

Natomas Ditch System, Rhodes Ditch
West of Bidwell Street, North of U.S. Hwy. 50
Folsom ~~View~~
Sacramento County
California

HAER
CAL
34-FOLSO.V,
1B-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

**Historic American Engineering Record
National Park Service
Western Region
Department of the Interior
San Francisco, California 94107**

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HISTORIC AMERICAN ENGINEERING RECORD NATOMAS DITCH SYSTEM, RHODES BRANCH DITCH

HAER No. CA-144-B

Location: The Rhodes Branch of the Natomas Ditch System is located south and slightly east of the City of Folsom, in the eastern section of Sacramento County, California. The ditch leaves the main Natomas Ditch just east of the point where the Southern Pacific Railroad tracks cross East Bidwell Street. From there it loops and curves southward, to just north of Alder Creek, in Section 17; at which point it turns west twisting through Section 18, before heading south along the border between sections 19 and 24, ending just north of Buffalo Creek in Section 24. The ditch within the Area of Potential Effect includes three segments. The main segment is Feature A; it extends south from the main Natomas Ditch, which is located north of the Area of Potential Effect, to Rhodes Diggings a few miles to the south. Feature B conveyed water from Feature A to placer tailings associated with the eastern edge of Prairie Diggings (a distance of approximately a half mile). Feature C extends southwest of Features A and B for a distance of approximately 350 meters out of the Area of Potential Effect; it is visible south of State Route 50 on modern aerial photographs. Feature C diverted water from Feature B around a low hill west to near Prairie Diggings. Within the Area of Potential Effect, the Rhodes Branch of the Natomas Ditch System has the following UTM Zone 10 grid coordinates:

- Feature A:** Northern Point-662840 m Easting, 4280420 m Northing
Dirt Road Intersection-662950 m Easting, 4279970 m Northing
Eastern Point-663250 m Easting, 4279550 m Northing
Southern Point (at State Route 50)-663200 m Easting, 4278640 m Northing
- Feature B:** Western Point-662330 m Easting, 4278760 m Northing
Southern Point-662620 m Easting, 4278690 m Northing
Eastern Point-663130 m Easting, 4278680 m Northing
- Feature C:** Western Point-662520 m Easting, 4278620 m Northing
Approximate Mid-point-662740 m Easting, 4278680 m Northing
Eastern Point-662960 m Easting, 4278760 m Northing

Period of

Construction: Work on the Natomas Ditch system begin in June 1852 when an engineer was hired to locate the route. In July the contract to do the work was let and actual construction begin about the 1st of August 1852. By October of that year seven miles or about one

half of the canal was complete. Following a delay due to heavy winter rains, the main canal was completed to Mormon Island by May of 1853. This section was ten miles long, but was extended another six miles to the Rhodes Diggings by July of that year. The canal system was continually expanded and improved during the rest of the 1850's and into the 1860's. Another period of extensive modifications and improvements occurred during the first two decades of this century. As a water conveyance device, the ditch was abandoned after the flooding of Folsom Reservoir in the 1950s but continues to be used for local agricultural water collection and storage.

**Present
Owner:**

Presently, ownership of the Natomas Ditch System is divided between state and federal agencies and various private parties. The northern section of the Rhodes Branch Ditch segment is included within an area known as the Broadstone II Master Plan Area, a multiple use project that entails residential and commercial development. The owner of the Area of Potential Effect is the H. C. Elliot Company, Folsom, California. The segment to the north of the Area of Potential Effect and south of Highway 50 is also in private ownership.

Present Use:

Following the completion of Folsom Reservoir, in the early 1950's, which impounded the water of the South Fork of the American River, the system was no longer operational. Sections of the Rhodes Branch Ditch are still intact and fill with water during the winter rainy season. Within the Broadstone 2 Area of Potential Effect the ditch is used for water collection and storage.

Significance:

The Rhodes Branch Ditch was one segment of the much larger Natomas Ditch System. Together they played an important role in the development of mining and agriculture in the Folsom area, which is a significant part of the history of California. While mining and agriculture have been two of the major economic mainstays of California's economy, it was and is water, transported to these industries, that allowed these enterprises to prosper. As one of the earliest and longest lasting commercially successful water conveyance systems in the western United States, the Natomas Ditch and its branches encompass a historic period extending from 1852 through the 1940's. Sections of this system still remain intact, with enough original integrity to allow documentation of large portions of this water system. These portions of the Natomas Ditch System have the potential to be eligible for inclusion in the National Register of Historic Places (NRHP). The ditch system was determined to be eligible for inclusion in the NHRP under Criterion A as a discontinuous district.

In 1993, the State Office of Historic Preservation concluded that this water system meets the requirements to be eligible for inclusion in the National Register of Historic Places, under Criterion A as a discontinuous district at the local level. Based on documentation and other pertinent information that has been researched since then, it is our belief that this system meets these same requirements for state level of significance.

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PART 1. INTRODUCTION

The purpose of this report is to partially mitigate the potential effects of the Broadstone Unit II Master Plan project development on an important section of the Natomas Ditch System known as the Rhodes Branch. This effort is being conducted in compliance with the permit conditions imposed by the U.S. Army Corps of Engineers (Corps), pursuant to Section 404 of the Clean Water Act, Section 106 of the National Historic Preservation Act (NHPA) and a memorandum of agreement between the Corps, the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation prepared in August 1995.

In compliance with the requirements of the California Environmental Quality Act (CEQA) and section 106 of the NHPA, a number of cultural resources inventories of the Broadstone II Area of Potential Effect (APE) have been undertaken for the City of Folsom. A preliminary report was completed by Derr (1990); additional cultural resource studies were completed by PAR Environmental Services, Inc. (PAR 1992 and 1994); a third cultural resource investigation was completed by ASI Cartography and Geographic Information Systems (ASI 1994).

In 1993, the SHPO concurred that the Natomas Ditch System was eligible for inclusion in the National Register of Historic Places, under Criterion (a) as a discontinuous district at the local level. In reports prepared for the Parkway at Blue Ravine Project by Peak & Associates (1993) and Jones & Stokes Associates (1992 and 1993), a preliminary determination of eligibility for inclusion of this system in the NRHP was completed.

In a report by PAR (1992:72), covering portions of the APE, it was stated that the ditch appears to meet National Register Criteria (a), (b) and (d), and to varying degrees, the integrity requirements as well. The following report focuses on the Rhodes Branch Ditch within the APE and its historic context within the main Natomas Ditch System, and its potential for inclusion in the NRHP under Criterion (a) as part of a discontinuous district at the state level of significance.

PART II. HISTORICAL INFORMATION

Prior to 1848 the area along the South Fork of the American River was largely unknown and untouched by Euro-americans. This riparian habitat, and its many natural resources, had been used extensively by Native Americans for thousands of years. One of the earliest attempts to use the river and its adjacent resources, by non-natives, took place at present day Coloma, where John Augustus Sutter built a mill to process timber harvested in the nearby foothills. The discovery of gold at the mill, in 1848, and the resulting stampede of miners to the area, forever changed the history of California.

The first miners focused their efforts on the readily available and easily obtainable placer gold in and near the rivers and streams that flowed from the Sierra Nevada. These gold deposits were quickly played out and the miners turned their attention to the gold bearing placer deposits in old river courses near the present ones. Numerous methods were employed by the miners to transfer water from the major water courses to work these rich placer deposits. Water was needed to get the maximum yield from the placers as it aided in separating the heavier gold from the lighter rocks and dirt.

