

United States Department of the Interior
National Park Service

National Register of Historic Places
Multiple Property Documentation Form

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This form is for use in documenting multiple property groups relating to one or several historic contexts. See instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. For additional space use continuation sheets (Form 10-900-a). Type all entries.

A. Name of Multiple Property Listing

Railroad Logging Era Resources of the Cañon de San Diego Land Grant in North-Central New Mexico

B. Associated Historic Contexts

Railroad Logging of the Cañon de San Diego Land Grant in North-Central New Mexico, 1922-1941

C. Geographical Data

[REDACTED]

☐ See continuation sheet

D. Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this documentation form meets the National Register documentation standards and sets forth requirements for the listing of related properties consistent with the National Register criteria. This submission meets the procedural and professional requirements set forth in 36 CFR Part 60 and the Secretary of the Interior's Standards for Planning and Evaluation.

Evan J. Morris

7-27-92

Signature of certifying official

Date

USDA Forest Service

State or Federal agency and bureau

I, hereby, certify that this multiple property documentation form has been approved by the National Register as a basis for evaluating related properties for listing in the National Register.

Beth Boland

3470
See letter 8/10/92

9/11/92

Signature of the Keeper of the National Register

Date

E. Statement of Historic Contexts

Discuss each historic context listed in Section B.

Title of Historic Context

Railroad Logging History of the Cañon de San Diego Land Grant in North-Central New Mexico.

Geographical Limits

The study area for this historic context is the [REDACTED]

Introduction

During the period 1922-1941, a cultural and economic phenomenon occurred in the Jemez Mountains of north-central New Mexico that was to change forever the cultural and natural landscape there. In 1921 Guy and Mary Porter, of West Virginia purchased the rights to the timber on the Cañon de San Diego land grant. They also announced their intention to build a railroad from Bernalillo, New Mexico some 40 miles northwest up into the virgin timber of the grant. The railroad was built in 1922 and became known as the Santa Fe Northwestern Railroad. During the next 19 years, loggers cut and removed millions of board feet of timber from the mesas and canyons of the grant. After being processed into dimensional lumber and trim at mills in New Mexico, the timber was used to construct thousands of homes in New Mexico and elsewhere.

Although the railroad certainly made getting the timber out of the grant easier, transporting the timber from where it grew to the railroad landings required large crews of loggers, a lot of equipment, and tremendous amounts of back-breaking labor. The loggers found it easier to live close to their work. They constructed cabins and other structures to live in and clustered them together in large logging camps.

During the 1920s and 1930s, loggers built and lived in dozens of these large camps while logging different sections of the grant. Some of the camps were razed after the particular area in which they were located was logged. Many of the camps were simply abandoned and survive today.

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number E Page 1

In 1941, severe flooding washed out several sections of the railroad. The expense of repairing the railroad forced the company to abandon the line. After World War II began, the rails from the old railroad were salvaged for the war effort. The war drew away many of the men who had logged the grant.

Logging continued on the grant after the war, but the timber was trucked to the mills. The large crews of loggers that had formerly occupied the old camps were greatly reduced in sized thanks to more modern equipment and methods. They did not need to live in the area they were logging as in times past. For all practical purposes, the railroad logging era in the Cañon de San Diego de los Jemez grant ended with the floods in 1941.

Environmental Setting

The 116,289 acre Cañon de San Diego Grant occupies a diverse environmental region. The elevation of the grant ranges from about 5,600 feet (1,707 m) at the lower southern end to about 9,500 feet (2896 m) at the northwest corner. To generalize, the grant is trapezoidal in shape, and lies east of the Sierra Nacimiento, north of the Jemez Pueblo grant, south of Fenton Lake, and west of the village of Ponderosa. Two major drainage systems, the Rio Guadalupe and the Rio Jemez, provide good supplies of water.

Part of the grant lies on what is termed the southern Jemez Plateau (Bailey et al. 1969). The Jemez Plateau is a part of the Jemez Mountain range, a complex volcanic formation of Tertiary and Quaternary age (Ross et al. 1961). The central feature of the Jemez Mountains is the Valle Caldera, a large collapsed volcanic crater about fifteen miles in diameter. The Valle Caldera overlies a slightly older but similar feature, the Toledo Caldera. The western portion of the grant lies on the eastern slope of the Sierra Nacimiento.

Volcanism in the area began in the early to middle Pliocene Epoch with the eruption of basalt, and continued intermittently through the Pliocene with successive eruptions of andesite, dacite, quartz latite, and rhyolite. Volcanic activity culminated in the Pleistocene with the eruption of rhyolitic ash flows.

The eruptions that formed the Toledo and the Valle Calderas occurred about 1.4 and 1.1 million years ago. These eruptions deposited a layer of ash that formed the lower Otowi Member and upper Tshirege Member of the Bandelier Tuff Formation. These eruptions covered an area of up to 400 square miles with the ash that has formed as much as 1,000 vertical feet of tuff. Some fifty cubic miles of ash may have erupted during these events (Ross et al. 1961). The Nacimientos were formed by faulting that took place to the west of the main Jemez Mountain mass. The faults caused an overthrust of Precambrian rocks upward some 3000 to 3500 feet to a position adjacent to the much younger Mesozoic rocks on the west (Purtymun 1973).

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number E Page 2

Soils in the Jemez Province are deepest in the lower elevations where sedimentary rocks have been exposed for long period. These situations typically occur in the canyon bottoms. Soils found on the volcanic deposits have undergone highly variable degrees of formation. Soil depth varies widely in these areas. Soils forming in material derived from limestone, tuff, pumice, or basalt are usually the most fertile in the area (Gass and Price 1980:38).

Thermal, mineral, and cold springs abound in the area. The Jemez Hot Springs, from which Jemez Springs gets its name, are associated with the Jemez Fault, which runs roughly down Jemez Canyon. There are about 10 separate springs forming the Jemez Springs group. The temperature of these 10 springs ranges from 34 to 76 degrees C. (93 to 168 degrees F.). The water quality of these 10 springs is highly variable but is generally high in calcium, magnesium, sodium, bicarbonate, and chlorides. Sulfates are low in these particular springs, unlike those further up the canyon (Purtymun et al. 1974).

Average annual precipitation in Jemez Springs is about 17 inches (43 cm). July and August are the wettest months. Approximately half of the precipitation occurs in the form of intense summer thunderstorms. Snowfall averages about 32.7 inches (83 cm) per winter. Mean annual temperature is from 51.9 degrees F (11 degrees C.). Jemez Springs experiences an annual average of 175 frost-free days.

