, required highly specialized contractors and were the most expensive to build. On two occasions the MWD assumed the primary role in tunnel construction; one case involved the unsatisfactory progress of a contractor on the San Jacinto tunnel. While driving the tunnel, the contract firm struck a large underground water pocket that roared out in a flood. A battery of pumps failed to control the flow, and the company did not have the resources to finish the job.\(^\text{279}\) In the other case, as an aid in relieving the acute unemployment situation in southern California in late 1932,

\(^{278}\) Ibid., 37.

the MWD constructed the Coachella group of tunnels with hired local laborers. Although the U.S. Bureau of Reclamation (Six Companies, Inc.)—the same organization that constructed the Hoover Dam, built the Parker Dam—contractors completed all surface work including open-lined canals, cut-and-cover conduits, and inverted siphons. In addition, contractors completed the distribution-system tunnels and surface work (to deliver the water from Cajalco Dam to district cities), the Cajalco Dam, transmission lines, pumping plants, and pumping equipment. Four southern Californian cement companies supplied the approximately 7,000,000 barrels of cement required to build the aqueduct, distribution system, and the Parker Dam (Figure 78).

Figure 77. Map of the Colorado River Aqueduct (Metropolitan Water District of Southern California, The Great Aqueduct: The Story of the Planning and Building of the Colorado River Aqueduct. Los Angeles: Metropolitan Water District of Southern California, 1941).

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280 Hinds, “Colorado River Aqueduct,” 42.
Labor

Estimates of the number of workers employed by the Colorado River Aqueduct project vary. Some state that 4,000 workers received direct employment on the project, while related-service industries employed another 4,000. Others estimate that from 11,000 to at least 35,000 laborers worked on the aqueduct project. Regardless of the exact number of individuals employed, the project brought economic and social stability to many in a time of great upheaval. Most construction workers lived in one of several construction camps (Figure 79). The four main headquarters camps at the Gene, Iron Mountain, Eagle Mountain, and Hayfield pumping plants—all just outside the boundaries of JTNP—housed project designers and engineers, as well as some workers. In addition, several contractor camps erected near on-going projects acted as on-site headquarters for contracting firms. Of these, Berdo Camp is in JTNP. The MWD built construction camps for laborers working on non-contracted projects. Of these, the major MWD construction project was driving the Coachella tunnels in 1932, a project conducted “in-house” to relieve massive unemployment in the region. Workers lived in one of nine camps along the aqueduct route.

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Archival research yielded little historical data on the organization and maintenance of aqueduct construction camps, but it is likely that camps consisted of several temporary wooden and canvas tent structures with a variety of functions. Most workers appeared to be single men who used barracks-style accommodations with common eating and sleeping areas. Supervisors and job foremen probably lived on-site in larger, yet no more permanent, dwellings. Although workers would have received food and water from their employers, few provisions were available on-site. Workers had to travel to nearby towns to purchase personal and luxury items. In fact, several towns boomed during the eight years of aqueduct construction. Due to need for community services, such as schools, workers with families opted to live in these towns rather than the construction camps. The aqueduct project also resulted in the economic growth of established communities, such as Desert Center and Indio. A construction consortium organized in part by Henry Kaiser and known as the Six Companies completed Hoover Dam and established “Contractor’s General Hospital,” which later became Kaiser Permanente Health Care, to help provide medical care for the aqueduct construction workers.

Unfortunately, little historical documentation on the daily lives of aqueduct workers has been uncovered. Some information may be gleaned, however, from an oral-history collection of Hoover Dam workers as found in Andrew Dunar and Dennis McBride’s Building Hoover Dam: An Oral History of the Great Depression (1993). For this work, the authors conducted oral

interviews with those individuals intimately involved with the 1931-1935 construction of the Hoover Dam. Like the Colorado River Aqueduct, Hoover Dam was built during the height of the Depression in a desolate and inhospitable region.

Both projects employed thousands of individuals during a time of rampant unemployment and destitution; workers for both projects lived in construction camps and small towns. Based on the record of oral histories from the Hoover Dam project, the Colorado River Aqueduct likely provided a sense of stability for workers in the tumultuous Great Depression; the project housed and fed workers, and the rhythm of daily work imposed a steady routine. Single men appreciated their employment opportunities and housing arrangements in construction camps. They formed close bonds or “brotherhoods” with their working and living mates and may have spent their free time playing cards and other games, forming sports leagues, and going to local towns. Married men and their families who lived in towns developed a strong sense of community through daily interaction and social networks. Although facing dangerous working conditions and the intense heat of the desert, workers did not complain for fear of losing their jobs. Hot and remote working and living conditions offered a better option than unemployment and homelessness.

Construction Infrastructure

Infrastructure played a key role in construction. The eastern portion of the aqueduct lies in a desolate region in which there was no water or any of the facilities required for construction work. Before the construction of the aqueduct could be undertaken, it was necessary to build 150 miles of surfaced highways, 454 miles of high-voltage power lines, 1,136 circuit miles of telephone lines, and 180 miles of water supply lines with necessary wells and pumping equipment.

Water Storage and Conveyance

As no significant local sources of potable water existed within the construction area, maintaining adequate water supplies was a continual problem during aqueduct construction. MWD engineers located several adequate water-supply points in the region and then designed a system of pipes and tanks to deliver water from springs and wells to construction sites. This water system consisted of a steel pipeline with storage tanks at strategic points and booster pumps to force the water along the line. The main pipelines were generally 5- and 6-inch diameter “gas-line” stock, continuously welded and laid in shallow trenches. Contractors tapped the main line as required to supply water for camp and construction purposes. Tanks built at each well and at points of diversion along the main line provided water. The MWD installed other tanks for general water storage, and each contractor placed a tank at the end of his branch line. Six of the storage tanks on the main line were a cut-and-embankment type, gunite lined, and covered with red shiplap roofs. All the other tanks installed by the district were of bolted or riveted steel construction. Some of the contractors used wood-stave terminal tanks. The MWD operated the water system and charged contractors $0.20-$0.40 per thousand gallons used. What appears to be a reservoir associated with the aqueduct (CA-RIV-7316H) lies at the mouth of Boulder Canyon in the JTNP added lands (Figure 80).

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284 Ibid., 40.
Power Structures

The MWD built and operated power-transmission lines from a power plant at Hoover Dam to the five pumping plants. Initially, power supplies and the use of power for the aqueduct project proved to be a source of much contention between the MWD and other users of power generated at the Hoover Dam. The MWD purchased power from existing sources at Colton, California, for distribution over the district power-line network to provide electrical energy adequate for construction purposes. The power system consisted of 196 miles of 66,000-volt line constructed of No. 4/0 copper cable, strung on suspension insulators and wood-pole H-frame or wishbone structures, and 229 miles of 33,000-volt line, built of No. 2/0 and 29 miles built of No. 2 copper cable on pin type insulators and carried on wood poles. Five main substations and 83 minor stations linked the power network²⁸⁵

Transportation Structures (Roads and Pathways)

To facilitate construction and allow for the ease of passage through the project area, the MWD commissioned the construction of a “trunk” highway from the Coachella Valley to the town of Earp, California, near the Parker Dam site in 1933. Several branch roads extended from

this main road to construction sites, camps, and other locations within the region (Figure 81). Construction crews surfaced the main roads with a 3-inch top layer of oil-treated selected material, laid on a subbase of natural roadbed material. The surfaced part of the road was 20 feet wide. While some branch roads were unpaved, most were graded and oiled. As most of the roads were built by individual construction contractors, widths varied depending on road function.