Economic pressures, fueled by a rapid reduction in the easily obtainable gold and California's massive population increase in the first few years of the gold boom, caused miners to turn to gold mining methods that were both more difficult and costly. At the end of 1848 California's population of non Native Americans was about 20,000, a modest increase from earlier in the year. By the end of 1849 the population had grown to almost 100,000 and by the end of 1853 it had jumped to 223,860. (Paul 1967:25). Gold production peaked in 1852 at 81 million dollars, dropped to 70 million in 1853 and 1854, dropped to 55 million in 1855 and gradually fell over the next 10 years before leveling off (Paul 1967:345).

It was a combination of these factors that made the building of large scale water projects economically feasible. In central California the primary gold bearing areas are in the foothills of the Sierra Nevada mountain range. There are two major sources of gold in this area, the first is in placer deposits, along present and ancient river courses. The second source is gold-bearing quartz deposits, where the ore is obtained through various types of hard rock mining operations. Both placer and hard rock mining require water to increase the efficiency and production of the gold extraction process.

In central California the only reliable sources of year-round water are the major rivers that flow from the Sierra Nevada. Many smaller rivers and streams that feed these major rivers dry up following the spring run-off and may not flow again until November or December. With a majority of the precipitation falling during the months of December, January and February, even the larger water courses were reduced significantly by late summer. The miners responded quickly in an attempt to overcome this problem; they diverted water from the year-round sources and built small scale water storage and containment facilities in an attempt to provide a continual water supply.

Moving large amounts of water over long distances takes a coordinated effort, professional engineering skills and large amounts of capital. To meet this need water companies were organized. In 1851 Amos Catlin, an attorney, attempted to organize the Natoma Mining Company to bring water from the South Fork of the American River to an area near present day Folsom. This showed considerable foresight for someone only 28 years old, but persistence was also needed to complete this plan (Castenada 1984:38-40).

The original Natoma Mining Company did not survive the year of 1851, due to a lack of sufficient funding. Catlin needed investors who were capable of substantial economic commitments in order to make his idea become reality. To realize this goal Catlin reorganized in late 1851 and changed the name to the Natoma Water Company, the first of many name changes. He reorganized on a larger scale and reached out to better heeled investors with a joint stock company and himself as president. In December of 1851, this new company filed a Notice of Appropriation in Sacramento County and a similar notice in El Dorado County for the water it planned to take from the South Fork of the American River (Castenada 1984; Plimpton 1960).

The reorganized company met on March 3, 1852 and elected officers to run the company for the next 3 months. In mid March they filed another notice of Appropriation with El Dorado County, specifying Rocky Bar, 2 miles above Salmon Falls as the exact location of its diversion dam on the river. This followed an engineering survey early in the year by A. T. Arrowsmith. Augustus T. Arrowsmith, a civil engineer from San Francisco, was one of the first people Catlin hired after reorganizing in late 1851. Arrowsmith was chief engineer for both the dam and the canal, and later became an officer (secretary) of the water company. Bids were solicited for the project and in June of 1852 the bid was awarded to Brooks, Clark & Company of Coloma, to build a dam and 10 miles of canal (Plimpton 1961).

The Natoma Water Company, still strapped for money, paid the contractor part in cash and the rest in future water rents from the canal once they could be realized. The workers, who totaled over 500 during the course of construction, and many of whom were Chinese, were also paid in cash and water scrip. Scrip could be redeemed, after one year, for either cash or water from the canal system. The initial 10 miles of main canal brought water from Rocky Bar to Mormon Island. The second contract, for an additional six miles of branch canal to Willow Springs and beyond cost an additional \$25,000. The cost to the company for these first two sections amounted to \$171,000, and the company is reported to have spent slightly more than \$300,000 to finish the project (Castenada 1984; Plimpton 1961).

Work on the initial 10 miles of canal started on August 1st, this section and the dam was to be completed by November 15th of 1852. Heavy and early winter rains delayed work and destroyed the first dam, located on the American River just above Salmon Falls northeast of Folsom. This first dam had been built of brush and earth fill, it was replaced by a stronger dam composed of timber crib design in roughly the same location. The first section of the Natomas Ditch was completed and water delivered to Mormon Island on May 1, 1853 (Castenada 1984).

The second section of the main Natomas canal was to bring water to Willow Springs, with branches to Prairie City and Rhodes Diggings. The contract for this

work was given to the same construction company in the spring of 1853. The branch canal to Rhodes Diggings was considered more important than the other branch due to the rich placers in the area that had never been worked because of the lack of water. Water from the main Natomas Ditch reached Willow Springs in the summer of 1853 (contract completion for this section was to be July 1, 1853). Plimpton states that a branch canal reached Prairie City near the end of 1853 and Folsom itself in 1854. It may be assumed that a branch of the Natomas Ditch reached Rhodes Diggings sometime after the Willow Springs section was completed but prior to the ditch to Prairie City, due to the importance implied concerning this section. The branch to Prairie City comes off of the Rhodes Branch Ditch, about 2 miles from where it leaves the main canal and flows in a westerly direction. Completion of the ditch to Willow Springs brought new economic life to the area and served as the first headquarters for the Natoma Water Company (Castenada 1984; Plimpton 1961). To summarize, the main Rhodes Branch Ditch (Feature A) extends north south for a linear distance of approximately 4 miles; its physical length would be somewhat longer owing to the many curves and switchbacks in the actual canal. Records of the Natomas Company place the length of the Rhodes Ditch at 7 miles (Silsbee 1955:577). Rhodes Diggings are located approximately 2 miles south of the Broadstone 2 Area of Potential Effect on private property. This area was not subject to study.

The immense scope of this project was brought out in articles from the Sacramento Union during 1852, 1853 and 1854, and quoted by Plimpton and again in Castenada. The project consisted of sixteen miles of main canal and fifty miles of branch ditches. In the first ten miles of the canal there were 6 wooden flumes, with the longest spanning 2196 feet, from a starting point 300 feet below the dam it wound around a steep hill. Another, known as the Crooked Flume, twisted around the steep hillside for 1000 feet between Higgins Point and New York Ravine. The next flume downstream was an engineering feat even by today's standards. Known as the High Flume, it spanned 1791 feet across New York Ravine and was 83 feet above the creek level. Built in three tiers, it supported a water weight of 900 tons and cost the company \$30,000. Each of these flumes measured 4 feet wide by 3 feet deep and along with the rest of the canal dropped at a rate of 4 feet per mile.

The main canal to Willow Springs measured 5 feet wide at the bottom, 8 feet at the top and was 3 feet deep. The branch to the Rhodes Diggings was only slightly smaller, measuring 3 feet wide at the bottom, 7 feet at the top and it was also 3 feet deep. In an effort to conserve as much water as possible and to store local run-off, twelve small reservoirs were built. They also served as an emergency water supply in case of breaks in the main canal. At its peak the canal systems was reported to have served as many as 2,000 miners along its 13 sections.

The water from the canal brought renewed economic life to many areas, in particular to those that had been "dry diggings". In addition to Willow Springs, mentioned above, short lived gold booms occurred at Prairie City, Rhodes Dig-

gings, Mormon Island, Rebel Hill and numerous other areas that are now only historic place names. The city of Folsom, serving as a central supply point to all these areas, received the largest economic windfall as a result of the new water system. A short time later the Natoma Water Company moved its headquarters to Folsom, from its earlier location at Willow Springs (Castaneda 1984).