The vegetation of the grant area varies from a pinyon-juniper woodland at lower elevations to a mixed conifer forest association at higher elevations. The predominant vegetation type on the mesa tops is Ponderosa pine. From the number of large widely spaced stumps observed, it appears that the area was an open, mature Ponderosa pine forest before the logging. The major drainages support a riparian cottonwood-willow association.

Culture-Historical Background

The Jemez Springs area has long been noted for the presence of impressive late prehistoric ruins. These ruins are the remains of the large villages formerly occupied by the ancestors of the residents of present-day Jemez Pueblo. Networks of hundreds of small one to four room structures known as fieldhouses surround the large villages. Many of the logging camps and other sites associated with the railroad logging of the grant are built adjacent to, if not on top of, some of these late prehistoric sites.

Although the focus of this context is on the twentieth century, a brief overview of the prehistory and early history will help demonstrate how human use of the area has changed through time. There is little direct evidence of prehistoric utilization of the study area before the late Archaic Period, or about 1000 B.C. About

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number E Page 3

then a small group of foragers began to occupy Jemez Cave, near Jemez Springs. During investigations at Jemez Cave in the 1930s, archeologists found the earliest evidence of agriculture in the area. Corn plant remains that were found there and later dated by the radiocarbon method yielded a corrected date of about 880 B.C. The Jemez people continued to utilize Jemez Cave well into the historic period.

The earliest habitation sites known in the grant date to the early Developmental Period, or from about A.D. 600 to 900. These sites exhibit pithouse depressions, surface storage facilities, and ceramics such as Lino gray and White Mound Black-on-white. One such site, Forest Service number 1538, is found near the confluence of the Jemez and Guadalupe Rivers.

During the Coalition Period, or from about A.D. 1175 to 1325, population, site size, and site frequency began to increase in the study area, due at least in part to an influx of migrants from the San Juan Basin and Gallina Culture Areas to the west and northwest, respectively. Numerous Coalition Period sites have been recorded and observed in the lower reaches of the Jemez and Vallecitos drainages.

By the start of the Rio Grande Classic Period, or about A.D. 1325, a distinctive cultural adaptation began to develop in the area north of present Jemez Pueblo. This area has been termed the Jemez Province. This cultural florescence resulted in the construction of at least forty large pueblo sites, several thousand small habitation sites known as field houses, and a great areal expansion from the drainage bottoms onto the mesa tops.

Large pueblo sites occur at elevations as high as 8,000 feet. Field house sites occur at elevations as high as 8,400 feet. It appears that the prehistoric inhabitants of the area were principally dry-farming the mesa tops. The nine largest pueblo sites in the area, including several with more than 1,000 estimated rooms and a great kiva, occur on the mesa tops. About 80% of the recorded field house sites also occur on the mesa tops.

Early Spanish explorers found the people they referred to as the Hemes clustered in these large mesa top villages, and some smaller ones in Jemez Canyon. The earliest Spanish contact was a Captain Francisco de Barrionuevo, of Coronado's Expedition. He visited the area in 1541 to acquire (demand) food and other supplies for the expedition. He reported that the natives of the area came out peacefully and furnished provisions. The Rodriguez-Chamuscado and the Espejo-Beltran Expeditions of the 1580s also contacted the Jemez.

These early contacts appear not to have greatly affected the Jemez. However, this was soon to change. In 1598, Don Juan de Oñate established the first permanent Spanish colony near San Juan Pueblo. Oñate soon assigned a Franciscan missionary to the Jemez, Fray Alonzo de Lugo. Lugo did not remain for long, but the process of missionization and reduction (the policy of combining the native residents of several smaller villages into large ones to make them easier to control) had begun in the Jemez area.

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number E Page 4

The 1600s were a period of great turmoil in the region. There was continual strife among the religious and civil authorities in New Mexico. The natives were often caught in the middle of these battles, and resisted the imposition of the Catholic religion and other Spanish institutions upon them in any way they could.

These conflicts led to the Pueblo Revolt of 1680. The Jemez were important participants in the Revolt, and martyred one of their missionaries. After the Pueblo Revolt, the Spanish abandoned New Mexico for 12 years. Most of New Mexico was reconquered by Diego de Vargas in 1692-3. In July 1694, Vargas fought a great battle with the Jemez high on top of Guadalupe Mesa. The Spanish defeated the numerically superior Jemez by virtue of their superior weapons and tactics. After another attempted revolt in 1696, and another military defeat, most of the Jemez apparently abandoned the area. They went west to join other Pueblos, such as the Hopi, and some Jemez began living with the Navajo.

By 1706, present Jemez Pueblo, known as Walatowa, was reestablished. Since about 1716, when 113 Jemez returned to Walatowa from the Walpi Mesa in the Hopi country, virtually all the Jemez have lived at that site. The earliest permanent Spanish settlement in the area dates to about 1768, when Governor Mendinueta granted the Ojo del Borrego land grant near the present day village of Ponderosa to a local group.

In 1798, the brothers Francisco and Antonio Garcia de Noriega, who were said to be Navajo interpreters, and several other settlers petitioned the Governor of New Mexico for a grant of land. The settlement was clustered around the present Cañones area, near the confluence of the Jemez and Guadalupe Rivers. The Spanish population of the area in 1798 was 398 (Scurlock 1981:152). The settlers abandoned the area periodically due to raids by the Navajo.

In 1846, during the Mexican War, New Mexico was taken over by the United States. The 1848 Treaty of Guadalupe Hidalgo ended armed hostilities, and resulted in the permanent acquisition of most of New Mexico. The Treaty promised that all land grants and other property rights of the citizens of New Mexico would be honored. The Surveyor-General's office was set up to hear all land claims. Differences between the land policies of the Spanish and Mexican governments and those of the United States resulted in much confusion and many poor decisions.

The heirs of the original Cañon de San Diego de los Jemez land grantees claimed the entire grant. Congress confirmed their claim in 1861, and the grant was later patented. As was true with many of the land grants in New Mexico, Anglo lawyers and land speculators ended up with most of the land as payment in lieu of attorney's fees. An Albuquerque lawyer named Alonzo B. MacMillan represented the original grantees' heirs in a lawsuit against the heirs of Mariano Otero. Otero's heirs had claimed the grant on the basis of Otero's purchases of small parts of the grant that were also said to include the common lands. The court upheld the original grantees' heirs'

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number E Page 5

rights to the common lands, as well as those of Otero's heirs. The original grantees' heirs offered half their interest in the grant to MacMillan in lieu of fees. The court ordered the entire grant be sold to satisfy the numerous claims on the land. In 1904, a Las Vegas, New Mexico man named Joshua Reynolds bought the grant and turned over the title to the Jemez Land Company (Glover 1989:3).