Figure 81. Typical section of completed construction road (Metropolitan Water District of Southern California, Colorado River Aqueduct, 2nd edition. Los Angeles: Metropolitan Water District of Southern California, 1935, page 38).

**Communication Structures**

To rectify the lack of commercial communication facilities, the MWD installed a telephone system for use by its field forces and contractors. Of the system’s roughly 1,100 miles of metallic circuit, poles owned by MWD carried 55 percent, poles used jointly with utility companies carried 44 percent, and the district’s power poles carried the rest.

**Aqueduct Structure**

The main Colorado River Aqueduct from Parker to Lake Matthews has a total length of 242 miles. In this span, it is made up of roughly 92 miles of tunnel, 55 miles of cut-and-cover conduit, 63 miles of open-lined canal, 28 miles of inverted siphons, 2 miles of pumping delivery lines, 1 mile of open ditch into Lake Matthews, and 2 miles of passage through reservoirs.

**Water-storage and Diversion Structures**

A diversion dam at the Parker site approximately 155 miles downstream from the Hoover Dam Water diverts water from the Colorado River for the MWD. Constructed in 1936, the diversion dam raises the water about 72 feet from present river level to an elevation of 450 feet above sea level, thus providing a large storage basin for regulating and clarifying the water. The dam is a concrete arched type with five 50 by 50 foot roller-bearing floodgates. Two pumping

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plants, one at Gene Wash and one at Copper Basin, accomplish the actual diversion into the aqueduct. Other water-storage structures include the Copper Basin Reservoir and Dam near Parker Dam, the Gene Wash Reservoir and Dam near Parker Dam, the Eastside Reservoir in the vicinity of Helmut (California), and Lake Matthews near Riverside (California). Architectural drawings and photographs prepared by the Historic American Engineering Record of the National Park Service are available for all of these.\textsuperscript{288} No water-storage or diversion structure associated with the Colorado River Aqueduct occurs in or near the added lands.

**Water-conveyance Structures**

**Open-lined Canals**

Most of the aqueduct conduit network is characterized by open-lined canals, in which water flows through sections of open concrete canals set well into the ground (Figure 82). The concrete lining is of substantial thickness and is continuously reinforced with high-elastic-limit steel in sufficient quantity to hold the concrete together and prevent cracking. Due to its inexpensive costs and efficiency, open-lined canal was the preferable type of conduit used in aqueduct construction. Open-lined canals occur just outside the added lands along the eastern edge of the Coxcomb Mountains in Cadiz Valley and in Chuckwalla Valley along the western edge of the Coxcomb Mountains and the eastern and southern edges of the Eagle Mountains. None, however, appears to be in the added lands.

\textsuperscript{288} HAER-CA-241, HAER-CA-243, HAER-CA-247, HAER-CA-248, and HAER-AZ-54.
Figure 82. Open-lined canal at Coxcomb Tunnel (on a Metropolitan Water District inholding in the added lands) in August 2004, looking southwest (photograph by Donald Hardesty).

**Cut-and-cover Conduit**

Cut-and-cover conduit carried water across desert areas where open type conduit was not permissible and for surface lines west of Hayfield (Figure 83). The concrete arch structure is built in an open trench and then backfilled with a minimum of three feet of material. Highway and railway crossings required a great depth of fill and concrete and steel reinforcements. Cut-and-cover conduit occurs just outside the added lands along the southern edge of the Cottonwood Mountains and along the western edge of the Little San Bernardino Mountains. None appears to be in the added lands.

**Tunnels**

Tunnels were the most costly and labor-intensive conduit type of the aqueduct system (Figure 84). The Colorado River Aqueduct used tunnels to pierce through mountains lying across the water route and in areas too rugged for surface lines, such as along the southern slope of the Little San Bernardino Mountains. Where the rock is good, simple concrete lining prevented leakage from the tunnel and reduced the resistance to flow.
Where the rock is not stable, timber and steel supports shored up the tunnels. Tunnels through the added lands (but on MWD inholdings) include the Coxcomb Tunnel through the Coxcomb Mountains (Figure 83), the West Eagle Mountain Tunnel and Hayfield Tunnels No. 1 and 3 through the Eagle Mountains, the Cottonwood Tunnel through the Cottonwood Mountains, and the Mecca Pass Tunnel through the Little San Bernardino Mountains.

**Inverted Siphons**

The crossing of drainage channels, ravines, and other depressions along the aqueduct route required the use of inverted siphons (Figure 85). The siphons are constructed of reinforced concrete and are divided into three distinct types (single, double-barreled, and rectangular) according to incipient structural requirements. Inverted siphons occur at the edge of the added lands near the Eagle Mountain Pumping Station.
Pumping Plants

The MWD constructed five pumping plants (Gene Wash, Copper Basin, Iron Mountain, Eagle Mountain, and Hayfield or Hinds) in addition to the Whitsett or intake pumping plant at Parker Dam to lift the diverted water a total of 1,617 feet over the course from the Colorado
River to Lake Matthews. Each pumping plant contained nine pumping units with a 200 second-feet capacity and added additional units as the demand for water increased. Architectural drawings and photographs prepared by the Historic American Engineering Record (HAER) of the National Park Service are available for all of the plants except for Copper Basin. Both the Hayfield (Figure 86) and the Eagle Mountain (Figure 87) pumping plants are outside, but at the boundary of, the added lands.

Figure 86. Hayfield or Hinds Pumping Station in March 2005, looking northeast with Joshua Tree National Park in the background (photograph by Donald Hardesty).

Figure 87. Eagle Mountain Pumping Station in March 2005, looking northeast with Joshua Tree National Park in the background (photograph by Donald Hardesty).

289 HAER CA-240, HAER CA-242, HAER CA-244, HAER CA-245, and HAER CA-246.
ASSOCIATED CULTURAL RESOURCES

Inventoried cultural resources in the added lands that are associated with the historical theme of water development are listed below (Table 1). Many of those associated with the Colorado River Aqueduct, however, are in Special Use Zones. The Metropolitan Water District of Southern California owns approximately 811 acres within the added lands acquired under the authority of a 1932 Act of Congress and also has a right-of-way of approximately 150 acres through the added lands granted by the Boulder Canyon Project Act of 1928 for a power-transmission line. Section 406 of the California Desert Protection Act provides for continuation of the MWD title and right-of-way:

Nothing in this title shall have the effect of terminating any validly issued right-of-way . . . granted or permitted to the Metropolitan Water District pursuant to the Boulder Canyon Project Act (43 U.S.C. 617-619b), which is located on lands included in Joshua Tree National Park, but outside lands designated as wilderness. . . .

Nothing in this title shall have the effect of terminating the fee title to the lands or customary operation, maintenance, repair, and replacement activities on or under lands granted or permitted to the Metropolitan Water District pursuant to the Act of June 18, 1932 (47 Stat, 324), which are located on lands included in Joshua Tree National Park, but outside lands designated as wilderness under section 601 (a)(2).

The Special Use Zone includes the west Cholla camp (tract 11234), Pinto Well and road (tract 11917), Coxcomb utility lines (tract 13704), south Coxcomb Tunnel (tract 13705), powerline (tract 13716), west Eagle Mountain aqueduct and associated camp and utility lines (tract 14005), Hayfield Tunnel (tract 14204), camp (14304), and powerline (tracts 14441, 14443, 14444).