Following a change in state laws that allowed public corporations for the first time, the Natoma Water Co. incorporated on June 25, 1853. They became the Natoma Water and Mining Company, a joint stock company with a capitalization of \$200,000. A year later, October 13, 1854, the company recapitalized, raising the value of their stock another \$100,000 to \$300,000. This was part of an ongoing effort to raise funds to expand and upgrade the company's water system (Castaneda 1984).

The first few years of operation proved to be quite profitable for the investors in the Natoma Company. During the first year of operation the companies net profit was \$40,000. In July 1853, an article in the Sacramento Pictorial Union noted "the Natoma Water and Mining Company will be one of the most profitable investments in California". In these first years demand for water was high and the company had a near monopoly on water rights along the lower section of the South Fork of the American River. During this period they could charge and get, what were considered to be exorbitant rates for their water (Plimpton 1961).

Water was sold and measured by the miners inch; it equaled the amount of water that would flow through a one inch hole during a 10 hour period, which is approximately 95 cubic feet of water per hour. The Natoma Co. was charging \$3.00 for a miners inch of water, a substantial amount of money in the 1850's when the average daily wage was about half of that. Other water systems operating during this same time period were charging rates in the range of 15 to 20 cents per miners inch for water. This is some indication of the richness of the placers in the areas served by the Natoma water system. The placer gold deposits gradually played out and in response so did the demand for water. As the price and demand for water dropped the company looked for other means and methods of capitalizing on its investment (Plimpton 1964).

Many of the other ditch companies failed to survive following the changes that led to a more capital intensive industrial mining. The Natoma Water Company held on by expanding into agriculture, real estate, its own mining operations and eventually into electrical power and gold dredging. Part of Catlin's original plan had been to use some of the water for agricultural purposes. While most of the water did go to mining purposes, from the beginning some was sold for agriculture, manufacturing and milling. Vineyards and orchards were already established in Sacramento and El Dorado Counties and some of their owners were early customers of the Natoma Company (Castaneda 1984; Plimpton 1961).

The success of the Natoma Company was due in part to its foresight and in part due to efficient management by its principal owners. Catlin retained the

position of president for the first eleven years of operation, at which time he sold his stock in the company. In the course of his employment A. T. Arrowsmith, the company's capable engineer, acquired a large amount of stock in the company. He was responsible for the daily operation of the company, no small task in an operation of this size. The company's ongoing maintenance problems included silt in canals, washed out flumes and broken dams. In addition they faced constant legal challenges to their water rights, thefts of their water and obstructions of in their water system. Maintenance and legal costs begin to eat up a large percentage of the companies profits but they still found ways and means to stay in business.

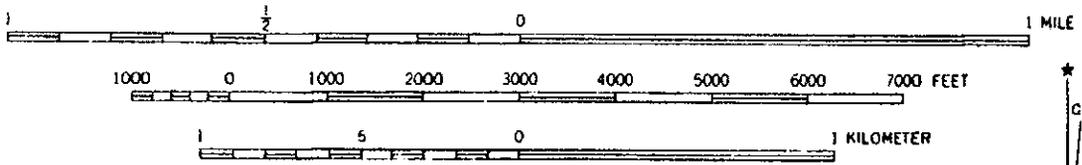
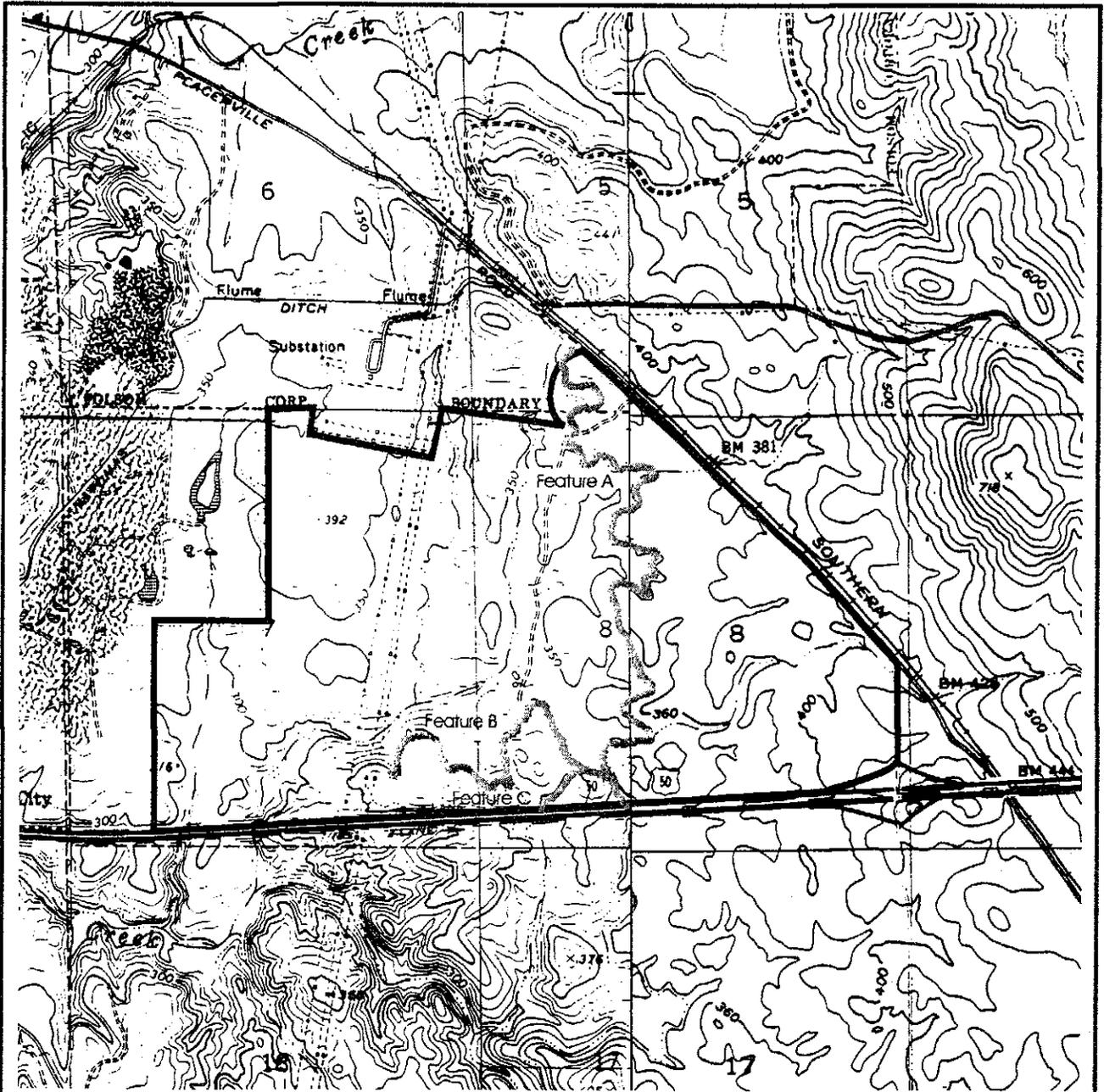
In 1854 Catlin and some of the other major share holders in the Natoma Water and Mining Co., formed a second company known to history as the American River Water and Mining Company. The purpose of this venture was to divert water from the North Fork of the American River to mines in the area. This venture was plagued with problems from the start as the force and fury of the North Fork constantly destroyed flumes and dams. The principals involved wisely sold their interest in March of 1870. A more successful venture was the acquisition of Rancho de los Americanos, by the parent company in 1857. The company purchased 8654 acres of what had originally been a Spanish land grant to Leidesdoff, from Charles Nystrom. They intended to sell and rent the land to industries, miners and farmers. All these groups would need water, the supply of which would make them dependent on the Natoma Company. The gold boom was starting to slow down and the land did not sell as quickly as planned. The company, rather than have the land just sit there and as a way to stimulate interest in it for agricultural purposes, started their own vineyards and orchards. These crops were watered from their canals and proved to be quite profitable and so the venture was expanded and continued for many years (Plimpton 1961).