History of the Santa Fe Northwestern Logging Railroad

Vernon Glover (1989) published a detailed history of the logging railroads in the Jemez Mountains, which included the Santa Fe Northwestern railroad into the Cañon de San Diego grant. Much of the information in the following summary was taken from that work. The reader is referred to Glover's work for the specific references and excellent historical photographs.

The Santa Fe Northwestern Railroad was announced and incorporated during the summer of 1920 to develop the coal, copper, timber, and sulphur of the Jemez Mountains. The original route would have passed on the west side of the Nacimiento Mountains, and not in the grant, running from Bernalillo to La Ventana. Albuquerque developer Sidney Weil and several of his associates promoted the railroad. Weil then apparently had obtained certain timber rights or options on the Cañon de San Diego grant. In 1920, the grant was estimated to hold 425 million board feet of Ponderosa pine timber. Another two billion board feet of timber was available from the adjacent areas of the Santa Fe National Forest, and another 500 million board feet of timber was estimated to lie on the Baca Location Number 1 in the heart of the Jemez Mountain range. In 1921, though, the Jemez Land Company sold the rights to all the timber on the Cañon de San Diego grant to Guy and Mary Porter of Charleston, West Virginia.

The Jemez Land Company issued a right-of-way through the grant to the Santa Fe Northwestern Railroad in 1921 to build the Porter logging branch. The route was fraught with problems, particularly where it crossed Jemez Pueblo lands. Although Weil continued to push for the line to La Ventana so he could develop the coal deposits there, the timber on the Cañon de San Diego grant seemed to present a more lucrative alternative.

Guy Porter was assisted in the New Mexico operations by sons Frank and Lyman, and other West Virginia timber men. Well-known New Mexico lumberman George Breece acquired an interest in the Porter Lumber Company in 1922, and construction on the Santa Fe Northwestern soon began. Ties were cut from the Zuni Mountains and the rails and fastenings were leased from the Atchison, Topeka, and Santa Fe Railroad. Bernalillo donated 100 acres of land to the lumber company for a mill site.

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number E Page 6

In 1922, the White Pine Lumber Company was incorporated with Guy A. Porter as president and George E. Breece as a director. White Pine Lumber began to purchase railroad and logging equipment, including loaders, locomotives, and cars. Work began on the actual construction of Santa Fe Northwestern railroad in November 1922. The work progressed fairly rapidly considering the number of river and arroyo crossings that had to be made. The main problem was in getting right-of-way through Jemez Pueblo. The Pueblo was totally against building the railroad through their land. Unfortunately, there was really no other alternative if the line was to be built. Several Acts of Congress and a number of Federal administrative decisions were required before the railroad was finally allowed to build its track on the east bank of the Jemez River right through the Pueblo.

North of the pueblo, at the confluence of the Rio Jemez and the Rio Guadalupe, known locally as Cañon, the railroad took a turn to the northwest up the Guadalupe drainage. A few miles up the Guadalupe lies the Guadalupe Box, a narrow, steep-sided granite canyon. Since there was no easy way around, the construction crews blasted tunnels through the hard rock. It cost \$500,000 to build just this three-eighths mile section of the railroad, more than half the entire construction cost of the line. North of the Box, the canyon opened up again. The railroad eventually snaked its way up to a point just above Deer Creek Landing. The track of the Santa Fe Northwestern was standard gauge. The 56 and 66 pound per foot rails were laid on untreated pine ties.

Logging began in 1924. Most of this first timber was cut along Deer Creek and its tributaries. The loggers felled the trees using handsaws and skidded the logs to Deer Creek Landing using horses. A track mounted loader then loaded the logs onto railroad cars. At this time the White Pine Lumber Company employed 200 men in the forest, and 100 men at their Bernalillo mill. Guy Porter was President of both White Pine Lumber and the Santa Fe Northwestern. Distinctions between the two companies narrowed dramatically through time.

In 1925, the railroad was extended about five miles northward along the Rio Guadalupe up to its source, the confluence of the Rio Las Vacas and the Rio Cebolla. A new logging camp with railroad facilities was built there. The camp was called Porter, after the owners of the company, of course. Porter had a population of up to 300 people at one time, and had a Post Office from 1933 to 1937 (Pearce 1965:125). Most of the residents lived in log and board cabins scattered about the hills around the camp. There was one large home, called the Lodge, that had been built by the logging superintendent. The Lodge's large rock fireplace and chimney still stand. Porter also had a company store that extended credit to the workers for food, clothing, and supplies.

The first spurs off the main Santa Fe Northwestern line were built in 1926. One spur ran about three and one-half miles up Bales Canyon west of Porter to a logging camp called La Cueva. Two short spurs ran up side canyons from La Cueva. The Bales Canyon Spur was in use until 1928.

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number E Page 7

In 1926 a private timber cruise reported 527,830,000 board feet of merchantable timber on the grant, nearly all of which was Ponderosa pine. The results of the cruise were used to secure additional financing. Most of the wood products from the White Pine Lumber Company were marketed in Kansas and Missouri. By 1927, however, these markets began to dry up and White Pine was in serious financial difficulty. Logging operations nearly ceased. A New York businessman named Abraham Kaplan provided a sorely needed infusion of capital into the operation. In 1929, Kaplan and his associates had acquired a controlling interest in the company, effectively buying out the Porters.

One of Kaplan's partners was Thomas Patrick Gallagher, who moved to New Mexico to begin running the company. In October 1929, the stock market crashed, leaving Kaplan and Gallagher with few remaining assets other than the White Pine Lumber Company. They resumed logging operations with renewed vigor, employing up to 150 men in the woods and 50 more in the mill and in overhauling equipment. Kaplan and Gallagher purchased new equipment, including Caterpillar tractors to skid the logs. In addition to the timber on the grant, the Forest Service awarded White Pine Lumber Company a contract to cut some 207,900,000 feet of timber on Forest Service land near the Rio Las Vacas.