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291 Ibid., 3.
Table 1. Colorado River Aqueduct Properties within the Added Lands (from Historical Data Index, on file at Bureau of Land Management, Palm Springs, California)

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**Boulder Canyon Reservoir (CA-RIV-7316H)**

T5S R14E Section 22
USGS Hayfield Spring 7.5-minute Quad

**Unrecorded sites–MWD Camp and Dump Areas**

The sites of 13 construction camps associated with the Colorado River Aqueduct may lie within the added lands (Figure 89). They include the West Eagle Mountain Camp and Dump
Area (T5S R14E Sections 6-7), Cholla Wash Camp and Dump Area (T5S R13E Section 31), West Lake Camp and Dump Area (T5S, R13E, Section 31), three Eagle Mountain Camp and Dump Areas (T4S, R15E, Section 30), Fargo Canyon Camp and Dump Area (T5S, R9E, Section 5), Yellow Canyon Camp and Dump Area (T5S, R9E, Section 22), two Mecca Pass Camp and Dump Areas (T6S, R10E, Section 5), East Cottonwood Camp and Dump Area (T6S, R11E, Section 5), West Cottonwood Camp and Dump Area (T5S, R10E, Section 34), and Berdoo Camp Area (T4S, R8E, Section 9).

Figure 88. Construction camps associated with the Colorado River Aqueduct.
Military training is another key theme in the history of the added lands and its environs. What was first named the Desert Training Center (DTC) and later the California–Arizona Maneuver Area (C-AMA) trained more than a million U.S. Army troops in the tactics and techniques of desert warfare from April 1942 to April 1944. U.S. military officials established the base as the front of World War II expanded into in the Middle East and Africa and the military recognized the need for desert training. In March 1942, General George Patton, best known for his successes in World War II combat, received instructions to locate, create, equip, and command a training center for Army ground and air forces in desert warfare. Patton located a suitable area encompassing roughly 20,000 square miles in southeastern California, southern Nevada, and eastern Arizona (Figure 89) and thus commenced the 25-month period of intensive desert training.

At its height, DTC/C-AMA consisted of a camp headquarters and 13 divisional camps, airports and airfields, landing strips, maneuver areas, ranges, hospitals, railroad sidings, and other facilities necessary to the maintenance of this large training establishment. During its tenure, it facilitated the training of roughly one million soldiers, or 10 percent of all U.S. World
War II servicemen, in all stages of combat. Eventually the DTC/C-AMA encompassed more than 31,500 miles, the largest army post and training maneuver area in U.S. military history.292

Three themes underlie the historical significance of the DTC/C-AMA: the facility’s role in the U.S. preparation for WWII, its part in U.S. military training, and its association with Generals George Patton and Walton Walker.293 The creation, design, and operation of the DTC/C-AMA were inextricably linked to the country’s preparation for World War II. The massive scale of the facility reflects the intent of the U.S. military to adequately prepare troops on the home front for conditions to be encountered overseas. The military designed the center specifically to train troops for warfare in extreme desert conditions, like those that were to be found in the North African military campaign. Once the North African campaign was finished, the focus of the DTC/C-AMA changed; its commanders’ commitment to adequate wartime preparation, however, did not waiver. As it became a Theater of Operations where realistic battle situations were enacted, soldiers were schooled in actual wartime strategy and maneuvering. As the largest army post and training facility in U.S. military history training, the DTC/C-AMA was integral in U.S. overseas success.

The construction and operation of the DTC/C-AMA represents U.S. military training on a scale well beyond any other facility in U.S. history. The facility was the military’s first attempt to train soldiers for warfare in desert conditions. General Patton envisioned a center where the physical limits of human endurance could be tested; he aimed to craft U.S. soldiers who were capable of fighting in the most extreme of conditions. The sheer vastness of the facility allowed for soldiers to be trained in the annals of realistic battlefield situations. They could move across large expanses, traverse varied terrain, be positioned in large formations, and practice live fire exercises without the fear of harming civilians. Small- and large-scale maneuver exercises as practiced in a theater-of-operations setting allowed troops to experience the realities of battlefield situations. The vast territory of the DTC/C-AMA permitted the involvement not only of individual combat units but also of service units and even air forces in the military exercises. George Howard writes, “while it is probable that anything done in DTC/C-AMA could have been done elsewhere, the unique quality of the region for large-scale training and maneuvers could not be duplicated anywhere else. The theater concept . . . enabled the expansions of training to include supply, service, and experimentation in addition to the maneuvers.”294

The U.S. military gained invaluable knowledge and experience from the DTC/C-AMA. Soldiers used their training to succeed in battles overseas. The capabilities and limitations of equipment were tested and identified at the center. Lastly, military commanders learned much from their experiences at the facility. One wrote, “I can’t think of an experience that has been more valuable to me or to my staff than our period of service in the desert in welding that staff.

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293 Ibid., 48-49.
together and fitting us—that is, the staff—for what may be its function in the not too distant future.” The DTC/C-AMA is significant in its association with two prominent figures in U.S. history, General George S. Patton, Jr. and General Walton Walker. The facility’s creation and operation is especially illustrative of General Patton’s approach to soldier training, a style for which he is best recognized. The relationship of General Patton’s legacy and the DTC/C-AMA is easily identified; but the facility’s association with General Walton Walker is also significant. Under Walker, also a well-known World War II icon, the facility became a theater of operations and highly successful in realistic U.S. military training.

THE CONCEPTION AND LOCATION OF THE DTC

Shortly after the U.S. entry into World War II, the Germans recaptured the port of Bengasi, Libya, and started moving toward Egypt. The joining of Axis powers in the Middle East and the creation of a unified front to attack Russia posed an imminent threat for Allied forces. The War Plans Division of the War Department General Staff sought to defend North Africa; to effectively do so, troops required specific organization, training, and equipment to operate in difficult terrain. By February 1942, Lt. General Lesley J. McNair devised a plan to combat the Germans in North Africa that required the preparation of U.S. soldiers for desert warfare. McNair placed Maj. General George S. Patton in charge of locating, creating, equipping, and commanding a training center for Army ground and air forces in desert battle. Patton’s intentions for the center were fairly clear. Recognizing the importance of selecting a suitable training location, he noted, “We cannot train troops to fight in the desert of North Africa by training in the swamps of Georgia. I sent a report to Washington requesting a desert training center in California.”

McNair outlined a general area for the training facility, and Patton spent four days in the southern California desert in March 1942 reconnoitering for a suitable location. By the end of his trip, he decided on a vast expanse of desert 100 miles by 200 miles extending from Indio, California, on the western boundary eastward to near Prescott, Arizona, and from Searchlight, Nevada, on the northern boundary southward to Yuma, Arizona. With regards to the location, Patton remarked, “The training area is the best I have ever seen. It is desolate and remote . . . large enough for any kind of training exercise.”

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297 As quoted in Bischoff, “The Desert Training Center,” 10. A local historian, Tom Patterson, however, argues that the DTC was not founded to train troops for the invasion of North Africa but instead was established because it afforded several training capabilities not available at any other military establishment, including unrestricted maneuver, almost unrestricted firing including the use of live artillery, and the ability to test command control of large formations: Thomas Patterson, “Brief Historical Narrative: Desert Training Center” (Tom Patterson Military Files, Riverside Municipal Museum archives, n.d.), 1.
298 Sidney L. Meller, “The Desert Training Center and C-AMA,” (Historical Section, Army Ground Forces, Study Number 15, 1946), 3.
General George S. Patton, Jr.