Among the Natoma Water Company's stockholders was another ambitious and foresighted individual, Horatio G. Livermore. From 1862 on he began to acquire more stock in the company with the intent of gaining a controlling interest. The declining price of real estate in the early 1860's, along with decreasing profits drove down the value of the company's stock, (by 1868 they were getting only 20 cents for a miners inch of water). These factors allowed Livermore to purchase a controlling interest in the organization for a fraction of what it cost the company originally. By 1864 Livermore had control of the company and placed his two sons, Horatio Putnam and Charles Edward in key positions. Livermore's intent was to switch the focus of the company from mining to the development of water power. This was a more complicated undertaking than Livermore had predicted and in order to pay the bills the orchards and vineyards were expanded and large tracts were planted in hay and grain.

Plimpton notes that by 1885 the Natoma Company had over 2000 acres in vineyards, 300 acres in orchards and over 800 acres in grain and hay. This made it the second largest vineyard in the United States and one of the major agricul-

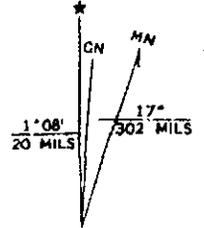
tural producers in California. The company employed an estimated 100 Chinese and 50 Euro-Americans in this operation. As mining declined the company compensated by continuing to expand its agricultural operations. The company had its own town, Natoma (now Nimbus), in 1893 it had a railroad station, post office, several wineries plus the company shops. At that time 300 men were employed on the fruit packing line alone. They were producing 200,000 gallons of port, 100,000 gallons of brandy, from 7000 tons of table and wine grapes. They shipped 70 to 80 carloads of Tokay grapes plus other fruit to places such as Chicago, St. Louis and New Orleans and were now referred to as the second largest vineyard in the world (Plimpton 1961).

In 1888 the Natoma Water and Mining Company's charter expired and a new company was formed under the name Natoma Vineyards Company, which better reflected present interests. In the next decade, the firm began extensive gold dredging, and from that time through the early 1960s, this method of ore extraction was the sole means of gold mining for the Natomas Company. In the mid-nineteenth century, the firm began selling off some of its land as a means of raising capital, and much of the development south of Folsom is on land formerly owned by the Natomas Company. Interestingly enough, due to a lack of gold values, the land encompassed by the proposed Broadstone 2 Master Plan area was never owned by the Natomas Company. In 1962, the firm ceased gold mining and increased the sale of land in the region. In the early 1980s, the firm was purchased by Magma Power and Light and ceased to exist after more than 130 years of continuous operation under more than a dozen names.



QUADRANGLE LOCATION

Source of Base Map: USGS Folsom, Calif. 7.5 minute Quadrangle (1967)
 Photorevised 1980; Clarksville, Calif (1953) photorevised 1980



UTM GRID AND 1980 MAGNETIC NORTH
 DECLINATION AT CENTER OF SHEET

Rhodes Branch Ditch
 Map 1

ADDENDUM TO:
NATOMAS DITCH SYSTEM, RHOADES' BRANCH DITCH
Approximately 7 miles between Nesmith Court and White Rock Road
Folsom
Sacramento County
California

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PHOTOGRAPHS
WRITTEN HISTORICAL AND DESCRIPTIVE DATA
FIELD RECORDS

HISTORIC AMERICAN ENGINEERING RECORD
PACIFIC WEST REGIONAL OFFICE
National Park Service
U.S. Department of the Interior
333 Bush Street
San Francisco, CA 94104

HISTORIC AMERICAN ENGINEERING RECORD

NATOMAS DITCH SYSTEM, RHOADES' BRANCH DITCH

This report is an addendum to a 11-page report previously transmitted to the Library of Congress in 1995. The previously transmitted documentation was prepared for an additional segment of the Ditch north of the segment subject to this addendum.

In addition, the previously transmitted documentation incorrectly names the Ditch system. There have been many versions of the Rhoades' last name (e.g., Rhodes, Rhoads). The previously transmitted documentation identifies the Ditch as Rhodes Branch Ditch, but archival research conducted for this addendum has concluded that the correct spelling of the system is "Rhoades' Branch Ditch." Therefore, the correct format of the name is identified in the title block and throughout the historical narrative of this addendum.

Location: Sacramento County, California.

The Rhoades' Branch Ditch (Ditch) is located in the City of Folsom and west of the community of Clarksville, in Sacramento County, California. As of the date of the preparation of this documentation, the Ditch winds through open space beginning south of U.S. Highway 50, approximately 0.5 mile west of the intersection of U.S. Highway 50 and Scott Road. The segment of the Ditch travels through a rural landscape composed of sparse oak trees, seasonal grasses, and granite rock outcroppings. The Ditch continues until the termination of this segment of the Ditch at Prairie City Road 0.75 mile north of White Rock Road.

Specifically, the Ditch is located in Sections 17 and 18 of Township 9 North, Range 8 East, Mount Diablo Meridian, as depicted on the USGS 7.5' Folsom and Clarksville, California quadrangle maps.

Dates of Construction: This segment of the Rhoades' Branch Ditch was constructed and completed in 1853.

Builder: Brooks, Clark and Company of Coloma won the contract to construct the Natomas Ditch, including the Rhoades' Branch Ditch extension. The Ditch was contracted by the Natoma Water Company. Approximately 500 workers, many Chinese, hand-dug the Ditch system.

Original Owner

and Use: The Natoma Water Company was the original owner of the Rhoades' Branch Ditch, which was originally used as a water conveyance ditch to supply water, as a sold product, to area mining operations.

**Present Owner
and Use:**

The Rhoades' Branch Ditch is currently not an active ditch and remains unused. Therefore, ownership of the Ditch is divided between multiple land/permit owners that own the property containing this segment of the Ditch. These land/permit owners are: Backbone Infrastructure, Carpenter Ranch LLC, Mangini Ranch LLC, Hillsborough, and Javanifard and Zarghami.

The Rhoades' Branch Ditch is currently not in use and contains no structural improvements. Segments of the Rhoades' Branch Ditch are still intact and seasonally fill with water due to rainfall, but water is no longer conveyed through the system with an intended purpose. The land that contains the Rhoades' Branch Ditch is vast and includes areas of open space, farm and agricultural land, and ranching property.

Significance:

The Rhoades' Branch Ditch was one segment of the much larger Natomas Ditch System. Together they played an important role in the development of mining and agriculture in the Folsom area, a significant part of the history of California. Mining and agriculture have been two of the major economic mainstays of California's economy, and water, transported to these industries, allowed these enterprises to prosper. As one of the earliest and longest-lasting commercially successful water conveyance systems in the western United States, the Natomas Ditch and its branches encompass an historic period extending from 1852 through the 1940s. Mining without a continuous supply of water slowed progress until the Rhoades' Branch Ditch was completed by the Natoma Water and Mining Company in June of 1853. This branch ditch was part of the company's larger endeavor to deliver water from the American River to the dry diggings around Folsom.