When the railroad began hauling again in 1930, White Pine Lumber Company employed as many as 500 men. By February 1930, three million board feet filled the pond at the Bernalillo mill. The mill sawed up to 175,000 board feet of lumber per 10 hour shift. The company had difficulty keeping up with the demand for their products, and ordered more railroad cars and a new locomotive.

About 1930, the railroad was extended about 7.5 miles up from Porter to the northeast along the Rio Cebolla. One extension went up Trail Canyon and another went up Lake Fork Canyon. These extensions were "lightly built" and served truck and Cat logging in the northern reaches of the grant. The frenetic activity of 1930, however, soon slowed down. In March 1931, the Bernalillo mill shut down, reportedly because of low lumber prices.

The mill shutdown concerned Abraham Kaplan. He worried about the safety of his substantial investment and asked a District Court judge to appoint a receiver to run the White Pine Lumber Company. The judge agreed and ultimately ordered the company sold at auction. In August 1931, the New Mexico Lumber and Timber Company, a newly formed corporation, bought the White Pine Lumber Company for \$1,200,000 and assumed all its debts. New Mexico Land and Timber was headed by George Breece and Thomas Gallagher. Kaplan had some financial interest in the new company. Gallagher eventually purchased Breece's interests in the company.

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number E Page 8

The next few years saw an up and down timber market, with periods of high logging activities and extended shutdowns. Competition was fierce during these Depression years and prices were very low. Some of the old Santa Fe Northwestern spurs were taken up. Two new spurs were built. One ran north from Porter along the Rio Las Vacas to about a mile north of the grant boundary. This spur serviced the large Forest Service timber sale that the company was still harvesting. The other major spur was built in 1934 about four and one-half miles up Virgin Canyon. This spur was used to haul timber harvested off the high mesas west of Jemez Springs; Virgin Mesa, Holiday Mesa, and Stable Mesa. At least eight fairly large logging camps were built on the mesas and in Virgin Canyon during the period 1934-1936. The loggers trucked the timber down steep roads cut from the mesa tops to the canyon bottom to a landing and then loaded it onto railroad cars. The Virgin Canyon and the Lake Fork Canyon spurs were pulled up in 1936. A new spur was built in 1936 up Ojitos Canyon off the Rio Las Vacas extension. A large logging camp called the Ojitos Camp was built at the terminus of the spur.

In 1936, the New Mexico Land and Timber Company bought timber rights to the Baca Location, north of Cañon de San Diego grant. The Baca Location was estimated to hold 400,000,000 board feet of merchantable timber. The plan was to combine this timber with the Forest Service timber and haul it by truck to the Cañon landing where it was to be loaded onto railroad cars.

In 1937, the Porter camp was abandoned and a new camp called O'Neil Landing established. The company store and commissary were moved to Bernalillo, but other buildings and the railroad were moved to O'Neil Landing. From 1937 through 1939, traffic on the Santa Fe Northwestern dropped fifty percent, caused in part by labor difficulties at the Bernalillo mill. There was a general strike at the mill in March 1938, and again in November 1938. Business remained at a fairly low level in 1939, recovering somewhat in 1940.

In May 1941, unusually heavy spring rains in the Jemez Mountains caused flooding that washed out numerous bridges, track, and trestles of the Santa Fe Northwestern. The damage was estimated to cost the company \$90,000 to repair.

The New Mexico Land and Timber Company decided to abandon the rail line rather than spend the money to repair it. They began to haul their timber all the way to the Bernalillo mill on trucks, rather than loading it onto rail cars. When the United States entered World War II, demand for steel and locomotives increased dramatically. The Santa Fe Northwestern's rails and fastenings were pulled up and sold before the end of 1941. The locomotives were sold to other companies.

The New Mexico Land and Timber Company was renamed the New Mexico Timber Company. During the 1940s, New Mexico Timber continued to haul timber by truck from the Cañon de San Diego grant, Baca Location, and Forest Service land to the Bernalillo mill. With the increased mobility the trucks provided, improvements in equipment and logging technology, it was no longer necessary or offered any particular

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number E Page 9

advantage for the logging crews to live in large camps in the timber. The logging camps and the railroad died together.

The railroad tunnels were widened to accept the wider loads of the trucks, and the railroad grade was also widened to provide access to the timber on the grant. About 1948, New Mexico Timber constructed a sawmill at Gilman, just below the tunnels. The Bernalillo sawmill closed, but the planing mill remained open, processing rough-sawn lumber from the Gilman mill. The Gilman mill remained open until shortly before the transfer of most of the Cañon de San Diego grant to the Forest Service in the mid-1960s.

There are no surviving company records from the White Pine or New Mexico Land and Timber Company (Glover, personal communication 1991), so we have no documentary evidence regarding the identity of contractors, how much they were paid, how much timber they cut, or other such information. The primary source for information about the contractors and the loggers has been the loggers themselves. Many of the loggers came from outside New Mexico, homeless because of the Great Depression. The work was dangerous and did not pay much, but it did provide hundreds of workers with the ability to feed and shelter themselves and their families. Loggers can only operate eight months a year up in the Jemez high country in years with normal winters. This undoubtedly created a lot of pressure to get the cut out while the weather permitted. The days were 10 or more hours long, and there were no paid holidays. The timber industry had its ups and downs like all businesses during the Great Depression, and there were many layoffs.

The following information comes primarily from two oral interviews the author conducted with Tommy and Anna Goodman of Canyon, New Mexico. Both of the Goodmans lived and worked at several of the logging camps on the grant. The earliest logging on the grant occurred on either side of the railroad as it was being built to provide timbers and shoring for the numerous trestles and bridges the railroad needed. The first logging camp built to support the railroad construction was a camp at Llano Loco springs. The author recorded this site in 1988 (Forest Service site 2049). Though there are few structural remains at the site, artifacts confirmed that the camp dated to the early 1920s. The Peggy Mesa area was the next area logged. The Bales Canyon spur provided access to the west side of the grant, which was also among the first areas to be logged commercially. The La Cueva logging camp was located near the end of the Bales Canyon spur. The logging of the grant seems to have progressed generally from south to north and west to east.

The main logging contractor for the work on Virgin and Holiday Mesas was Nick Holiday. Holiday was from Oklahoma and had done some logging there. Mr. Goodman described Holiday as "quite the old fellow." Nick had two sons, Ralph and Tobe, who logged with him, and two who were too young to work in the woods, Ari and Clyde. Some of Holiday's sons continued in the logging business in Arizona and Oregon. Mrs.

