

GREEN SPRINGS  
Grand Canyon-Parashant National Monument  
Littlefield vicinity  
Mohave County  
Arizona

HALS AZ-3-C  
*HALS AZ-3-C*

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FIELD RECORDS

HISTORIC AMERICAN LANDSCAPES SURVEY  
National Park Service  
U.S. Department of the Interior  
1849 C Street NW  
Washington, DC 20240-0001

## HISTORIC AMERICAN LANDSCAPES SURVEY

### GREEN SPRINGS

HALS AZ-3-C

- Location:** Grand Canyon-Parashant National Monument, Littlefield vicinity, Mohave County, Arizona
- Green Springs is located on the Shivwits Plateau about 70 miles south of St. George, Utah, in township 31 north, range 11 west, section 9 (Gila and Salt River Meridian). Its geographic coordinates are latitude 36.093297, longitude -113.474219 (North American Datum of 1983). These coordinates represent the float box next to the site's large metal reservoir.
- Present Owner:** Grand Canyon-Parashant National Monument  
National Park Service  
Department of the Interior
- Present Use:** Vacant; preserved as a cultural and natural site
- Significance:** Green Springs is one in a series of line camps within Waring Ranch, a large cattle-grazing operation on the southern edge of the Shivwits Plateau in northern Arizona, adjacent to the Grand Canyon. J. D. Waring assembled the ranch between about 1925 and 1953 and operated it with the assistance of foremen and hired cowhands into the late 1960s. Although Green Springs today comprises just a barbed-wire corral, three metal stock tanks, and scattered wood and metal debris within a beautiful pine forest, it has the longest history of use of any of the sites within the Home Ranch, having been used by Native Americans for hundreds of years before the first sheep and cattle ranchers came to take advantage of its water pockets in the 1870s. Cattle baron Preston Nutter sought ownership of the site in 1900, and controlled it as his own even before it was conveyed by government patent in 1926. Waring bought it sometime in the late 1930s or early 1940s. A sawmill operated at the site during the 1950s.
- Historian:** Michael R. Harrison
- Project Information:** Green Springs, a component site of Waring Ranch, was documented by the Historic American Landscapes Survey of the Heritage Documentation Programs of the National Park Service. The principals involved were Richard O'Connor, Chief of Heritage Documentation Programs; Paul D. Dolinsky, Chief of the Historic American Landscapes Survey; and Jeff Bradybaugh, former Superintendent of Grand Canyon-Parashant National Monument. The documentation

was produced during the summer of 2010 by project supervisor Christopher Stevens, landscape architect, with Anne E. Kidd, architect; Alexander Matsov, architect; and R. Benjamin Lawrence, landscape architect intern. The large-format photography was completed by James Rosenthal. Jet Lowe created the aerial photography. The historical report was written by historian Michael R. Harrison in 2011.

**Related**

**Documentation:**

For detailed information on specific sites within Waring Ranch, see the following HALS documentation:

Waring Ranch, HALS AZ-3  
Horse Valley Ranch, HALS AZ-3-A  
Pine Valley, HALS AZ-3-B  
Spencer Camp, HALS AZ-3-D  
Shanley Camp, HALS AZ-3-E  
Dinner Pocket, HALS AZ-3-F

For additional context on historic ranching and economic activity within the boundaries of Grand Canyon-Parashant National Monument, see:

Tassi Ranch and Springs, HALS AZ-2  
Pine Ranch, HALS AZ-4  
Grand Gulch Mine, HAER AZ-78

## PART I. HISTORICAL INFORMATION

Green Springs was one in a series of line camps assembled and developed by J. D. Waring (1892–1982) to operate his ranch on the Kelly Point plateau north of the Grand Canyon. The history of the Green Springs camp and stock-watering site is given below. For a more complete discussion of the natural and historical context of the entire ranch, see the narrative overview in HALS No. AZ-3 (Waring Ranch).