In 1993, the California State Historic Preservation Officer (SHPO) concluded that the Rhoades' Branch Ditch meets the requirements to be eligible for inclusion in the National Register of Historic Places (NRHP) under Criterion A as a discontinuous district at the local level¹. Additionally, the site is individually eligible under NRHP Criterion D and California Register of Historical Resources (CRHR) Criterion 4 and a contributing element to the Rhoades' Diggings Mining District.

¹ Paul Barth and Roger H. Werner, *Natomas Ditch System, Rhodes Ditch, West of Bidwell Street, North of U.S. Hwy. 50, Folsom, Sacramento County, California*, HAER No. CA-144-B. 1995. HABS/HAER/HALS Collection at the Library of Congress, Prints & Photographs Division. <http://www.loc.gov/pictures/item/ca2393/> (accessed November 1, 2012).

Description:

The Rhoades' Branch Ditch trends northwest-southeast and meanders along a contour of low hills south of Alder Creek. The Ditch at the northern extent, is immediately adjacent to U.S. Highway 50. The Ditch meanders along the contours of the hillsides, crosses Alder Creek, and continues meandering westward. until terminating at its southwestern most extent, approximately 800 feet east of Prairie City Road.

The Ditch drops approximately 10 feet in elevation per mile. Due to the extensive placer mining of the area that utilized the water it provided, the Ditch varies in type and depth of cuts, slope of berms, and type of material throughout. At its deepest, the dimensions are approximately 14 feet wide across the top, 4 feet wide across the bottom, and 7 feet deep (from top of berm to base). At its shallowest, the dimensions are approximately 9 feet wide across the top and 2 ½ feet deep. Due to the rolling hillsides of the northern portion, the cuts are the deepest in this portion of the Ditch.

Several narrow, lateral cuts are present throughout the entire ditch segment. The lateral cuts are intended to divert water from the Ditch to the placer diggings in the area. Due to the extensive placer mining of the Rhoades Diggings Mining District many lateral cuts are located within the district. In addition to lateral cuts, one segment of a riveted steel pipe, designed to divert water, extends laterally, aimed south from the Ditch. The steel pipe is approximately 20 feet long, attached in two-foot segments riveted together and tapered at the drain end.

A few short segments of the Ditch turn sharply and cut into the hillside. At these segments, the hillside wall is composed of stacked rocks to minimize erosion. There is also a span of approximately 225 feet across Alder Creek where no ditch cuts are present. Formations of stacked rock and leveled pads that appear to have once supported ends of a flume are located on the north and south ends of Alder Creek. However, there are no remains of any flume or other water conveyance structure other than the earthen ditch. The Ditch then briefly terminates into a stock pond. The pond does not appear to be a component of the Ditch system, but instead was constructed at a later period, demolishing the Ditch through this area.

The Ditch no longer functions as it was originally intended. It is cut off from its original water supply by U.S. Highway 50. Natural erosion and weathering has degraded areas of the Ditch, particularly where cuts take sharp turns in the hillside. Vegetation has overgrown many portions of the Ditch making it difficult to see in some areas. Cattle have extensively grazed throughout the area and have worn trails through the Ditch in many segments. Dirt access roads have also been graded through the Ditch in multiple segments to allow vehicle paths throughout the area. Despite the

natural weathering and invasion by cattle and roads, the Ditch is still very obvious and clearly present within the landscape. It is a strong representation of the mining that occurred throughout the area and maintains a strong physical presence within the landscape.

History:

The Rhoades' Branch Ditch is historically associated with the larger Natomas Ditch System. The Rhoades' Branch Ditch played a significant role in the mining and agricultural development of the Folsom area and eastern part of Sacramento County. In order to fully realize the significance of the Rhoades' Branch Ditch to the mining and agricultural industry of Folsom and Sacramento County at the time, it is important to understand the context in which this engineering feature was developed. The following historical context of the Rhoades' Branch Ditch comprehensively describes its importance as it relates to the Gold Rush, the Natomas Ditch System and the Natoma Water Company (later Natoma Water and Mining Company, Natomas Consolidated, Natomas Company, and other names), and the Rhoades Diggings Mining District.

Gold Mining and Water Conveyance: John Sutter, a European immigrant, built a fort at the confluence of the Sacramento and American Rivers in 1839 and petitioned the Mexican governor of Alta (Upper) California for a land grant, which he received in 1841. Sutter built a flour mill and grew wheat near the fort². Gold was discovered in the flume of Sutter's lumber mill at Coloma on the South Fork of the American River in January 1848³. That same year, the Treaty of Guadalupe Hidalgo ended the Mexican-American War and marked the beginning of the American Period (1848 to present). California became a U.S. territory in 1848 and a state in 1850. The discovery of gold initiated the 1849 California Gold Rush, bringing thousands of miners and settlers to California, most of who settled in the north.

The Gold Rush was the start of a huge influx of people who flooded California in a quest for gold. Most of the gold operations in California followed a large strip of land called the "Mother Lode," which is located in the Sierra Nevada foothills. Though the rush lasted only a few years, it had lasting impacts on the California landscape.

Pans, shovels, long toms, rockers, and sluices were among the earliest mining technologies used in the Mother Lode. The earliest miners focused on the loose gold, known as placer gold, found in the sand and gravel beds

² John Bidwell, "Sutter's Fort," In *California Heritage: An Anthology of History and Literature*, ed. John and Laree Caughey, (Rev. Ed. Itasca, IL: F. E. Peacock Publishers, 1971), 134-138.

³ James W. Marshall, "The Discovery," In *California Heritage: An Anthology of History and Literature*, ed. John and Laree Caughey (Rev. Ed. Itasca, IL: F. E. Peacock Publishers, 1971) 191-192.

of rivers and streams⁴. This early mining technique required water to wash away lighter sands and gravels, allowing the heavier gold to settle at the bottom. From the onset of the Gold Rush in 1848 until the 1850s, miners profited from using these techniques along rivers and streams. The pan was used to mix water and gravel from the river bed in a circular wave-like motion, which washed lighter soils away and left gold-bearing rocks in the pan. The long tom was used in a similar fashion. At the upper end of the device, gravel and water were mixed before trickling down the short sluice. A perforated iron plate located at the bottom of the sluice caught gold particles, while the rest was washed away⁵⁶. These single prospectors were only successful in their operations for a few years, until the 1850s.

Water is required to make the extraction of gold from rock more productive. The use of water conveyance systems, such as ditches, provided the much needed resource to the placer mines located throughout California during the Gold Rush era. Originally, gold extraction was limited to areas around rivers and streams, but the system of digging ditches or canals and diverting the water made this process easier and opened more areas throughout the state for mining operations. The need for water diversion and transportation to mines became a significant venture, which altered the landscape and contributed to the growth of California.

During the 1850s until about 1865, mining operations in California moved toward large scale production. The small placer deposits along rivers and streams were harder to find and prospectors were forced to look for gold away from flowing water sources. During this period, miners had only two simple methods for removing gold from the soil: washing or winnowing. Washing was used along rivers and streams, causing gold to sink away from the lighter sands and gravels⁷. Winnowing was a similar tactic, but instead, used wind to blow the lighter material away. Soil was tossed in the air and then blown, forcing the lighter gravels away and leaving the heavier gold to drop. Washing was much more efficient than winnowing, but in order to continue using this method, water was needed where there previously was none⁸. These areas, where mining operations occurred but water was scarce, were known as “dry diggings.”