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number E Page 10

Goodman described the Holidays as “smart men, they knew how to make money.” At least five logging camps were attributed to the Holidays, three on Virgin Mesa (Forest Service site numbers 900, 825, and 745), one large one on Holiday Mesa (Forest Service site number 2624), and a camp said to be the largest of all that unfortunately is no longer extant in Cebollita Canyon. The Cebollita Canyon camp was probably destroyed in a forest fire in 1972, but cans and trash still remain on the site. Most the logging on Virgin, Holiday, and probably Stable Mesas seems to have been done during the period 1934-1936, corresponding to the lifetime of the Virgin Canyon spur of the Santa Fe Northwestern.

Another logging contractor working in the Virgin - Holiday Mesa area was J.F. Daniels. Daniels built a large camp in Virgin Canyon (Forest Service site number 983). This camp is identified as the “Daniels Camp” on a 1943 USGS map of the area. According to Mr. Goodman, another logger named Harmon Chesshir and his crew also lived at the Daniels Camp for a time, but later built their own camp further up Virgin Canyon. This camp is also no longer extant, probably also burned in the 1972 Cebollita fire.

Further west in Lake Fork Canyon at Fogon Canyon was a large camp built by Bill Prestidge (Forest Service site numbers 266, 271, 369, 1315, and 1316). The Goodmans worked for Prestidge both in the Jemez and near Alamogordo. The firm of Prestidge and Seligman was a major player in the timber industry in southern New Mexico during the 1940s (Glover 1983). The Prestidge Camp was probably built by the loggers working on the Stable and Schoolhouse Mesas.

There is a small camp at a spring called Butterfly Springs (Forest Service site number 984) that was known as the Hosey Place. It was originally built and occupied by a logging contractor named Bill Beniger. Jim Hosey was a brakeman on the logging railroad. He married an older woman and moved into the old Beniger camp. The Hoseys were known for their vegetable gardens. They raised and sold their vegetables to the local workers and others. According to the Goodmans, the loggers who worked on the grant came and went in great numbers, working for a while to make a little money, then moving on.

Mrs. Goodman worked ten hours a day seven days a week cooking and cleaning for the logging crews for one dollar a day. The loggers made about three dollars a day. The Goodmans estimated that 90% of the loggers came from Oklahoma or Arkansas. The Goodmans ran the company store at the Ojitos Camps for a time. The Ojitos Camp was built by a contractor named George White (Glover 1989:36). Mrs. Goodman also lived at a small camp in Spring Canyon.

Conclusion

The railroad logging era on the Cañon de San Diego land grant was relatively brief, lasting from 1922 to 1941. The tough economic conditions of the time made logging a marginal enterprise at best. It is difficult to

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number E Page 11

assess the specific role that railroad logging played in the growth and development of the southern Jemez Mountains region, but there is little question that the contribution was significant. The great commercial value of vast stands of timber in the San Diego Grant was recognized initially by the Spanish in their land grant program and later by others who sought to build a railroad into the general area as early as the 1870s. When construction of the SFNW Railroad eventually began in the 1920s, it initiated a period of pronounced change in the economy of Bernalillo and other nearby communities based heretofore on frontier type farming. Bernalillo and the San Diego Grant area developed economic ties with other parts of the country. In order to fund railroad construction links were formed with eastern financiers who were interested generally in development and exploitation of the vast natural resources of the west. The SFNW Railroad specifically provided support to a growing economy in the Zuni Mountains where railroad logging supplied the ties used in construction. The builders of the SFNW Railroad began to purchase and lease rails and other equipment through the AT&SF Railroad, which helped these industries to grow. In addition, the actual construction of the railroad as well as construction of the logging mill at Bernalillo provided many jobs locally. Operation and maintenance of the railroad and generally continuous timber harvest provided more jobs. Thus the era of railroad logging, over its approximate 20 year life span, resulted in opportunities for thousands of wage-earning jobs. Wage-earning jobs provided those living in the area the cash to purchase increasingly available manufactured goods, but also drew numbers of new people to the area, many of whom settled here. The expanding economy laid the foundations for other commercial industries which, in turn, provided additional jobs. Over the life span of railroad logging, hundreds of millions of board feet of timber worth millions of dollars were removed from San Diego Grant land, as well as from surrounding Forest Service and other private land. This timber provided lumber for tens of thousands of homes around the country and construction material for various industries and for military bases. The era of railroad logging led directly to development of the subsequent present-day truck logging industry and laid a foundation for later extensive mining operations in the San Juan Basin.

The effects of all the logging done on the Cañon de San Diego land grant by White Pine Lumber Company and its successors can still be seen today. Because of the lack of scientific forestry practices, many of the timber stands have grown back as thick "doghair" (thin spindly, and essentially worthless) pine. The U.S. Forest Service has a tremendous challenge on its hands in attempting to manage these lands.

Property Types

The Cañon de San Diego grant occupies 116,289 acres of rugged mountains, mesas, and canyons. The construction of the Santa Fe Northwestern railroad and the subsequent logging activities on the grant during the period 1922-1941 left numerous physical remains of several types. While several large areas of the grant have

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number E Page 12

been archeologically surveyed, the majority of the grant has not been surveyed. During the course of all the various archeological surveys that have occurred in this vast area, some 60 sites have been recorded with structural remains that definitely relate to the railroad logging era.

Although the rails from the railroad were removed after the 1941 flooding, portions of the railroad grade are visible today with the ties intact. A major portion of the railroad grade is now Forest Road 376. A few of the old trestles, and some of the log shoring near the Box are still intact. Other railroad features such as wyess are still visible. The railroad grade, trestles, wyess and all other associated features have been assigned the Forest Service site number 1475. However, the physical remains of the railroad do not possess sufficient integrity to be considered significant under any of the National Register significance criteria. The two tunnels through the Guadalupe Box are in use today and were assigned the Forest Service site number 981. However, they were widened in the 1940s to accommodate logging trucks and thus cannot be considered to be in original condition. They do not provide any significant additional information regarding the economic activities of railroad construction and logging beyond what is already known from documentary and oral history.

There are numerous reminders of the logging operations, including roads, mill waste piles, skid trails, landings, log decks and stumps. Features of this type are not normally recorded as archeological sites and are not considered significant.

Of the remaining recorded sites, 58 are considered potentially significant. These 58 sites have intact structural remains consisting of 186 total structures, including cabins, barns, sheds, and outbuildings. Other types of sites dating to the same general period but not considered significant include dumps, isolated lean-tos, and isolated outbuildings or corrals. The structural sites vary from large clusters of cabins and other buildings down to single cabins.