Archeological remains discovered throughout the area surrounding the head of Green Spring Canyon attest to the use of the Green Springs site by Native Americans over many hundreds of years.<sup>1</sup> The spring- and runoff-fed water pockets that exist about 50' below the canyon rim also attracted the cowhands of the St. George, Utah-based Canaan Co-operative Stock Company in the 1870s, and rancher Benjamin F. Saunders from Salt Lake City claimed them as part of his extensive Arizona Strip cattle-grazing operation in the 1880s. In 1896, Saunders sold his claim on the water rights at Green Springs to Preston Nutter, a prominent Utah rancher who was consolidating control of water rights in the Arizona Strip at this time.<sup>2</sup>

Wishing to secure his rights to the water at Green Springs further, Nutter applied to the federal government for ownership of the land, which had heretofore been public domain. He did this through a process called forest-lieu selection, by which the owners of land within the boundaries of national forest preserves could convey their land back to the government in exchange for the right to select equivalent land from the public domain elsewhere. Nutter did not own land in a forest preserve, so he partnered with C. W. Clarke, a California real-estate broker who did, and applied in 1900 for a variety of parcels in the Arizona Strip as Clarke's attorney-in-fact. His application included 40 acres at Green Springs. Due to a variety of legal and surveying complications, the application took an extended period to prove out, and the land was not patented to Clarke until September 1926, by which point he had died. Nutter immediately exercised control of the patented land through his power of attorney, and in 1928 he formally transferred title to it from Clarke to himself.<sup>3</sup>

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<sup>1</sup> Susan J. Wells, *The Shivwits Plateau Survey: Archeology at Lake Mead National Recreation Area*, Publications in Anthropology 56 (Western Archeological and Conservation Center, National Park Service, U.S. Department of the Interior, 1991), 170–73, 204–15, 269–70

<sup>2</sup> Frederick L. Brown, *Paiutes, Mormons, and Mericats: A History of Grand Canyon-Parashant National Monument* (National Park Service Pacific West Region Office, July 2009), 88, 98; Mike Belshaw and Ed Peplow, Jr., *Historic Resources Study, Lake Mead National Recreation Area, Nevada* (National Park Service report, Aug. 1980), 186.

<sup>3</sup> General Land Office Acting Assistant Commissioner to C. W. Clarke and Preston Nutter, Sept. 17, 1926, Preston Nutter papers, box 49, folder 14; J. Willard Marriott Library Special Collections, University of Utah, Salt Lake City; Indenture between C. W. Clarke and Preston Nutter, June [ ], 1928, and J. Arthur Moore to United States Attorney, May 28, 1929, both Preston Nutter papers, box 52, folder 17; Serial Land Patent No. 986229, Sept. 28, 1926 [C. W. Clarke], Land Entry Files, Records of the Bureau of Land Management (RG 49), National Archives and Records Administration, Washington, D.C. (cited hereafter as **NARA Land Entry Files**).

The entire section of public land around Green Springs actually fell within the limits of a federal land grant that lawyers for the Santa Fe Pacific Railroad were attempting to secure in 1927–28. Although the railroad pressed to have Clarke’s patent cancelled, a federal district court allowed it to stand, and the railroad received a patent on 600 acres around Nutter’s 40 acres at Green Springs in March 1929.<sup>4</sup>

It was rancher Jonathan Deyo “Slim” Waring (1892–1982) who reunified these two land holdings. From 1928, Waring owned the Horse Valley Ranch about 3 miles to the northwest of Green Springs. In 1937, the year after Nutter died, G. W. Hail of St. George and George B. Veater of Salt Lake City purchased Nutter’s Arizona land holdings, including the 40 acres at Green Springs and another 40 acres at nearby Penn’s Pocket. They subsequently sold these tracts to Waring, although the date of the sale has not been determined. Waring then purchased the railroad’s 600 acres in January 1953.<sup>5</sup>

From 1908 to 1916, Green Springs lay within the borders of the Dixie National Forest.<sup>6</sup> Forest Service ranger Martin McAllister visited the site in July 1910. “[W]ent down trail to spring,” he wrote in his diary. “A dead cow was in the water and the stench was terrible. The Main spring comes out of the Volcanice [sic] Rock on the South side of the canyon and is a fine cool spring. There is plenty of water. The trails should be widened and cleaned out and the watering places fixed so stock can water without danger of life.”<sup>7</sup>

The Forest Service required grazing-permit holders within the forest to maintain minimum salt supplies – one pound per head per month – at their water sources. Nutter exercised control of the lands applied for by Clarke despite the fact that Clarke did not actually own them yet, so the local ranger instructed Nutter to deliver 8,258 lb of salt to Green Springs in the fall of 1910.<sup>8</sup>