Among the easiest methods to transport water to the dry diggings was through ditches, hand dug to divert the water from a nearby river or

⁴ J. Starn, *Wealth from Gold Rush Waters*, (Sanger, CA: Word Dancer Press, 2004).

⁵ Rodman Paul, *California Gold: The Beginning of Mining in the Far West*, (Lincoln, NE: University of Nebraska Press, 1947).

⁶ J. Starn, *Wealth from Gold Rush Waters*.

⁷ Caltrans and JRP Historical Consulting Services, *Water Conveyance Systems in California: Historical Context Development and Evaluation Procedures* (Sacramento, CA, 2000).

⁸ Ibid.

stream. This process was labor intensive and costly—often too much for a single miner to handle. This forced miners to pool funds and effort, which led to the creation of small companies. These collaborations enhanced their mining operations and opened up several new markets to California mining, including quartz, drift, and hydraulic mining. Some companies even focused on making profits from selling water from their ditch⁹.

The first noted attempt to transport water for mining in California using a ditch system occurred at Coyote Hill in Nevada County in March 1850¹⁰. Miners dug ditches along Coyote and Little Deer creeks to carry water to long toms set up nearby. This 1.5-mile long ditch was very successful, and as word spread, so did the networks of mining ditches¹¹.

The success of these ditches started the first water companies in the Sierra Nevada. The sole purpose of these companies was to build ditches and other water conveyance structures, such as flumes and canals, to provide water to dry diggings. This enterprise often supported miners who left their gold prospecting to work for these ditch digging companies. Hundreds of ditches, from simple to expansive, were dug to supply the gold mines in the Mother Lode regions of present day El Dorado, Sacramento, Nevada, Placer, Butte, and Tuolumne counties¹². One of the first and most notable in the area was the Natomas Ditch.

Natomas Ditch System and Natoma Water Company (Natoma Water and Mining Company): The construction of what would later be known as the Natomas Ditch System began with small-scale efforts by local miners in 1851, but eventually was bought and completed by the Natoma Water Company (NWC) in 1853-1854. The NWC was organized in December 1851 by A.P. Catlin for the sole purpose of supplying water for mining camps to the regions north and south of Negro Bar¹³. The NWC was initially started with a capitalization of \$10,000. The Ditch originally diverted water via a dam on the South Fork American River, approximately 1.5 miles above Salmon Falls in El Dorado County¹⁴. The Ditch reached Prairie City in 1853 and eventually Folsom in 1854.

In July 1853, the NWC became the Natoma Water and Mining Company (NWC), which incorporated 200 shares of capitol stock valued at approximately \$200,000. Within one year, a series of flumes, aqueducts,

⁹ Erwin Cooper, *Aqueduct Empire: A Guide to Water in California, Its Turbulent History and Its Management Today*, (Glendale, CA: Arthur Clark Company, 1968).

¹⁰ Rodman Paul, *California Gold: The Beginning of Mining in the Far West*.

¹¹ Ibid.

¹² Erwin Cooper, *Aqueduct Empire: A Guide to Water in California, Its Turbulent History and Its Management Today*.

¹³ Natomas Water Company (NWC) Collection, Box 14, Folders 10-20, Center for Sacramento History, Sacramento Archives, Sacramento, California.

¹⁴ Ibid.

pipes, reservoirs, and canals were constructed. Brooks, Clark and Company were contracted to build the Natoma Company's first canals, ditches, and flumes for \$171,074. One investor, Horatio Gates Livermore, began purchasing shares of the company in 1853, which eventually led to a systematic acquisition of the majority of shares of the company by 1862. Livermore and his sons also acquired approximately 9,000 acres of the Leidesdorff Grant around Folsom¹⁵.

Water was sold and distributed in the "miner's inch," which was the amount of water equal to the amount that would flow through a one-inch hole during a ten-hour period. Along the Natomas Ditch, this amounted to approximately 95 cubic feet of water per hour. NWC charged \$3.00 for every miner's inch of water which allowed NWC, and its investors, to be quite profitable during the early years. Many miners with larger scale operations often paid for two "miner's inches" per day leading to an average cost of \$6.00 per day. In the first year of operation the NWC made a profit of \$40,000. After recapitalizing in 1854, the company again raised the value of their stock from \$100,000 to \$300,000.

Despite the sale of water from the Ditch being profitable for the NWC, the entire operation was still a risky investment. Supplying water was almost always given as a loan with the expectation that miners would find gold and immediately be able to pay back the company. Unfortunately, not all miners were successful in their attempts to extract gold. A NWC Sales Ledger for Rhoades' Diggings dated July 1853 to June 1866, lists more than 100 miners delinquent in their payments for use of the Rhoades' Branch Ditch.

By 1860, the entire ditch system extended over 60 miles in length, including the main canal and diversion ditches, which supplied water to the dry diggings. The main ditch canal conveyed water from the American River, specifically at Salmon Falls northeast of now Folsom Lake, through the Natoma Township to placer mines in the area. The Natoma Company sold and distributed this water to mines at McDowell Hill, Willow Springs Hill, Rhoades Diggings, Prairie City, Negro Bar, Texas Hill, Mississippi Bar, Pennsylvania Flats, Browns Hill, Red Bank, Richmond Hill, and Mormon Island. The Ditch originally ended in a large storage reservoir two miles east of Folsom which was not named and is no longer present in the landscape. The water from this reservoir was sold and redistributed by other branches of ditches owned by the Natoma Company to camps at Bunker Hill, Folsom Flat, Alder Creek, and Texas Hill¹⁶.

¹⁵ Ibid.

¹⁶ Ibid.

The main canal and diversion ditch system completed by the NWC supported the economic growth of the area. Mining was not the only industry which flourished from the success of the Ditch. Livermore successfully sold water for milling, agricultural (vineyards and orchards), and manufacturing purposes¹⁷. These new industries helped the company have nearly a complete monopoly on water sales from the South Fork American River. Under this success, the NWC-owned *Rancho Rio de los Americanos* (formerly the Leidesdorff grant) thrived during this period of significant growth.

Other than mining ditches, the NWC constructed other water control and diversion structures within its service area. The Salmon Falls Dam was constructed and completed by the NWC in 1868¹⁸. Construction of the dam was primarily carried out by prison labor in a legal exchange for 350 acres of land made between prison officials and the company¹⁹. Subsequently, Livermore expanded the company's assets beyond water resources by developing vineyards, wineries, and orchards throughout the 1870s. The main ditch was central to his agricultural endeavors, and he used the water resource to remain in business. In 1879, Livermore died and his sons took control of the company²⁰.

The NWC continued operations under Livermore's sons and by 1885, it had developed over 300 acres in orchards, 800 acres in hay and grain, and 2,000 acres in vineyards²¹. Estimates show that nearly 100 Chinese and 50 Euro-American workers were officially employed by the company at this time. By 1890, the company expanded its irrigation to other agricultural lands and supported 500 acres of crops and 8,454 acres of fruit and vineyard lands²².

At the beginning of the 20th century, a consolidation of the various mining and dredging operations was necessary to the company's survival. The Natomas Consolidated California Company was incorporated in 1908. At this time, the company began a reclamation project to reclaim land. The reclamation project consisted of 60,000 acres of land north of Sacramento and 30,000 acres of land east of Sacramento²³. Though the company was forced to halt operations in 1943 because of World War II, it eventually

¹⁷ Ibid.

¹⁸ Ibid.

¹⁹ Folsom Historical Society, "*History of Folsom, Mining Towns, and the Natoma Company*," (Unpublished manuscript, 2014, On file at the Folsom History Museum, Folsom, California).