General George Smith Patton, Jr. was born November 11, 1885 in San Gabriel, California. He was known for carrying pistols with ivory handles and for his intemperate manner, and is regarded as one of the most successful United States field commanders of any war. He continually strove to train his troops to the highest standard of excellence. He graduated from the United States Military Academy at West Point on June 11, 1909, and then received a commission as a Second Lieutenant in the 15th Cavalry Regiment. In 1912 he represented the United States at the Stockholm Olympics in the first Modern Pentathlon. Patton received orders in the summer of 1913 to report to the commandant of the Mounted Service School in Fort Riley, Kansas, where he became the school’s first Master of the Sword. Patton’s first real exposure to battle occurred in 1915, when he served as a member of legendary General John J. Pershing’s staff during the expedition to Mexico. Upon their return from Mexico, Pershing promoted him to Captain and asked him to command his Headquarters Troop. In 1917 with the U.S. involvement in World War I, Patton became the first member and later commander of the newly established United States Tank Corps, where he served until the army abolished the Corps in 1920. Using his first-hand knowledge of tanks, Patton organized the American tank school in Bourg, France, and trained the first 500 American tankers. He had 345 tanks by the time he took the brigade into the Meuse-Argonne Operation in September 1918.

After WWI, Patton held a variety of staff jobs in Hawaii and Washington, D.C. He graduated from the Command and General Staff School in 1924 and completed his military schooling as a distinguished graduate of the Army War College in 1932. With the formation of the Armored Force in 1940, Patton transferred to the Second Armored Division at Fort Benning, Georgia, and became Commanding General on April 11, 1941. Two months later, Patton appeared on the cover of Life magazine. Also during this time, Patton began giving his famous "Blood and Guts" speeches in an amphitheater he had built to accommodate the entire division. The United States officially entered World War II in December 1941, after the attack on Pearl Harbor. With the advancement of German forces into the arid Middle East, Patton created and commanded the Desert Training Center in March 1942 in order to train troops in the “technique of living and moving in the desert and the tactics of desert fighting.” He departed the center in August 1942 on orders to lead “Operation Torch,” the Allied invasion of Nazi-held French North Africa. After succeeding there, Patton commanded the Seventh Army during the invasion of Sicily in July 1943 and restored Sicily to its citizens in conjunction with the British Eighth Army.

Patton commanded the Seventh Army until 1944, when he gained command of the Third Army in France. Patton and his troops dashed across Europe after the battle of Normandy and exploited German weaknesses with great success, covering the 600 miles across France, Belgium, Luxembourg, Germany, Austria, and Czechoslovakia. By the end of World War II, the

299 www.generalpatton.com
Third Army had liberated or conquered 81,522 square miles of territory. In October 1945, Patton assumed command of the Fifteenth Army in American-occupied Germany. On December 9, he suffered injuries as the result of an automobile accident. He died 12 days later, on December 21, 1945, and is buried among the soldiers who died in the Battle of the Bulge in Hamm, Luxembourg.

**General Walton Walker**

Another individual integral to the history of the Desert Center Training Center was General Walton Walker. He was born on December 3, 1889, in Belton, Texas. Graduating from West Point in 1912, he served under General Frederick Funston in the Vera Cruz Expedition in 1914 and conducted patrols of the Mexican border before World War I. In 1917, he organized Company A, 13th Machinegun Battalion and led the group as a Major in France. For his gallantry on the battlefield he was promoted to Lieutenant Colonel.

Early into World War II, Walker commanded the III Armored Division and then the IV Armored Corps. He excelled in the training of troops and held a number of progressive training positions, including at the Desert Center Training Center, in the early 1940s. Walker commanded the IV Corps, designated the XX Corps in 1943, for the rest of the War. With his Corps, he participated in the drive across France following the Normandy Invasion, the capture of Metz and the liberation of Buchenwald. In 1945 Walker was promoted to Lieutenant General with the very same stars that George S. Patton, Jr., had received from General Dwight D. Eisenhower. He was a tough commander, not given to sentiment, reticent of manner, short of speech in any public appearances, and was not popular with his troops.

Walker served as a general in the Korean War, commanding the 8th Army in the defense of the Naktong Line. He was killed in a jeep accident while on duty December 23, 1950. His son, Sam Sims Walker, also serving in Korea as a battalion commander in the 19th Infantry, escorted his body back to the United States. Walker was buried in Section 34 of Arlington National Cemetery. During his career, he was the recipient of many awards, including the Distinguished Service Cross, with Oak Leaf Cluster; the Distinguished Service Medal, with Oak Leaf Cluster; the Silver Star, with two Oak Leaf Clusters; the Legion of Merit; the Distinguished Flying Cross; and the Air Medal, with Oak Leaf Cluster. His wife, Caroline E. Walker, who died in 1985, is buried next to him.

**THE DESERT TRAINING CENTER**

General Patton based his choice for the location of his proposed DTC on several criteria. As a result of his instructions to develop appropriate tactical doctrines, techniques, and training methods to test the adequacy and endurance of soldiers, equipment, and supplies, he desired a

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302 www.generalpatton.com  
304 Ibid.  
305 Ibid.
location with the ability to sustain operations remote from railheads, to supply under cover of darkness, and to combine training with the Army air force. These actions were to be performed under the constraints of a restricted water supply. The geography, topography, climate, and vegetation of Southwest desert in Arizona, Nevada, and eastern California provided an ideal location for desert warfare training. Geographically, the area is remote from substantial population centers, thus lessening the endangerment of civilians. However the area lies relatively near several established military bases, including March Army Airfield, an airfield north of Las Vegas (later Nellis Air Force Base), an artillery training area near Indio, a desert test facility near Yuma (later Yuma Proving Ground), Camp Haan in Riverside, an antiaircraft training ground (later Fort Irwin), and Blythe Army Air Field. In addition, three railroads supplied the area, and the federal government already owned most of the land. The topography, climate, and vegetation of the training area allowed Patton to test the physical endurance of troops in the most extreme of conditions. The training area consisted of all types of desert terrain, including sandy washes, dry salt beds, wide valleys, and rugged mountains, some attaining a height of over 7,000 feet. Temperatures in the area were hot and dry, with summer highs reaching 130° in the shade. In addition, temperatures could vary over the course of a day, with daytime highs over 100° and nighttime lows below freezing. Rainfall averaged less than 5 inches per year, and it generally occurred within a two- or three-month period. Late-summer monsoonal conditions allowed for unexpected thunderstorms and severe flash flood conditions. Vegetation also provided tests of physical stamina—several thorny species inhabited the environment, including cactus, cholla, ocotillo, and yucca.

The Opening of the DTC

At the end of his initial reconnoitering trip, General Patton made arrangements with the Metropolitan Water District of Southern California and regional railroad companies to supply the training center with provisions. Shortly thereafter the War Department acquired 105 million acres through transfer or outright purchase. By the end of March 1942, an advance party of officers from the I Armored Corps arrived at the site to establish and secure the facility’s infrastructure. The DTC headquarters, Camp Young, lay in an area that was bounded by Highway US 60 on the south, the Cottonwood Springs Road on the west, the Colorado River Aqueduct on the north, and Chiriaco Summit on the east (Figure 90). The military constructed the base camp with minimal accommodations: semi-permanent wooden floored tents and few administrative wooden structures. The DTC officially opened on April 30, 1942, with troops arriving daily from Fort Benning, Georgia. By May 30, more than 4,800 enlisted men stationed at Camp Young began training immediately in the harsh environment.