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<sup>4</sup> The railroad took possession of the N<sup>1</sup>/<sub>2</sub>, SE<sup>1</sup>/<sub>4</sub>, N<sup>1</sup>/<sub>2</sub> of SW<sup>1</sup>/<sub>4</sub>, and SW<sup>1</sup>/<sub>4</sub> of SW<sup>1</sup>/<sub>4</sub> of section 9 in township 31 north, range 11 west, Gila and Salt River Meridian. Nutter’s 40 acres was the SE<sup>1</sup>/<sub>4</sub> of SW<sup>1</sup>/<sub>4</sub> of section 9. Serial Land Patent No. 1024657, Mar. 20, 1927 [Santa Fe Pacific Railroad Co.], NARA Land Entry Files. Correspondence and legal decisions regarding the railroad’s claim and the suit to reclaim Green Springs from Nutter appear in the Preston Nutter papers, box 52.

<sup>5</sup> Agreement between Preston Nutter Corp. and Nutter Livestock Co., sellers, and G. W. Hail and George B. Veater, buyers, June 8, 1937, Preston Nutter papers, box 23, folder 33; Drafts of deed of sale by Nutter Livestock Co. to Veater and Hail, dated Oct. 2, 1937, are in Preston Nutter papers, box 23, folder 31; Deed of sale, Jan. 18, 1953, mentioned in a release from the Santa Fe Pacific Railroad Co., Mar. 18, 1958 (numbered 83101), in Waring land files (L1425), Lake Mead National Recreation Area headquarters, Boulder City, Nev., folder “L1425, Lands, Waring, part 1 of 2”; Belshaw and Peplow, *Historic Resources Study*, 116, 187.

<sup>6</sup> Belshaw and Peplow, *Historic Resources Study*, 186.

<sup>7</sup> Martin L. McAllister, *U.S. Forest Service Diaries, February 5, 1907 to Monday, June 30, 1919*, transcribed by Gail Carbiener, USDA Forest Service, Intermountain Region, July 2008, 158 (entry for July 19, 1910).

<sup>8</sup> John Raphael, circular letter, Apr. 4, 1911, and Willard S. Sorenson to Preston Nutter, Aug. 19, 1910, both Preston Nutter papers, box 58, folder 1.

In 1915, General Land Office inspectors found 10' of piping, a 6' circular trough, two corrals (one 100' x 200', the other 100' square), and a new Forest Service salt house at Green Springs.<sup>9</sup> Seven years later, the corrals and shed were noted by federal surveyors, who drew them onto the official Government Land Office plat of the surrounding township.<sup>10</sup>

Little else is known of the history of cattle-watering improvements at Green Springs. Waring made an application to appropriate public waters at Green Springs in March 1937, before he owned any of the land there.<sup>11</sup> The float box adjacent to the metal reservoir and pair of drinkers on the eastern side of the site today is marked 1953, but no further documentation of these water improvements has been found.<sup>12</sup>

In 1952, Bud Dane of Cedar City, Utah, installed and began operating a lumber mill on the western portion of the Green Springs site. He milled timber he bought at Bureau of Land Management sales, as well as timber cut on Reed Mathis's nearby Pine Ranch and Waring's lands. There is also evidence he felled ponderosa pines at Green Springs itself. Later, Dane contracted the operation of the mill to Ben Bistline from Colorado City, Arizona, who, with a small crew, continued to mill Dane's stockpile of timber as well as additional timber from Mathis's and Waring's lands. "The saw mill was a very good mill," Bistline told an interviewer in 2006. "For a pecker-wood mill, it was top notch. That mill was capable of sawing 20,000 board-feet a day. . . . I don't know if we ever reached that amount."<sup>13</sup>

Bistline worked as the mill's sawyer, and he was assisted by Steven Balmsworth ("on the carriage, running the ratchet for me"), David Cook ("off-bearer"), Andrew Bistline (running

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<sup>9</sup> Brown, *Paiutes, Mormons, and Mericats*, 137.