²⁰ Ibid.

²¹ Natomas Water Company (NWC) Collection, Box 14, Folders 10-20, Center for Sacramento History, Sacramento Archives, Sacramento, California.

²² Ibid.

²³ Carson Hendricks and Lisa Prince, "From Swampland to Farmland: Reclamation and Irrigation in the Natomas Basin," *Sacramento History Journal*, V1, No. 1-4, (2006).

resumed in 1946 and became the leading gold producer in California until 1962. The company finally ceased dredging operations entirely in 1962²⁴.

Most of the shallow gold deposits had been exhausted by 1865, and drift mining, which consisted of digging shafts down to depths of 20 feet and below, resumed until the late 1890s²⁵. Water was still diverted down to the prairie and pasture lands south of U.S. Highway 50 from the 1890s to the 1960s for gold dredging operations²⁶.

The Natomas Ditch operated until the 1950s, though many of the diversions were cut off or ceased being used. The diversion dam that supplied the Natomas Ditch, located above Salmon Falls, eventually ceased operations after the Folsom Reservoir was constructed. In 1959, the dam was destroyed, rendering the main canal non-functional²⁷.

Rhoades' Diggings Mining District: The Rhoades' Diggings Mining District is an area historically used for gold mining along upper Alder Creek in the northeastern portion of Sacramento County. The rocky landscape along Alder Creek, particularly within the area of Rhoades Diggings, was one of the earliest successfully mined areas during the early years of the Gold Rush. Gold was first mined from the area by John Pierce Rhoades (J.P. Rhoades or Rhoades) who was an early settler in the area but was eventually taken over by many other small-scale mining operations that utilized placer mining techniques for the extraction of gold. The success of these mining operations led the NWC to construct the Rhoades' Branch Ditch, an extension of their main Natomas Ditch, into and beyond the Rhoades Diggings Mining District to supply water from the American River at Salmon Falls to the miners of the area. The history of J.P. Rhoades and the Rhoades Diggings Mining District is included below in order to fully realize the context, purpose, and importance of the Rhoades' Branch Ditch.

There have been many versions of the Rhoades' last name (e.g., Rhodes, Rhoads), but according to Gudde (2009), a descendant of the Rhoades family, Bernie Rhoades, owns several legal documents signed by Thomas Rhoades, J.P. Rhoades' father, confirming that the correct spelling is 'Rhoades.'

²⁴ Natomas Water Company (NWC) Collection, Box 14, Folders 10-20, Center for Sacramento History, Sacramento Archives, Sacramento, California.

²⁵ Susan Lindström, *A Cultural Resource Evaluation of Aerojet General Corporation, Sacramento Plant, Sacramento County*. (1989).

²⁶ Ibid.

²⁷ Natomas Water Company (NWC) Collection, Box 14, Folders 10-20, Center for Sacramento History, Sacramento Archives, Sacramento, California.

J.P. Rhoades was the son of prominent Mormon Church member Thomas Rhoades. Thomas Rhoades was a significant figure in the early history of the Mormon Church. As Mormons were being persecuted in the American Midwest for their religious beliefs, particularly following the murder of their founder Joseph Smith, Thomas Rhoades was sent by the new church President Brigham Young to search for the Church's new "Zion," which was supposed to be a place where Mormons could go to live free from persecution. Thomas Rhoades led his entire family and others that included his son, J.P. Rhoades, to California in 1846. At the time, J.P. Rhoades was a farmer with a wife and six children, with little mining experience. Thomas Rhoades, J.P. Rhoades, and many members of his family and group settled in the town of Sloughouse, California. According to rancho plat records, Rhoades purchased Lot 5 of Jared Sheldon's ranch in the autumn of 1847. Sheldon's ranch was part of the Mexican land grant known as *Rancho Omochumnes*, granted to Joaquin (Jared) Sheldon in 1844²⁸. Lot 5 was originally purchased by Rhoades for the purpose of building a farm and raising stock²⁹³⁰.

The Sacramento area was sparsely populated at the time, so the Rhoades family and members of the group became acquainted with John Sutter. Some members even worked for Sutter at Sutter's Fort. Having a reasonably close relationship with Sutter, the Rhoades and his family were some of the earliest people to hear about the discovery of gold in Coloma. Almost immediately upon hearing of the discovery of gold in 1848, many Rhoades family members, including Thomas and J.P. Rhoades, abandoned the farm plot and moved to the easternmost part of Sacramento County to begin gold mining. J.P. Rhoades acquired a mining claim in what later became the Rhoades Diggings Mining District³¹.

Thomas Rhoades and J.P. Rhoades both mined in the Sacramento Valley and were incredibly successful. Some reports suggest that Thomas Rhoades and his family mined over \$20,000 in gold by 1849³². Eventually, Brigham Young decided that the Great Salt Lake Valley, in the area now known as Utah, was the new Mormon "Zion," and he summoned Thomas Rhoades to join him. Thomas Rhoades left California and, taking his mining earnings with him, never returned to the gold fields.

²⁸ Rose H. Aviña, *Spanish and Mexican Land Grants in California* (New York: Arno Press, 1976).

²⁹ John Wilson, "History of the Rhoads' Diggings," *Mountain Democrat*, (Placerville, CA, May 26 1986).

³⁰ John H. Plimpton, "Rhodes Diggings," In *The American River Water and Mining Company*, (Unpublished manuscript, 1961. California State Library OCLC 58994869).

³¹ Susan Lindström, *A Cultural Resource Evaluation of Aerojet General Corporation, Sacramento Plant, Sacramento County*. (1989).

³² Erwin G. Gudde, *California Gold Camps: A Geographical and Historical Dictionary of Camps, Towns, and Localities where Gold was Found and Mined; Wayside Stations and Trading Centers*. (Berkeley: University of California Press, 2009).

J.P. Rhoades did not leave California at the same time his father did in 1849. According to some accounts, J.P. Rhoades left the placer deposits of Rhoades' Diggings in 1849 and returned to Sloughouse to resume his plans for large-scale farming and stock raising³³. Historical accounts, however, are unclear how J.P. Rhoades spent the remainder of his life. His wife died in 1851 but he remarried a year later. Though J.P. Rhoades already had six children from his previous marriage, he and his new wife continued and had another eight boys, though only five survived.

In 1863, Rhoades was elected a Republican member of the California State Assembly, 16th District and remained in that position until 1865. He was also a school trustee for 20 years. Rhoades died in the winter of 1866 at 48 years old^{34,35}. He is buried in the Sloughouse Pioneer Cemetery.

Despite the uncertainty of J.P. Rhoades' participation or contribution to the mining operations of the area after 1849, the Rhoades Diggings Mining District continued to be an active and productive area of placer mining. By 1851, Rhoades' Diggings was established as a voting precinct by Sacramento County for the 1851 general election, and by 1854 there were rumors of large nuggets of gold being extracted from Rhoades' Diggings³⁶. The early placer mining operations relied heavily on the seasonal water of Alder Creek in order to extract gold from the rock. Unfortunately, Alder Creek was seasonally dry in the summer and fall so placer mining in the area was limited to spring and winter operating periods because it was heavily dependent on rain water. Eventually, in 1853 the Natoma Water Company built the Natomas Ditch and the Rhoades' Branch Ditch extension, as explained above.