306 Howard, “Desert Training Center,” 274.
Camp Organization

In addition to Camp Young, the DTC included several divisional camps. Although the number of camps varied, at its height the facility had 14 (with 10 in California and 4 in Arizona). Each divisional camp was laid out in a rectangular fashion (generally 3 miles long by 1 mile wide), with simple accommodations, like those at Camp Young, that could house up to 15,000 soldiers. Roads were bulldozed and often lined with rocks. In addition, some divisional camps contained large relief maps, designed to be a scaled representation of the entire training facility. In terms of location, Camp Ibis, and Camp Clipper (Essex) were located in the vicinity of Needles, California; Camp Iron Mountain, Camp Granite, Camp Desert Center, Camp Rice, and Camp Coxcomb (Figures 91-92) were located near the eastern edge of Joshua Tree National Park; Camp Pilot Knob was located in the extreme southeastern corner of California; Camp Laguna, Camp Horn, and Camp Hyder were along the Gila River, Arizona; and Camp Bouse was east of Bouse, Arizona.

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309 Ibid., 18.
Figure 91. Map showing location of Camp Coxcomb (War Department, Corps of Engineers, U.S. Army, Coxcomb Mts. Quadrangle, Restricted, on file at General George Patton Memorial Museum, Chiriaco Summit, California.)
In addition to the divisional camps, there were numerous other facilities, such as railheads, hospitals, airfields, and supply depots. Especially crucial were the 15 water points along the MWD aqueduct that allowed water to be diverted to the camps. The MWD also supplied power from its Hayfield Pumping Plant to Camp Young. The DTC relied on the Southern Pacific Railroad for supplies and despite the several improvements, the railroad encountered difficulty meeting the freighting requirements of the large military center. Communications were headquartered in Banning, California after attempts to use local telephone service failed due to overloading. An ordnance base was established at the Pomona Fairgrounds and others existed in unknown desert locations. The remoteness and isolation of the center was great, with few settlements or established roads connecting soldiers to the outside world. During early 1943, it was expanded and divided into three maneuver areas. Area A encompassed the original 19,000 square miles of the facility and included the land between the Colorado River to the east and Desert Center to the west, and from Searchlight, Nevada to the north and Yuma to the south. This area was the core of the facility because of good communications, rail access and water supply. Area B was added east of Area A and encompassed 11,000 square miles, largely in Arizona. Area C, the smallest of the areas, also included land in Arizona (Figure 93). The JTNP was ......
Theater of Operations

General Patton and his I Armored Corps departed from the facility in August 1942 to join the military campaign in North Africa. With the success of that campaign, the emphasis on desert warfare training was no longer necessary and the name of DTC was changed to California-Arizona Maneuver Area (C-AMA). C-AMA was converted into a simulated Theater of Operations, with a focus on the maximum training of troops, service units, and staff for
conditions of combat. The geographic boundaries of C-AMA were expanded to include not only Area A of the DTC but also Areas B and C, altogether encompassing an area approximately 350 miles wide from Pomona, California to Phoenix, Arizona and 250 miles deep from Yuma, Arizona to Boulder City, Nevada, and including parts of the Colorado River for water exercises. The theater included a communications zone containing commanders and service units and a combat zone forming the central core of the facility and the location of the actual maneuvers and live-fire exercises.

Although the facility was much more regulated and closer to actual warfare conditions, its mission remained largely continuous as spelled out in a 1943 army memorandum:

a) To harden troops physically.

b) To develop tactics, technique, and training methods suitable for desert warfare.

c) To train soldiers mentally for the shock of battle.

d) To conduct firing under realistic battle conditions.

e) To test and develop equipment and supplies.

Numerous Armored Divisions were made combat-ready in the C-AMA between 1942 and 1944. In fact, more than one million troops were processed through the Center during its two-year operation. Several commanding generals and their armored corps succeeded Patton and his I Corps. These include in chronological order: Maj. General Alvan Gillem and the II Corps, Maj. General Walton Walker and the IV Corps, Maj. General Charles White and the IX Corps, Maj. General Wade Haislip and the XV Corps, Maj. General Alexander Patch and the IV Corps, and Maj. General Jonathan Anderson and the X Corps. While each commander brought his own military experience and expertise to the control of the C-AMA, the facility provided continuity in training. A 14-week training program stressing the development of particular skills— including cross-country movement, night operations, and antiaircraft defense—was used regardless of facility command. The C-AMA experienced the greatest amount of activity during May and December 1943. For example in July, there were 10,966 officers, 514 flight officers, 604 nurses and hospital attendants, and 179,536 enlisted men at the facility.

Training troops for realistic combat situations involved the use of several maneuver exercises. During these exercises, soldiers were required to live, move, and fight under the same conditions encountered during combat. Maneuvers were designed to extend personnel and equipment to their full capabilities. Each unit was given an assignment, such as attacking and defending an organized position, and then the unit’s performance was assessed. Six major maneuvers, involving all units, occurred at the C-AMA. These consisted of large-scale mock battles complete with demolition and sabotage, hand-to-hand combat, vehicle combat, and air

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312 Patterson, “Brief Historical Narrative,” 2.
313 Bureau of Land Management, “Desert Training Center,” Table 1.
strikes. Vehicles used at the C-AMA included light tanks, medium tanks, half-tracks, artillery and antiaircraft units, and other vehicles. The basic light tank used was the M3, also known as the Stuart, totally obsolete by 1941 and later replaced by the M3A1. The M3 weighed approximately 27,400 pounds, held a four-man crew, and had tracks approximately 11.5 inches wide. In terms of medium tanks, the M4 Sherman was widely used at the C-AMA and later in North Africa and Europe, where it proved to be a death trap for crews, inferior to all the German tanks it would encounter. The “Sherman” M4 tank stood too tall and thereby made itself a target for enemy tanks and infantry with anti-tank weapons such as the “panzerfaust” and 88-mm cannon; it had armor too light to stop the shells of German tanks and anti-tank guns, and it had a cannon too small to penetrate the armor of German tanks. Their weight was approximately 70,000 pounds, they were 19-20 feet long, and their tracks were generally 23 inches wide. Half-tracks, vehicles with wheels in the front and tracks in the rear were used at the military facility to transport infantry. Artillery and antiaircraft units were well represented at the facility, as were half-track mounted howitzers, tank destroyers, jeeps, and miscellaneous other trucks. Vehicle maintenance was a primary part of the training program. Temperature fluctuations, abrasive dust, sand storms, and uneven terrain caused common vehicle failure. In fact, upon leaving the DTC in July 1942, General Patton and the I Corps left 230 tanks and armored vehicles and about 270 general-purpose vehicles disabled.

By late 1943, as increasing numbers of military personnel were shipped overseas, the C-AMA experienced staff shortages. General McNair recommended closing the facility because of its inefficient operation, and on April 1, 1944, the C-AMA was declared surplus. Troops were evacuated, and equipment and materials were removed, and by April 30, the center was closed. The majority of the C-AMA was eventually turned back over to the U.S. Department of the Interior and private landowners.

Daily Life

Most reports of the daily life of troops at the DTC/C-AMA include accounts of extreme environmental conditions and tough training regimens, with soldiers continually pushed to the limits of their endurance. A poem composed by Pvt. Steve Bassett of the 15th U.S. Cavalry, stationed at Camp Coxcomb in 1943, aptly conveys troop morale:

In the California desert Mojave is the spot,
Battling a terrific heat wave in the land that God forgot.

Just sitting here and thinking of what we left behind,
We had to put on paper what’s running through our mind.