Based on this review of the literature, archeological data, and field inspections, these 58 potentially significant sites have been divided into three associated property types. The property types are 1) Townsite, 2) Logging Camp, and, 3) Isolated Cabin.

National Register Criteria

Sites belonging to these three property types are considered significant at the State level. All sites fitting the definitions of each property type possess the potential for providing important information (criterion D of the National Register Significance Criteria) regarding the economic, social, and organizational aspects of the railroad logging of the Cañon de San Diego land grant during the period 1922-1941. Archeological studies at sites belonging to the three property types, supplemented by historical research and oral interviews, could be expected to provide information useful for answering research questions related to at least the following five study topics:

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number E Page 13

1. *Sequence of occupation and logging* - dendrochronological dates and well-dated artifacts could provide exact dates for the construction of the structures, and by implication, the dates the surrounding areas were logged.

2. *Subsistence* - artifacts and faunal remains could tell us what the residents of these sites ate, and whether they raised their own food by gardening and raising livestock, hunting and wild plant collecting, or brought in food from the company store. Artifacts can also tell us whether the residents were brewing and consuming alcoholic beverages in their camps.

3. *Social organization* - artifacts, structural organization, and architectural analyses could help determine whether there were differences in social or economic status in the residents of these sites. We might also be able to determine the origin of loggers and if there families were present at the sites.

4. *Demography* - through analysis of the structures, artifacts, and spatial organization at these sites, we might be able to determine the populations of the camps and the townsite and how long the structures were occupied.

5. *Work organization and technology* - artifacts at the logging camps and the townsite could tell us how the loggers organized themselves to "get out the cut". Did they all work together, or did they divide themselves into small crews? By what means were the trees felled, skidded, and loaded onto railroad cars? How did logging technology change through time? How did the loggers get to and from their homes?

In addition to the information value of these sites, the properties fitting these three property types appear to qualify for National Register significance on the basis of their association with events that were important in settlement, development and economic growth in the southern portion of the Jemez Mountains (criterion A of the National Register Significance Criteria). Townsites, logging camps and isolated cabins of the San Diego Grant were elements that contributed to the general success of railroad logging in the area.

F. Associated Property Types

I. Name of Property Type Townsite

II. Description

A townsite is defined here as any site of more than 25 structures that had a post office. There is only one townsite on the grant that was associated with the logging railroad, [REDACTED]. The remains of numerous structures are still visible at Porter, but most of the structures are poorly preserved or have been salvaged. The railroad grade is difficult to recognize near Porter due to road construction. Porter was the hub of logging activities on the grant from 1925 to 1937. It had a Post Office from 1933 to 1937. Porter had a population of up to 300. Porter has been assigned Forest Service site number 980. It has not been completely recorded however, so its true extent and preservation is not now known.

III. Significance

As the center of population, railroad activities, cemetery site, and site of the company store, Porter was the most important site associated with the railroad logging of the Cañon de San Diego land grant. The remains at Porter suggest eligibility under criterion D. As the population, administrative, and railroad center of the area, it has the potential to yield important information in several ways. Studies of the trash remains at the site have the potential to provide information regarding the economic, social, and organizational attributes of the railroad logging operation. Studies of the remaining structures at the site can provide important information regarding the construction techniques, architectural traditions, and economic conditions of the town. The layout and plan of the town could be determined through on-the-ground analysis and by looking at historic photos. This could provide important information about the social interactions and status of the residents of the town. Given the importance of the town of Porter in the successful conduct of railroad logging of the San Diego Grant land, townsites may be considered significant under criterion A also. Porter is significant at the State level.

IV. Registration Requirements

In order to be eligible for consideration under criterion D, a property meeting the definition of the townsite property must exhibit the following characteristics:

- (1) The property must contain undisturbed deposits of trash sufficient to demonstrate culturally meaningful spatial relationships among artifacts, structures, features, and faunal remains.
- (2) The property must exhibit enough remaining structural information to permit analysis of construction techniques and site structure.
- (3) The property must contain features related to the railroad logging operation.
- (4) The property must contain datable logs.

Integrity of setting, location, association, and feeling are considered sufficient to qualify townsites as eligible under criterion A.

☐ See continuation sheet

☒ See continuation sheet for additional property types

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number F Page 14

Property type name: Logging Camp

Description: A logging camp is defined here as a historic site with more than one habitation structure, outbuildings, and trash dating to the railroad logging era, 1922-1941. There are 15 recorded logging camps on the grant, some of which have been assigned more than one site number. Table 1 lists the recorded camps, with their site numbers, site names, number of structures, and the builder of the camp where known. There may be other logging camps that are not yet recorded. Many other logging camps have not survived to the present. Forest fires have been a very dangerous enemy of logging camp preservation.

Most logging camps consist of several cabins used as habitations by the loggers, at least one barn, garage, or shop, and other small structures such as corrals, sheds, storage buildings, and outhouses. Most of the habitation structures and larger buildings such as barns are log cabins. Car and truck bodies, equipment, and tools are often found at logging camps, as well as large quantities of domestic trash such as cans and bottles. Logging camps are always located on roads, although some of the roads are no longer in use.

Logging camps seem to differ in more than just size from the third property type, isolated cabins. Isolated cabins are defined here as one habitation with small sheds, storage buildings, or outhouses. Functionally, these sites seem to have served only as habitations. Domestic trash is usually the only type of material remains found in association with these sites. Isolated cabins are often really isolated, that is, separated from the nearest other contemporaneous structure by a mile or more. Many of these sites are out in the woods far from any roads and were probably reached on foot or on horseback. Some of these may have been squatters' quarters, that is, built and occupied without the knowledge of the landowners. There are 36 recorded isolated cabins with a total of 56 structures (these include outbuildings).

The following discussion also applies to the isolated cabin property type. Surviving examples of the cabins found at both the logging camps and the isolated cabins are mostly log cabins that show evidence of being hurriedly built and not occupied for very long. Log architecture is not common in New Mexico until the influx of immigrants from the United States after the American conquest in 1846. Native American log building techniques seem limited to roofing and jacal (vertical logs covered with mud mortar) walls. Hispanic log architecture is uncommon and also limited mostly to jacal (vertical logs) walls (Gritzner 1971, 1979). However, in the Hispanic communities of forested areas of northern New Mexico, horizontal log construction has been in use since 1756, though not common (Gritzner 1979).