<sup>10</sup> U.S. Surveyor General's Office, Survey plat of Arizona, Mohave County, Township No. 31 North, Range No. 11 West, Gila and Salt River Meridian, approved Feb. 16, 1925, Bureau of Land Management, General Land Office Records. Field notes on T31N R11W are from the Bureau of Land Management's General Land Office records, Book 3643, pp. 57-58, but are quoted here from a summary document located in the Waring Ranch files, Grand Canyon-Parashant National Monument headquarters, St. George, Utah.

<sup>11</sup> Belshaw and Peplow, *Historic Resources Study*, 181.

<sup>12</sup> Shaun Provencher and Len Warner, *Cultural Landscapes Inventory for Waring Ranch, Grand Canyon-Parashant National Monument* (National Park Service, 2003), 3a.14.

<sup>13</sup> Western Farm Management Company, *Appraisal Report of Waring Ranch, Mohave County, Arizona, for National Park Service*, [1966], 14, in Waring land files (L1425); Wells, *Shivwits Plateau Survey*, 204-05; Ben Bistline, interview by Milton Hokanson, Feb. 17, 2006, Grand Canyon-Parashant National Monument Oral History Collection, Val A. Browning Library Special Collections, Dixie State College, St. George, Utah.

According to Reed Mathis's son Wallis, Dame operated his mill "just inside the [Lake Mead] park boundary line going toward Horse Valley," a spot approximately between the Mathis family's Pine Ranch and Waring's ranch at Horse Valley; when Ben Bistline took over the mill, he moved it to Green Springs. Reed Mathis told historian Mike Belshaw in 1977, however, that these were two different sawmills, both set up by Dame, the first located on the road between Lake Flat and Horse Valley, and the second at Green Springs. Wally Mathis, interview by Milton Hokanson, Jan. 24, 2005, Grand Canyon-Parashant National Monument Oral History Collection; Belshaw and Peplow, *Historic Resources Study*, 235.

the edger), David Bateman (running the cut-off saw), Richard Cook ("tailed the edger"), and Elmer Johnson (stacking the boards). Bistline's brother Danny also worked there, as did his mother and two of his sisters, who ran the cook house.<sup>14</sup>

The sawmill was powered by two six-cylinder diesel GMC truck engines geared together. These were surplus landing-craft engines acquired from the U.S. Navy. The engines generated about 400 horsepower, Bistline recalled, and powered the main saw directly. Other mill components run off belts, while a generator powered by the engines ran the feeder and the log turner. The mill engine also ran a pump to draw water up from the pockets in the canyon, but whether this arrangement supplied only the needs of the sawmill or the stock tanks on the east side as well is unknown.<sup>15</sup>

The mill was located close to the edge of Green Spring Canyon, and a chute extended from the mill to dump slabs and sawdust directly off the edge into the chasm below. The operators burned the slab pile from time to time. Immediately north of the mill along the canyon edge stood two or three cabins plus the two-room cook house. Bistline's mother and sisters used one room as a bedroom and the other as the camp's kitchen and dining room.<sup>16</sup>

According to Wally Mathis, Reed Mathis accepted rough-cut lumber from the mill as payment for the trees cut on his property, and he used it to build corrals at Pine Ranch, Mociac Well, and on the Mathis family farm west of St. George.<sup>17</sup> The cabin at Shanley Camp is also said to be made of lumber milled at Green Springs.<sup>18</sup> The mill's operators used cars and trucks to bring themselves and supplies in, and trucks to get the finished boards out. "When we went out there," Bistline recalled, "there was an old Model T Ford pickup there. Some of the boys, like my brother Danny, would actually crank it up and use it to haul barrels of water." The ruined cab and chassis of an early-1930s Ford Model AA at the site today could be the remains referred to in this story.<sup>19</sup>

According to Grace Mathis, Bistline and his group worked at Green Springs for two summers.<sup>20</sup> One weekend, in 1958 or 1959, when most of the crew were away camping at the Grand Gulch Mine and fishing at Lake Mead, the sawmill burned down. The only people on site at the time were Dick Cook, his wife, and Ben Bistline's mother. The fire's cause is unclear, but it appears to have started at the engines. Without the engines to run the water pump, there was no water pressure, and the mill simply burned down. The cut lumber waiting for shipment was undamaged and was subsequently shipped out, but logs awaiting milling were left in place. Bud Dane sought \$45,000 in compensation from Bistline for the

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<sup>14</sup> Ben Bistline interview.