314 Bischoff, “Desert Training Center,” 47.
316 Ibid.
We wash our mess kits daily and peel a million spuds,
And pay out a many a dollar to clean our dirty duds.

In the desert with a rifle, down in a ditch with a pick,
And doing the work of an ox and too damn tired to kick.

Down with the snakes and lizards, down where a man gets blue,
At the very bottom, 3,000 miles from you.

At night the heat keeps coming, it’s more than a man can stand,
No, we’re not convicts or criminals but defenders of our mighty land.

We are the soldiers of the armored force earning our meager pay,
Guarding people with millions for a dollar and a half a day.

Living only for tomorrow and lonely for our gals,
Hoping that when we return they’re not married to our pals?

What obstacles with confront us is very hard to tell,
So let’s hope that it is nice in heaven,
Cause we’re serving our hitch in hell.318

Training was constant and demanding. The 14-week training program included maneuvers in hand-to-hand combat, live fire, and night exercises. The heat of the desert combined with temperature fluctuations and constant wind and dust storms rendered the already rigorous training physically grueling. Early training regimens emphasized operations with decreased water supply; commanders, especially Patton, believed that humans could be taught to overcome their need for water and thus allowed troops one canteen of water per day.319 With many heat casualties and deaths, however, each soldier’s water ration was increased to one gallon per day. Food rations included mostly canned, nonperishable items such as powdered eggs, Spam, canned hash, canned fish, and canned fruit. With constant wind and dust storms, soldiers often complained of consuming more than their share of sand with every meal.320 Soldiers were given three days off per month. These furloughs were often spent in nearby towns, such as Indio, or in more distant locations such as Los Angeles and the developing Las Vegas. Local settlements were flooded with soldiers during days off as local businesses and town administrators struggled to accommodate thousands of young men. Dances and night baseball leagues provided some additional forms of entertainment. Camp leisure time was spent playing cards, writing letters, and sunbathing (Figure 94). In addition, soldiers were able to acquire luxury items like beer at the camp exchanges. Several camps,

including Iron Mountain and Coxcomb, contained open-air chapels or altars allowing soldiers to maintain religious practice.

Figure 94. Soldier shaving at California-Arizona Maneuver Area in 1943 (photograph on file at General George Patton Memorial Museum, Chiriaco Summit, California, A143).

ASSOCIATED CULTURAL RESOURCES

The cultural resources in the added lands that are associated with the DTC/C-AMA mostly originate in troop training exercises from Camp Young or Camp Coxcomb from 1942 to 1944, some under permit and some trespasses. A memorandum from the Superintendent of Joshua Tree National Monument to the Director of the National Park Service on August 11, 1942, for example, stated that,

Unusual cooperation is being received from the Army at Camp Young. Up until a month ago, units of the armored division from Camp Young would be found in the monument. These trespasses were informally reported to the Adjutant General. Early in July an Army patrol was established to keep army units out of the Monument. This works so effectively that Army vehicles not attached to Camp Young are stopped and turned back.

Later memoranda, however, suggest that troop intrusions into the Monument lands continued to take place:

322 Memorandum from James E. Cole, Superintendent of Joshua Tree National Monument to the Director of the National Park Service, August 11, 1942. On file at Joshua Tree National Park, Cultural Resources Branch.
On November 17 [1943] it was learned a Battalion of Infantry was operating on foot endurance tests from a base camp in the monument. The matter was immediately taken up with Camp Young Headquarters, and their removal effected.  

The Camp Young Division recently (April 4, 1944) back-filled a number of foxholes and trenches in the Cottonwood Springs area that were unauthorizedly dug by one of the preceding training groups. It also sent a detachment over all roads, trails, and lunch areas, used by the army in the past, to gather all refuse left by the soldiers.

In addition, there is some archeological evidence (a bullet shell dated 1943) that the Clarks Pass Lake area (T1S, R14E, Section 20) just northeast of the Pinto Mountains may have experienced similar events. The discovery of several wet-sand-filled practice bombs used between World War II and the Korean War in the same dry lakebed at Clarks Pass shows later military use of the area.

Other cultural resources in the added lands may include airplane crashes during this time period. A Memorandum from the Acting Superintendent to the Director of the National Park Service on September 4, 1944, for example, stated that,

Two airplane crashes occurred during July, but information regarding them was not obtained until August. Both accidents involved four-engined bombers and both were collisions. In each case one bomber crashed, the other limped back to the Palm Springs Air Base, while a third hovered over the site of the accident, directing rescue parties. The accident on July 14 was in Pinto Basin [note: not in the added lands]. Army equipment from March Field and from Palm Springs Air Base removed or buried most of the wrecked plane. Apparently the plane exploded in the air, breaking into many pieces which fell over an area of about fifty acres, and starting five fires. The Army did not notify this office of the crash and it was only by chance that it was discovered. Army equipment used the Cottonwood Spring entrance to get to the wreck.

While attempting to obtain information on the July 14 crash, it was learned that another similar accident occurred on July 4. Subsequent investigation disclosed that this took place in East Deception Canyon just one-fourth mile west and south of the monument boundary [just

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323 Memorandum from Duane D. Jacobs, Acting Custodian of Joshua Tree National Monument to the Director of the National Park Service, December 1, 1943. On file at Joshua Tree National Park, Cultural Resources Branch.

324 Memorandum from F.R. Givens, Acting Custodian of Joshua Tree National Monument to the Director of the National Park Service, April 4, 1944. On file at Joshua Tree National Park, Cultural Resources Branch.


outside the JTNP and the added lands]. Eight men lost their lives in this collision. Much of the heavier parts of the bomber, such as engines, guns, etc. was not removed or buried at this site. The accident was in a small canyon not accessible for automotive equipment.327

Movement of troops and equipment from the DTC/C-AMA through the Monument also left an imprint on the landscape. A memorandum from the Acting Superintendent to the Director of the National Park Service on January 2, 1943, for example, mentioned that “due to 200 Army trucks with gun trailers being conveyed across the Monument on the north to south boundary road, certain sections of road in Pinto Basin were rendered almost impassable, necessitating considerable work.”328 The U.S. Forest Service also built and operated two aircraft warning stations for the Fourth Fighter Command of the U.S. Army within the boundaries of the Monument at Pinto Basin and Split Rock from February 28, 1943, to October 20, 1943.329

The expected cultural resources in the added lands that are associated with these permitted and trespass activities of the DTC/C-AMA between 1942 and 1944 include tank and other military vehicle tracks, trash dumps, ordnance fragments and impact marks, foxholes, footpaths, rock foundations, and camping structures, such as tent platforms and privy pits. Following is a list of cultural resources already documented, none of which is considered to be individually eligible for listing in the National Register of Historic Places but which may contribute to a district or cultural landscape.

**CA-RIV-7311H**
Township 3S, Range 16E, Section 9
USGS Coxcomb Mountains 7.5-minute Quad

This site is an historic trash dump (tin cans, wire hangers, and glass bottle fragments) probably associated with DTC/C-AMA activities.

**CA-SBR-11566/H**
Township 1S, Range 15E, Section 25
USGS Cadiz Valley SE 7.5-minute Quad

This is a prehistoric midden site with milling stones, pottery, and lithics; it includes three pieces of metal shrapnel probably associated with DTC/C-AMA activities.