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number F Page 15

Table 1
Known Logging Camps on the Cañon de San Diego grant

Site Number	Site Name	num of str	builder
266, 271, 369, 1315, and 1316	Fogon	18	Prestidge
745	Virgin 3	10	Abousleman
825	Virgin 2	7	
900	Virgin 1	12	Holiday
983	Virgin Canyon 1	16	Daniels
984	Butterfly Spring	5	Hosey/Beniger
1035	Stable Mesa Camp	7	Holiday
1415	Virgin Canyon 2	4	
1609		2	
1715	Peggy Mesa Camp	6	Keith
1845		5	
2049		3	
2244		6	
2390		7	
2624	Holiday Mesa Camp	22	Holiday
Total structures		130	

Since an informant has stated that most of the people who built the logging camps were Anglo-American refugees from Oklahoma and Arkansas, it seems likely that most of the log structures at the Cañon de San Diego land grant camps reflect the construction traditions of those areas. An excellent reference for log construction is Terry Jordan's *Texas log buildings: A folk architecture* (1978). Since Texas borders Oklahoma and Arkansas (and New Mexico), this is the most appropriate reference for the log architecture on the Cañon de San Diego

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number F Page 16

grant.

Most of the cabins were single-pen (*pen* refers to an area enclosed by four log walls fastened with corner notching [see Jordan 1978:107]) cabins made from unhewn and unpeeled ponderosa pine logs. Most of the corner notching is either shallow saddle-notching, or double end-notching. The double end-notching is very unstable since the corners are not locked as with saddle-notching, which is itself not the most stable method of corner notching. Most of the logs used in cabin wall construction, except the sill course, are from 8 to 12 inches in diameter. The sill course (bottom row) logs are typically much larger. The chinks (spaces between the logs) were filled with mud, rocks, sticks, shakes, and dimensional lumber.

The roofs of these structures typically had a variant of what Jordan terms Anglo western style. This is a very expedient roofing method whereby a single, usually large diameter (up to 24 inches) ridgepole is laid on the top logs of the pen across the long dimension of the house, with rafters extending from the ridgepole to the plates (top logs). The variation often observed in Cañon de San Diego cabins is the addition of two smaller diameter secondary roofpoles, or purlins, on either side and parallel to the large ridgepole. The function of the purlins may have been to provide additional support to the rafters, which had to support closing material of either milled lumber or split poles. The roof was topped by mud mortar and dirt in most cases, which undoubtedly weighed a lot. No corrugated roofing tin has been observed at any of the cabins, and very little asphalt roofing, shingles, or tar paper has been seen either.

Most of the cabins had one entry, one or two windows, and dirt floors. Windows and doors are crudely framed with dimensional lumber. The doors that survive are made of one-inch thick dimensional lumber nailed to braces. The doors are typically hinged on cut strips of old tires nailed to the door frame and the door. None of the glazing material is left in any of the windows, but there are enough glass shards around the sites to suggest that at least some of the windows were glassed. Some may have only been screened, and boarded up in cold weather. Few of the Cañon de San Diego cabins have built-in interior features. There are a few small tables and shelves in some of the structures.

The logging camps usually have at least one large structure that probably served as a horse barn. Even after the loggers began hauling logs by truck they would ride horses into their camps, and would naturally need a barn to protect their mounts. Barns were usually constructed from much larger logs than cabins, and were seldom chinked (cracks between the logs filled). Other outbuildings included outhouses and small sheds; and corrals, usually in combination with a barn.

In most cases heat was provided to the cabins by a drum stove, an empty 55-gallon steel drum modified by cutting a door in the top, a stovepipe hole on one side, and laying on its side in the floor. A hole was cut in the

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number F Page 17

ceiling and roof to accommodate the stovepipe. Wood appears to have been the primary fuel.

Artifacts found near the habitation structures includes primarily three classes of material. First are the remains (usually cans) of necessities, most often food items such as evaporated milk, coffee, lard, baking powder, and meat. There are also a variety of glass containers such as mason jars, medicine jars, drinking glasses, and pitchers. Ceramic artifacts (except for the prehistoric varieties invariably present) are usually remains of common white dinnerwares, some of which are patterned. The next most common class of goods indicated by the trash at these sites are what archeologists usually call indulgences. These include tobacco, whiskey, beer, and cocoa containers; and also cosmetic containers and children's toys where families were present. The third most common class of material culture items at logging camps, though seldom found at strictly habitation sites, are the remains of the tools and equipment used in the work, such as tires, truck parts, skidding equipment, cables, chains, nuts, bolts, motor oil, fuel, and grease cans, and saw blades.

Significance: Logging camps were occupied for up to several years by loggers and their families. The structures in the camps represent a variety of vernacular architectural styles, primarily variations of Anglo western style. Thus some of the camps with well-preserved structures could qualify for listing under criterion C. The trash and other physical remains could provide important information regarding the subsistence, economics, and organizational aspects of the logging operations. Virtually all the known logging camps qualify for listing under criterion D. Logging camps are significant at the State level.

Previous studies at logging camps, such as that done at sites 825 and 900 (Elliott et al. 1988), and site 1715 (Elliott 1987) have shown that archeological investigation of such sites can yield important information concerning chronology, subsistence, social structure, and technological attributes. In addition, logging camps were an important element in the successful conduct of railroad logging of the San Diego Grant land and may be considered significant under criterion A also.

Registration requirements: In order to be eligible for consideration under criterion C, a property meeting the definition of the logging camp property type must exhibit structures built in the Anglo western style that are well-enough preserved to permit analysis of their construction techniques, features, function, and layout.

In order to be eligible for consideration under criterion D, a property meeting the definition of the logging camp property type must exhibit the following characteristics:

- (1) The property must contain undisturbed deposits of trash sufficient to demonstrate culturally

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number F Page 18

meaningful spatial relationships among artifacts, structures, features, and faunal remains.

- (2) The property must exhibit enough remaining structural information to permit analysis of construction techniques and site structure.
- (3) The property must contain artifacts or features related to logging.
- (4) The property must contain datable logs, or be dated through other means to the period 1922-1941.

Integrity of setting, location, association, workmanship, materials, and feeling are considered sufficient to qualify logging camps as eligible under criterion A.