<sup>15</sup> *ibid.*

<sup>16</sup> *ibid.*

<sup>17</sup> Wally Mathis interview.

<sup>18</sup> Belshaw and Peplow, *Historic Resources Study*, 179.

<sup>19</sup> Ben Bistline interview.

<sup>20</sup> Grace (Shumway) Mathis, interview by Milton Hokanson, Oct. 21, 2006, Grand Canyon-Parashant National Monument Oral History Collection.

lost mill, but Bistline's attorney found a loophole in his contract that allowed him to leave 3,000 board-feet of lumber at the site in place of completing the terms of the contract. This he did and this lumber remains at Green Springs today.<sup>21</sup>

Waring sold Green Springs back to the government in 1967 for management by the National Park Service as part of Lake Mead National Recreation Area. Today, the site is part of Grand Canyon-Parashant National Monument, created in 2000.<sup>22</sup>

## PART II. PHYSICAL INFORMATION

### **A. Landscape character and descriptive summary**

The forested edge of the Shivwits Plateau meets the head of Green Spring Canyon at Green Springs, a place where spring- and runoff-fed natural basins provide a predictable source of water for much of the year. Native communities made use of these water pockets for hundreds of years before ranchers began bringing their cattle and sheep here in the 1870s. Evidence of past ranching use is now largely confined to the land just north and just east and southeast of the canyon tip, where a corral and stock tanks remain. To the west, however, an entirely different use is hinted at by the few scattered traces of the sawmill that operated at the site in the 1950s, an operation entirely separate from the stock watering across the gorge.

### **B. Character-defining features**

#### **1. Natural features**

**a. Topography:** The Green Springs site generally slopes from north to south as the plateau land meets the rim of the canyon. The western section of the site is predominantly flat, but north and northeast of the canyon tip the land, cut through by multiple natural drainage paths, is more rolling, and great carpets of basalt rock have been exposed by seasonal water flows. The basalt is the result of ancient eruptions from Mount Dellenbaugh, four miles to the northwest, and it overlays the Kaibab limestone seen in the slopes and bottom of the canyon.

**b. Vegetation:** Ponderosa pine (*Pinus ponderosa*), Utah juniper (*Juniperus osteosperma*), pinyon pine (*Pinus edulis*), along with big sagebrush (*Artemisia tridentata*) and grasses make up the preponderance of the vegetation at Green Springs.

**c. Water:** Three natural drainages converge at the head of Green Spring Canyon, one from the northwest, one from the north, and one from the northeast. Although dry most of the year, these washes drain seasonal and storm runoff through the site into the

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<sup>21</sup> Ben Bistline interview.

<sup>22</sup> The relevant warranty deed for Waring's sale of Green Springs to the federal government appears in Waring land files (L1425), folder "L1425 J. D. Waring (2 of 2) 4-6-66."

canyon, where the water collects in two natural rock basins or pockets. One pocket sits about 50' immediately below the edge of the tip of the canyon; another is an additional 50' lower in the canyon and about 150' downstream. In addition to collecting runoff, the upper pocket is fed by natural seepage through the limestone cliff face around it – the eponymous Green Spring itself. The existence of multiple water pockets may lend the site its customary plural name.

## 2. Designed features

**a. Land use (spatial organization):** Green Springs is generally organized into three sections around the tip of Green Spring Canyon. On the east side of the canyon are tanks and water pipes associated with the effort to support cattle by pumping water from the natural pockets in the canyon below. To the north sits a fenced corral and fragments of a building. To the west is the site of the sawmill that operated in the 1950s, where the large clearings still evident among the trees were used to store logs and cut lumber. A few piles of logs and lumber remain, but the exact site of the sawmill, although it was along the western rim of the canyon, has not yet been determined. (See the figures at the end of the report.) A wood foundation and metal mattress springs near the rim, northwest of the timber and lumber debris, may mark where the three or four cabins of the sawmill camp stood.

**b. Circulation:** The main southeasterly tending road from Horse Valley Ranch to Kelly Point jogs a third of a mile east and then a quarter of a mile south to pass around the tip of Green Spring Canyon. Green Springs lies entirely to the south and west of this jog, and four spur roads lead into the camp from the main road. One passes along the western side of the site, connecting the former sawmill areas to the main road. A second, only about 130' long, leads to the corral. The final two lead from the main road to the vicinity of the stock tanks, one terminating on each side of a fence that divides the tank area from the balance of the eastern section of the site.