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327 Memorandum from James E. Cole, Superintendent of Joshua Tree National Monument to the Director of the National Park Service, September 4, 1944. On file at Joshua Tree National Park, Cultural Resources Branch.
328 Memorandum from Duane D. Jacobs, Acting Superintendent of Joshua Tree National Monument to the Director of the National Park Service, January 2, 1943. On file at Joshua Tree National Park, Cultural Resources Branch.
329 Memorandum from Duane D. Jacobs, Acting Custodian of Joshua Tree National Monument to the Director of the National Park Service, March 1, 1943 and November 5, 1943. On file at Joshua Tree National Park, Cultural Resources Branch.
**Camp Coxcomb Target Range**
Township 2S Range 16E Section 32
USGS Coxcomb 7.5-minute Quad

This unrecorded site has two to four pop-up targets used for firing practice and .50 caliber bullet impact marks in adjoining rocks associated with DTC/C-AMA activities.

**Camp Coxcomb Foxhole**
Township 3S, Range 16E, Section 27
USGS East of Victory Pass 7.5-minute Quad

This unrecorded site is a foxhole associated with DTC/C-AMA activities.

**Coxcomb Post Line**
Township 4S, Range 16E, Section 11
East of Victory Pass 7.5-minute Quad

This unrecorded site is a line of approximately 12 wooden fence posts three feet high, some still standing, and probably associated with DTC/C-AMA activities.

**Coxcomb Rock Foundation**
Township 4S Range 16E, Section 11
East of Victory Pass 7.5-minute Quad

This unrecorded site consists of five square rock formations probably associated with DTC/C-AMA activities.
Recreation is another theme in the history of the added lands. The establishment of Joshua Tree National Monument in 1936 shifted the direction of the region toward recreation and tourism (Figure 95). People continued to homestead, but they were more likely to build weekend retreats than permanent homes. Mining continued to be a prime regional industry until World War II; after the founding of the Monument, however, some mines became tourist destinations. The recreational history of the area includes rockhounding, automobile touring, hiking, and camping (Figure 96).

Figure 95. Joshua Tree National Monument Oasis Headquarters Building in 1955 (photograph on file at Joshua Tree National Park, JTNM #11).

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ROCKHOUNDING

Rockhounds, or individuals who search for minerals and gemstones, have been historically active in the region of JTNP. Most early rockhounds were prospectors seeking out valuable minerals and gemstones for commercial use. Rockhounding in more recent years, however, has an additional recreational focus, as individuals look for and collect rock and mineral specimens for pleasure. During the 1930s, interest in rockhounding increased significantly, as reflected in the number of rockhounding groups and mineralogical societies founded in this decade. For example, the first club in California, the Mineralogical Society of Southern California in Pasadena, was formed in 1931.331 The Los Angeles Mineralogical Society (1932), the Orange Belt Mineralogical Society of San Bernardino (1932), the Mineral Society of San Diego (1934), the West Coast Mineral Society of Fullerton (1934), the Northern California Mineral Society (1935), and the Kern County Mineral Society (1935) followed shortly thereafter. These individual societies collectively formed the California Federation of Mineralogical Societies (CFMS), which held its first convention in January 1936 in Riverside.332 Rockhounding groups facilitated the growth of rockhounding as a recreational activity by holding conventions, organizing society-sponsored field excursions, and publishing the location of rock and mineral sources in their newsletters. With the increased popularity of rockhounding, some rockhounds regarded certain areas as their own and feared that other collectors would deplete their rocks and minerals. This led to substantial amounts of material being removed and an increase in

331 California Federation of Mineralogical Societies, Inc. accessed at http://www.cfmsinc.org/
Mineralogical Society of Southern California accessed at http://www.mineralsocal.org/
332 Ibid.
mining claims. By the 1960s the government saw a need to regulate the collection of rocks and minerals on public lands.333

Part 8365 of Title 43 CFR (Code of Federal Regulations) provides for the collecting of “reasonable quantities” of rocks, minerals, semiprecious gemstones, and invertebrate and plant fossils of non-scientific importance, for personal use. With respect to rockhound material, a “reasonable quantity” is not more than can be carried in a daypack.334 Regulations do not allow collecting on “developed recreation sites and areas,” such as in national parks, or where otherwise prohibited or posted.335 Claimants are allowed unlimited collection of minerals on their own mining claims and may market their minerals for collection by others. For example, Barry Storm, owner of the Storm Jade mine in the Eagle Mountains, advertised his jadeite source to local rockhounding groups and charged one dollar per pound of material with a 5-pound limit.336 Rockhounding societies, sponsored field excursions, newsletters, and mineral owner promotions undoubtedly have encouraged a throng of rockhounding activity in the Mojave Desert from the 1930s to today.

AUTOMOBILE TOURING

An important recreational activity prevalent in JTNP and the region, both historically and today, is automobile touring. Motoring on the desert’s isolated and occasionally precarious network of roads began with the introduction of the automobile for mass consumption. As early as 1900, automobile associations such as the nascent Automobile Club of Southern California encouraged weekend driving excursions to many of California’s natural attractions, including the Mojave Desert and the Colorado Desert. By signposting roads, inspecting road conditions, publishing maps and guidebooks, and distributing a motoring magazine, the Automobile Club of Southern California (a local branch of the national Automobile Association of America) has been instrumental in the development of automobile touring in the California desert regions. The Automobile Club began signposting roads as early as 1906 and by 1909 had commenced publication of road maps and guidebooks.337 The Club’s magazine, Touring Topics, began distribution in the same year. Thus, the Automobile Club not only exposed the motoring public to interesting and exotic destinations through their publications but aided travelers in navigating around the often unimproved roads of California’s remote desert regions. For example, one of the Automobile Club’s first maps, the Map of a Portion of Southern California and Southwestern Nevada Embracing the Arid Region of the Mojave Desert, Colorado Basin, and Death Valley (1914-1917), gives information on roads and water sources for recreational motorists. This map contains incredible detail for the area that was to become JTNP, including

334 Ibid.
335 Ibid.
336 Storm Jade Mine files. On file at Joshua Tree National Park, Cultural Resources Branch.
the conditions of roads and the locations of wells, springs, and water holes.\textsuperscript{338} The Automobile Club published an updated map for the area in 1930.\textsuperscript{339}

The Automobile Club encouraged travel to the Joshua Tree area in several articles published in their serial publication Touring Topics (to become Westways in 1934). For example, in a series entitled “Intimate Motor Journeys Through Familiar and Unfamiliar Southern California,” the Automobile Club presented a driving tour, “Motoring Meccas of the Mojave Desert,” which gave readers instructions on how to traverse the desert views, delightful oases, and spectacular natural scenery of the Mojave.\textsuperscript{340} Shortly after the establishment of Joshua Tree National Monument in 1936, the Automobile Club provided a cartoon map of the Park featuring areas of special interest to motorists.\textsuperscript{341} In later years they continued to encourage travel to the area’s many desert attractions and curiosities.\textsuperscript{342}

Another factor influencing automobile touring in the Joshua Tree area was its proximity to one of the first transcontinental highways, Route 66. Officiated in 1926, this main east–west thoroughfare connected Chicago to Los Angeles and aided the mass migration of people and goods to the West, from the 1930s to the 1970s. In addition to western migration and transcontinental commerce, Route 66 was integral in a budding tourist industry from its beginning. Store owners, motel managers, and gas station attendants recognized early on that even the poorest highway travelers required food, automobile maintenance, and adequate lodging.\textsuperscript{343} Motorists traveling along Route 66 in eastern California also had the opportunity to explore scenic byways and desert attractions, such as those in the JTNP lands. The development of Highway 60/70 (now Interstate 10), which runs along the southern boundary of JTNP, also helped develop tourism in the area. Hence, motorists’ use of Route 66 and Highway 60/70 greatly encouraged automobile touring in JTNP and the region.