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number F Page 19

Property type name: Isolated Cabin

Description: Isolated cabins are defined here as one habitation with small sheds, storage buildings, or outhouses. Functionally, these sites seem to have served only as habitations. Domestic trash is usually the only type of material remains found in association with these sites. Isolated cabins are often really isolated, that is, separated from the nearest other contemporaneous structure by a mile or more. Many of these sites are out in the woods far from any roads and were probably reached on foot or on horseback. Some of these may have been squatters' quarters, that is, built and occupied without the knowledge of the owners of the land. Many were undoubtedly residences for workers on the railroad and logging operations who did not much like company. There are 36 recorded isolated cabin sites with a total of 56 structures (these include outbuildings of course).

Significance: Isolated cabins were occupied for up to several years by loggers and their families. The structures represent a variety of vernacular architectural styles, primarily variations of Anglo western style. Some of the isolated cabin sites are well-preserved and could qualify for listing under criterion C. The trash and other physical remains could provide important information regarding the subsistence, economics, and organizational aspects of the logging operations. Previous studies at isolated cabins, such as that done at site 1000 (Gauthier and Elliott 1989) have shown that archeological investigation of such sites can yield important information concerning chronology, subsistence, social structure, and technological attributes. Virtually all the known isolated cabins qualify for listing under criterion D. Isolated cabins are significant at the State level. In addition, isolated cabins were an important element in the successful conduct of railroad logging of the San Diego Grant land and may be considered significant under criterion A also.

Registration requirements: In order to be eligible for consideration under criterion C, a property meeting the definition of the isolated cabin property type must exhibit structures built in the Anglo western style that are well-enough preserved to permit analysis of their construction techniques, features, function, and layout.

In order to be eligible for consideration under criterion D, a property meeting the definition of the isolated cabin property type must exhibit the following characteristics:

- (1) The property must contain undisturbed deposits of trash sufficient to demonstrate culturally

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number F Page 20

meaningful spatial relationships among artifacts, structures, features, and faunal remains.

- (2) The property must exhibit enough remaining structural information to permit analysis of construction techniques and site structure.
- (3) The property must contain datable logs, or be dated through other means to the period 1922-1941.

Integrity of setting, location, association, workmanship, materials, and feeling are considered sufficient to qualify isolated cabins as eligible under criterion A.

G. Summary of Identification and Evaluation Methods

Discuss the methods used in developing the multiple property listing.

The data for this multiple property submission were collected by reviewing all available published material relating to the railroad logging era on the Cañon de San Diego land grant, reviewing oral interviews, reviewing computerized files of all recorded archeological sites on the grant, and conducting extensive reconnaissance surveys of known sites in the area. The grant contains 116,289 acres, of which perhaps one-third has been intensively surveyed archeologically.

The historic context presented herein is probably the only logical way to present the currently available information regarding the railroad logging era here. The geographical area selected included all the grant, since timber rights for virtually all the timbered areas of the grant were purchased prior to the construction of the logging railroad. The time period selected was self-evident, since the railroad was built, operated, and then abandoned in a relatively short period.

The property types were defined on the basis of their representation in archeological surveys, and on their integrity and information producing potential.

☐ See continuation sheet

H. Major Bibliographical References

REFERENCES CITED

Bailey, R.A., R.L. Smith, and C.S. Ross

1969 Stratigraphic nomenclature of the volcanic rocks in the Jemez Mountains, New Mexico. *Geological Survey Bulletin* 1274-P.

Elliott, Michael L.

1987 *Peggy Mesa Road cultural resource site evaluation*. Jemez Mountains Research Center, Albuquerque.

☒ See continuation sheet

Primary location of additional documentation:

☐ State historic preservation office
☐ Other State agency
☒ Federal agency

☐ Local government
☐ University
☐ Other

Specify repository: Santa Fe National Forest, PO Box 1689, Santa Fe, NM 87504

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United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number H Page 21

Elliott, Michael L., Sandra L. Marshall, and J. Andrew Darling

- 1988 Archeological Investigations at small sites in the Jemez Mountains, New Mexico. *Cultural resources document* number 6, Santa Fe National Forest, Santa Fe, New Mexico.

Gass, Jimmy, and Penny Price

- 1980 *Soils report for Jemez Ranger District, Santa Fe National Forest*, Santa Fe National Forest.

Gauthier, Rory P., and Michael L. Elliott

- 1989 Archeological investigations in the Jemez Mountains, New Mexico. *Cultural resources document* Number 5, Santa Fe National Forest, Santa Fe, New Mexico

Glover, Vernon J,

- 1983 Logging Railroads of the Lincoln National Forest, New Mexico. *Cultural Resources Management Report* Number 4. USDA Forest Service, Southwestern Region.
- 1986 Zuni Mountain Railroads, Cibola National Forest, New Mexico, *Cultural Resources Management Report* Number 6. USDA Forest Service, Southwestern Region.
- 1989 Jemez Mountains Railroads Santa Fe National Forest. *Cultural resources management report* No. 9, USDA Forest Service, Southwestern Region, Albuquerque.

Goodman, Anna

- 1988 Interview by Michael Elliott dated March 11.

Goodman, Tommy

- 1988 Interview by Michael Elliott dated March 11.

Gritzner, Charles F.

- 1971 Log housing in New Mexico. *Pioneer America* 3(2):54-62.
- 1979 Hispanic log construction of New Mexico. *El Palacio* 85(4):20-29.

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number H Page 22

Jordan Terry G.

1978 *Texas log buildings: A folk architecture.* University of Texas Press, Austin.

Pearce, T.M., editor

1965 *New Mexico Place Names.* University of New Mexico Press.

Purtymun, William D.

1973 Geology of the Jemez Plateau west of Valles Caldera. *Los Alamos Scientific Laboratory Report LA-5124-MS.* Los Alamos, New Mexico

Purtymun, W.D., F.G. West, and W.H. Adams

1974 Preliminary study of the quality of water in the drainage area of the Jemez River and Rio Guadalupe. *Informal Report LA-5595-MS,* Los Alamos Scientific Laboratory, Los Alamos, New Mexico.

Ross, C.S., R.L. Smith, and R.A. Bailey

1961 Outline of geology of the Jemez Mountains, New Mexico. *New Mexico Geological Society Guidebook of the Albuquerque Country, 12th Field Conference.*

Scurlock, Dan

1981 Euro-american history of the study area. In *High altitude adaptations along Redondo Creek: the Baca Geothermal Project*, edited by Craig Baker and Joseph C. Winter, pp. 131-160. Office of Contract Archeology, University of New Mexico, Albuquerque.