**c. Views and vistas:** Green Springs is heavily forested with ponderosa pines, juniper trees, and pinyon pines which block distant views throughout much of the site. The intrusion of the point of Green Spring Canyon into the middle of the site, however, creates spectacular views of tree-lined limestone cliffs stretching to the south.

### **d. Constructed water features:**

*Large metal reservoir.* The east section of the site is dominated by a 30,000-gallon, 14'-diameter, open-topped reservoir or tank, erected in 1953. Corrugated, galvanized-iron sheets form the 5'-high sides of the tank. These sit atop a plinth made of concrete poured to a thickness of about 1.5' over a foundation of basalt rocks. Two pipes protrude into the tank from the concrete floor. One sticks almost straight up to a height of 5'; the other runs parallel to the bottom of the tank for a few feet. Immediately southwest of the tank is a 51" x 59" x 23" concrete box. This was either

a housing for the pump that filled the tank or a float box for regulating the supply of water from the tank to the two nearby drinkers.<sup>23</sup>

*Pipes.* A length of iron pipe and a length of plastic pipe lead into the canyon from the vicinity of the storage tank and drinkers down. These were used to draw water up to the rim from the natural pocket below. The metal pipe in particular is fastened with wire, chains, and cable to a tree at the rim, to support it as it plunges into the canyon.

*Small metal reservoirs or drinkers.* Two circular stock tanks, called drinkers, sit immediately south and southwest of the large tank. Made of galvanized steel, they are each 7' in diameter and 2' high, and have the words "COLUMBIAN RED BOTTOM TANK / TANKS FOR THE WORLD" stamped into the tops of their sidewalls. They were formerly used to water cattle.

**e. Buildings and structures:** A few structure fragments survive at Green Springs. A fenced enclosure creates a corral or pen in the north section of the site, adjacent to the canyon rim. (This pen has two portions, a fully enclosed northern portion and a larger southern portion bounded on one side by the canyon rim alone.) Just east of the pen is an 8' x 8' section of milled-lumber flooring or wall, possibly from a cabin but also said to be from a salt house associated with the adjacent corral.<sup>24</sup> In the west section are the 7' x 7' remains of a wood foundation, also located along the canyon rim.

**f. Small-scale features:**

*Fences.* The fences at the site are made of log poles strung with four or five lines of two-strand barbed wire. In some places, woven-wire fencing is used instead of barbed wire.

*Sawmill debris.* A stack of logs and a pile of milled lumber sitting west of the canyon provide evidence of the sawmill that operated at Green Springs in the 1950s. A few metal and mechanical components from the mill also remain at the site, such as some cables and a section of roller rail that matches period photos of the sawmill in operation.

*Vehicles:* The west side of the site contains the remains of two trucks and a variety of other automotive related debris. These include a Model AA truck chassis and cab from the early 1930s, the cab of a late-1940s Reo truck, a trailer bed, and at least one automotive transmission and differential.

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<sup>23</sup> The concrete box is described as a float box in Western Farm Management Company, *Appraisal Report*, 20, but as a pump box in Patrick D. Nolan, *An Appraisal of the J.D. Waring Ranch located approximately 95 miles south of St. George, Utah*, 1966, 18, in Waring land files (L1425). It bears the inscription "JD Waring 1953" according to Provencher and Warner, *Cultural Landscapes Inventory for Waring Ranch*, 3a.14. This inscription was not verified by the HALS field team in 2010.

<sup>24</sup> Belshaw and Peplow, *Historic Resources Study*, 186.

**g. Archeological sites:** A National Park Service archeological team surveyed 72 acres around the head of Green Springs Canyon in 1990 and discovered extensive Native American artifact scatters as well as some structure remains. These included agricultural features (terraces, check dams, clearings, and field houses), roasting pits, metate and mano stones, ceramics, points, bifaces, and debitage. Most were estimated to date from the Pueblo II period (AD 900–1150), although some had been disturbed by the apparent cutting and dragging of ponderosa pine trees to the former sawmill.<sup>25</sup>

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<sup>25</sup> Wells, *Shivwits Plateau Survey* 170–73, 204–15, 269–70.