**ROADS**

While historical research of transportation networks, especially roads, is difficult, the HRS research team located some historical information about primary roads in the added lands. In the southwest portion of JTNP, Berdoo Canyon Road, Rockhouse Canyon Road, and Pinkham Canyon Roads have long histories as transportation routes (Figure 97). Berdoo Canyon Road appears on a 1914 Government Land Office (GLO) map of the area. It was one of several routes through the Little San Bernardino Mountains leading to Indio from the Twentynine Palms area. Rockhouse Canyon Road also appears on the 1914 GLO map. It also led from the north through


\textsuperscript{339} Automobile Club of Southern California, “Map of a Portion of Southern California and Southwestern Nevada Embracing the Arid Region of the Mojave Desert, Colorado Basin, and Death Valley, 1930.”


\textsuperscript{341} Butler, “Within and About the Joshua Tree National Monument,” 22.

\textsuperscript{342} Anonymous, “Where Shall We Go This Month? Uncle Sam’s Desert Monument,” *Westways* 33 (January 1941), 19.

\textsuperscript{343} National Historic Route 66 Federation accessed at http://wwwnational66com/66hstry.html
the Little San Bernardinos to Indio, and was a major supply route for operators of the Copper Giant mine (T4S R9E, Section 28 in the added lands). Little is known of the history of the Copper Giant, but the road might date to the late nineteenth century. Pinkham Canyon Road, from Cottonwood Springs westward to the Snow Cloud Mine and southward to Indio, appears on a 1911 and 1914 GLO map; a Native American trail leading from Cottonwood Springs to Indio may also be in this area. The road splits into two routes before exiting the mountains: one route continues through Pinkham Canyon and the other follows Thermal Canyon. Due to the fact that this road was the primary route for miners at the Snow Cloud Mine and prospectors in the southern Little San Bernardino Mountains, it likely dates from the late nineteenth century. All three primary roads follow washes, thus their routes and associated cultural resources are likely in poor condition. In addition, the Rockhouse Canyon Road is open in the added lands but closed in JTNP due to a wilderness area boundary.

Another primary route, the Black Eagle Mine Road, crosses the added lands just before entering the Eagle Mountains and exiting JTNP in the central portion of the Park (Figure 98). One branch heads northward, skirts the eastern boundary of the added lands, and continues northward back into JTNP. The Black Eagle Mine Road served as a main thoroughfare from the Cottonwood Springs Road and Pinto Basin Road eastward to the Eagle and Cottonwood Mountains. This road likely dates to the late nineteenth century, with the movement of prospectors and miners to various historic mines not in JTNP, including the Mission Sweet, Iron Chief, and Black Eagle. The northward branch leads to the Mystery Mine (in JTNP) and points beyond. The Black Eagle Mine Road passes just north of the Storm Jade Mine (in the added lands) and likely served rockhounds and other visitors to Barry Storm’s mine.

In north-central JTNP, one historic route provided alternate access to the Pinto Basin Mine Road from Twentynine Palms via the Gold Park Mining District (Figure 99). This unnamed road is a branch of the Gold Park Road and appears first on a 1920 GLO map as a route from Twentynine Palms to the Piñon Pine Wells. Although the road was not recorded on a 1907 GLO survey, it likely originated in the late nineteenth century with the occurrence of mining at Gold Park mines such as the Paymaster (in the added lands). The road is now in a wilderness area and is closed to vehicular traffic.

Finally, a road in the vicinity of the Snow Cloud Mine may have Native American origins. When Chester Pinkham sold the claim to the Snow Cloud Mine on January 12, 1901, the sale included a mill site “located in connection with the said Snow Cloud mine, containing five acres of land, more or less, and situated about four miles westerly from said Snow Cloud mine, and about one half mile from the Indian trail leading from Cottonwood Springs to Indio.” 344 No additional historical information could be found.

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344 Riverside County Recorder’s Office, Deed Book, unknown number, 395-397, January 12, 1901.
Figure 97. Locations of Berdoo Canyon, Rockhouse Canyon, and Pinkham Canyon roads.
Figure 98. The Black Eagle Mine Road in the added lands.
Figure 99. A branch of the Gold Park Road from Twentynine Palms to the Pinto Basin Road.
CHAPTER EIGHT. FUTURE RESEARCH

This Historic Resource Study concludes with several recommendations for future research on cultural resources in the added lands of the JTNP. Mining activities left the most abundant cultural resources in and the most distinctive imprint on the added lands. The HRS team visited 13 mining sites that promised to have significant cultural resources (Table 2), but field visits to a few other mining sites are recommended. The El Sid Group should be assessed for eligibility for listing in the National Register as a historic district that illustrates a mining landscape; the identification and nomination of other distinctive mining landscapes in the added lands is recommended. The Multiple Property Submission Document on historical mining in Joshua Tree National Park currently in preparation will provide the appropriate context for mining landscape and other mining-related nominations.

Table 2. Mining Sites Recorded and Evaluated for the National Register of Historic Places

<table>
<thead>
<tr>
<th>Mine name</th>
<th>DPR 523 forms prepared</th>
<th>National Register nomination forms prepared</th>
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</thead>
<tbody>
<tr>
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</tr>
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<td>El Sid</td>
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</tr>
<tr>
<td>Fortuitous</td>
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</tr>
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<td>Yes</td>
</tr>
<tr>
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<td>Yes</td>
</tr>
<tr>
<td>Lang Hunt #1</td>
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<td>No</td>
</tr>
<tr>
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</tr>
<tr>
<td>Smith Brothers</td>
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<td>No</td>
</tr>
<tr>
<td>Storm Jade</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Snow Cloud</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Homesteading in the added lands is another unresolved issue. The HRS team found no evidence of homesteads on the added lands, but homesteading may have occurred on some of the many private inholdings contained within the current added lands boundaries. More archival research on their history is needed. Appendix A lists the names of many individuals who may have homesteaded in the area, but chains of title for these properties were not
researched. Many of the inholdings, for example, appear to have been railroad lands that were sold to individuals.

The HRS team did not visit the several springs and wells in the added lands, which include Anshultz Well, Pinkham Well #3, Hayfield Summit Spring, Christmas Spring, Buzzard Spring, Dengler Tank, Buckhorn Spring Tank, Strong Seep, and Coxcomb Guzzler. These resources need to be field checked for the occurrence and condition of cultural resources associated with ranching and mining. Of these, the Coxcomb guzzler was the first of its kind in JTNP and may be the first in the state of California; it should be assessed for its eligibility for listing in the National Register of Historic Places.

More field research needs to be done to identify any cultural resources associated with the Colorado River Aqueduct, especially since these resources are likely to occur along the JTNP boundary, in a vulnerable position in terms of management. The sites of 13 aqueduct construction camps may lie within the boundaries of the added lands; they need to be visited to determine their exact location and to assess their condition (Table 3).

<table>
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<td>6, 7</td>
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<td>Cholla Wash</td>
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</tr>
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<td>East Cottonwood</td>
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Finally, more oral histories should be collected on ranching, homesteading, mining, the Metropolitan Water District, and recreational activities in the JTNP added lands. Additional historical photographs also need to be acquired, especially from the Stanley Ragsdale Collection mentioned in his oral history.\(^{345}\)

\(^{345}\) Stanley Ragsdale, Oral History #29, August 24, 1995.
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### Appendix A. Ownership of Inholdings in JTNP Added Lands

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