### **PART III. SOURCES OF INFORMATION**

#### **A. Primary Sources**

Grand Canyon-Parashant National Monument Oral History Collection. Val A. Browning Library Special Collections, Dixie State College, St. George, Utah.

Land Entry Files. Records of the Bureau of Land Management (RG 49). National Archives and Records Administration, Washington, D.C.

McAllister, Martin L. *U.S. Forest Service Diaries, February 5, 1907 to Monday, June 30, 1919*. Transcribed by Gail Carbiener. USDA Forest Service, Intermountain Region. July 2008.

Preston Nutter Papers. J. Willard Marriott Library Special Collections, University of Utah, Salt Lake City, Utah.

Waring file. Bureau of Land Management offices, St. George, Utah.

Waring Ranch files. Grand Canyon-Parashant National Monument headquarters, St. George, Utah.

Waring land files (L1425). Lake Mead National Recreation Area headquarters, Boulder City, Nevada.

#### **B. Maps**

U.S. Surveyor General's Office. *Survey Plat of Arizona, Mohave County, Township No. 31 North, Range No. 11 West, Gila and Salt River Meridian*, approved Feb. 16, 1925. Bureau of Land Management, General Land Office Records, <http://www.glorerecords.blm.gov/>.

#### **C. Secondary Sources**

Belshaw, Mike, and Ed Peplow, Jr. *Historic Resources Study, Lake Mead National Recreation Area, Nevada*. National Park Service report, Aug. 1980.

Brown, Frederick L. *Paiutes, Mormons, and Mericats: A History of Grand Canyon-Parashant National Monument*. Draft. National Park Service Pacific West Region Office, July 2009.

Provencher, Shaun and Len Warner. *Cultural Landscapes Inventory for Waring Ranch, Grand Canyon-Parashant National Monument*. National Park Service, 2003.

Wells, Susan J. *The Shivwits Plateau Survey: Archeology at Lake Mead National Recreation Area*. Publications in Anthropology 56. Western Archeological and Conservation Center, National Park Service, U.S. Department of the Interior, 1991.

**FIGURE PAGES**



Figure 1. The large metal reservoir, the two drinkers, and the concrete float box at Green Springs, 1966. From Patrick D. Nolan, *An Appraisal of the J.D. Waring Ranch located approximately 95 miles south of St. George, Utah, 1966*, Waring land files (L1425), Lake Mead National Recreation Area headquarters, Boulder City, Nevada.



Figure 2. Hauling logs to the Dame sawmill at Green Springs, 1952. Lake Mead National Recreation Area photo no. 05511 (551.581).



Figure 3. The Dame sawmill at Green Springs, 1952. Lake Mead National Recreation Area photo no. 05490 (551.581).



Figure 4. The Dame sawmill at Green Springs, 1952. Lake Mead National Recreation Area photo no. 05491 (551.581).



Figure 5. The Dame sawmill at Green Springs, 1952. Lake Mead National Recreation Area photo no. 05460 (551.581).



Figure 6. The Dame sawmill at Green Springs, 1952. Lake Mead National Recreation Area photo no. 05497 (551.581).



Figure 7. The Dame sawmill at Green Springs, 1952, view looking toward the canyon edge. Lake Mead National Recreation Area photo no. 05495 (551.581).



Figure 8. Slab chain and sawdust chute of the Dame sawmill at Green Springs, 1952, view looking toward the canyon edge. Lake Mead National Recreation Area photo no. 05496 (551.581).



Figure 9. The Dame sawmill at Green Springs, 1952. View from the head of Green Spring Canyon looking toward the slab and sawdust chute. Lake Mead National Recreation Area photo no. 05492 (551.581).



Figure 10. The Dame sawmill at Green Springs, 1953. View shows lengthened chute and smoke from the burning of slabs and slash deposited in the canyon. Lake Mead National Recreation Area photo no. 05744 (551.581).



Figure 11. The Dame sawmill at Green Springs, 1953. Lake Mead National Recreation Area photo no. 05740 (551.581).



Figure 12. Logs and cut lumber at Green Springs, 1953. Lake Mead National Recreation Area photo no. 05742 (551.581).



Figure 13. Cut lumber stockpiled at Green Springs, 1953. Lake Mead National Recreation Area photo no. 05743 (551.581).