The Rhoades family abandoned the area well before the Natoma Water Company built the Natomas Ditch and Rhoades' Branch Ditch. It is unclear why the area retained Rhoades' name, but it maintained the name on historic maps and in historic texts from the period. The construction of the Rhoades' Branch Ditch brought water to the diggings throughout the year, which led many miners to set up temporary camps at Rhoades' Diggings. Due to the large quantity of small mining camps in the Rhoades

³³ John Wilson, "History of the Rhoads' Diggings," *Mountain Democrat*, (Placerville, CA, May 26 1986).

³⁴ Ibid.

³⁵ Hubert H. Bancroft, "California Pioneer Register and Index, 1542-1848," In *The History of California*. (Baltimore: Regional Publishing Co., 1964).

³⁶ John H. Plimpton, "Rhodes Diggings," In *The American River Water and Mining Company*, (Unpublished manuscript, 1961. California State Library OCLC 58994869).

Diggings area, the area became known as Rag Town, a name often give to large tent communities of temporary miner's camps³⁷.

Placer mining comprised the majority of the mining techniques used in the Rhoades' Diggings; however, the area also became known for quartz mining because quartz is widely scattered in the area. According to Jim Davies (1999), a former landowner in the Rhoades' Diggings area, the quartz in the area was known as bull or barren quartz. Because of the nature of the quartz, gold was not deposited along a vein, but rather, in several pockets. As a result, a method referred to as "pocket mining" was employed, which consisted of initiating the process by panning a dry creek, both in the bed and on the bank of the creek, until gold was found, then following the gold deposits uphill until they became scarce. According to a former Rhoades' Diggings pocket miner who Davies interviewed, large crystals of pyrite usually announced a pocket that would be rich in gold³⁸. Davies claimed that many of the small prospecting pits dotting the landscape in the Rhoades Diggings Mining District are possibly failed pocket mines.

In 1855, John H. Gass and Colonel Z. Hagen built the first of two large steam-powered quartz mills on Rhoades' Diggings³⁹. The quartz mills would have been used to process ore from hard-rock mining. In 1857, the second of the steam-powered quartz mills was built by A. French and Company at a cost of \$50,000. The mill was very profitable for a short time. The early success of these two mills was enough that in 1862, seven miners formed the Rhoades Diggings Quartz Mining Company. The intent of the company was to mine gold and other metals and purchase and hold mining claims in the area of the Rhoades Diggings Mining District. The articles of incorporation for the company state the objective of the company was for "the extraction of gold and other minerals from quartz and to that end the construction and erection of all necessary mills, machinery and processes"⁴⁰. Despite the formation of the Rhoades Diggings Quartz Mining Company, archival evidence suggests that the rush to mine gold at Rhoades Diggings ended shortly after the last quartz mine stopped operations in the late 1860s. The Rhoades Diggings Quartz Mining Company never showed any substantial profit and eventually failed.

³⁷ Jim Davies, "*Rhoades Diggings*," (Unpublished manuscript, 1999, On file at the Folsom History Museum, Folsom, California).

³⁸ Ibid.

³⁹ John H. Plimpton, "*Rhodes Diggings*," In *The American River Water and Mining Company*, (Unpublished manuscript, 1961. California State Library OCLC 58994869).

⁴⁰ Ibid.

Rhoades Diggings Mining District was abandoned after the company failed and gold no longer was significantly produced in the area. Later, one drift mine was opened and operated in 1916 by Gray Mining Company in the area of the Rhoades Diggings Mining District⁴¹. The company operated only for a brief period as there is no evidence in the archival record of further placer or quartz mining in Rhoades Diggings.

Rhoades' Branch Ditch: The Rhoades' Branch Ditch is an extension of the main Natomas Ditch System. As explained above, this segment was extended from the main Natomas Ditch to the Rhoades Diggings Mining District and south to Prairie City.

The Rhoades' Branch Ditch segment of the main Natomas Ditch system was also contracted by the Natomas Water Company to the construction crew of Brooks, Clark and Company. The company utilized hundreds of laborers, many of them Chinese, to hand-dig the Ditch in the spring and summer of 1853. Due to the necessity to supply the Rhoades Diggings Mining District with a constant source of water, this segment of ditch was considered an integral part of the Ditch system.

Photographs: No known historic-age photographs exist of the Rhoades' Branch Ditch segment from the early period of its use. Some photographs exist, however, of J.P. Rhoades, the Rhoades Diggings Mining District, and other segments of the Natomas Ditch System, as well as some historic-age maps showing the original configuration and path of the Rhoades' Branch Ditch. The images on p. 30 are the best representative selection of the available photographs.

⁴¹ John H. Plimpton, "Rhodes Diggings," In *The American River Water and Mining Company*, (Unpublished manuscript, 1961. California State Library OCLC 58994869).

Sources:

The history of the Rhoades' Branch Ditch was prepared using the best available primary and secondary sources of information. Primary and secondary sources were gathered from the following repositories: the Folsom Historical Society in Folsom; the El Dorado County Historical Museum in Placerville; the Center for Sacramento History in Sacramento; the California State Library California History Room in Sacramento; the Bancroft Library at the University of California, Berkeley online database; and the California State Archives in Sacramento.

Primary sources that provided information specifically about the Rhoades' Branch Ditch, Rhoades Diggings, and the Natomas Ditch System include: historical newspaper articles; historical maps; water sales records; mining records; ranching and agricultural censuses; mining statistic sheets; historical magazine articles; and the extensive records of the Natomas Company on file with the Center for Sacramento History.

In addition to the multitude of primary sources reviewed, several secondary sources were consulted. All source reference information is included in the bibliography below.

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Project Information: The Historic American Engineering Record (HAER) of the Rhoades' Branch Ditch was conducted in partial fulfillment of the Historic Property Treatment Plans to resolve adverse effect to this resource by projects within the Folsom South of U.S. Highway 50 Specific Plan Project. The Specific Plan Area is a proposed residential and commercial development of approximately 3,510 acres located south of U.S. Highway 50 and the City of Folsom, plus the construction of associated off-site infrastructure. The Specific Plan Area is situated south of U.S. Highway 50, east of Prairie City Road, north of White Rock Road, and west of the El Dorado County line in portions of Sections 24, 25, 26, 27, 30, 31, 34, 35, and 36 of Township 12 North, Range 7 East, Mount Diablo Meridian, in the City of Folsom, Sacramento County, California.

The Specific Plan Area is composed of multiple project proponents and developers responsible for different permit areas. The historic Rhoades' Branch Ditch is present within five permit areas within the Specific Plan Area: Backbone Infrastructure (SPK 2007-2159), Carpenter Ranch LLC (SPK 2006-0984), Mangini Ranch LLC (SPK 2013-0486), Hillsborough (SPK 2006-0561), and Javanifard and Zarghami (SPK 2007-1072).

On July 6, 2011, the Sacramento District of the United States Army Corps of Engineers (USACE) and SHPO executed a Programmatic Agreement (PA) and then amended it as a First Amended Programmatic Agreement (FAPA) on October 3, 2013, to meet the requirements of Section 106 of the National Historic Preservation Act for the proposed Folsom South of U.S. Highway 50 Specific Plan.

The FAPA requires the development of project-specific Historic Property Treatment Plans (HPTPs) in order to resolve adverse effect to historic properties that will be adversely affected by the project. Among other things, the HPTP's for each of the permit areas named above call for the preparation of HAER documentation to resolve adverse effects to the Rhoades' Branch Ditch (P-34-1742).

This HAER documentation was prepared to satisfy the requirements outlined in the HPTPs to resolve adverse effect to the Rhoades' Branch Ditch. The HPTPs for each permit area are listed below:

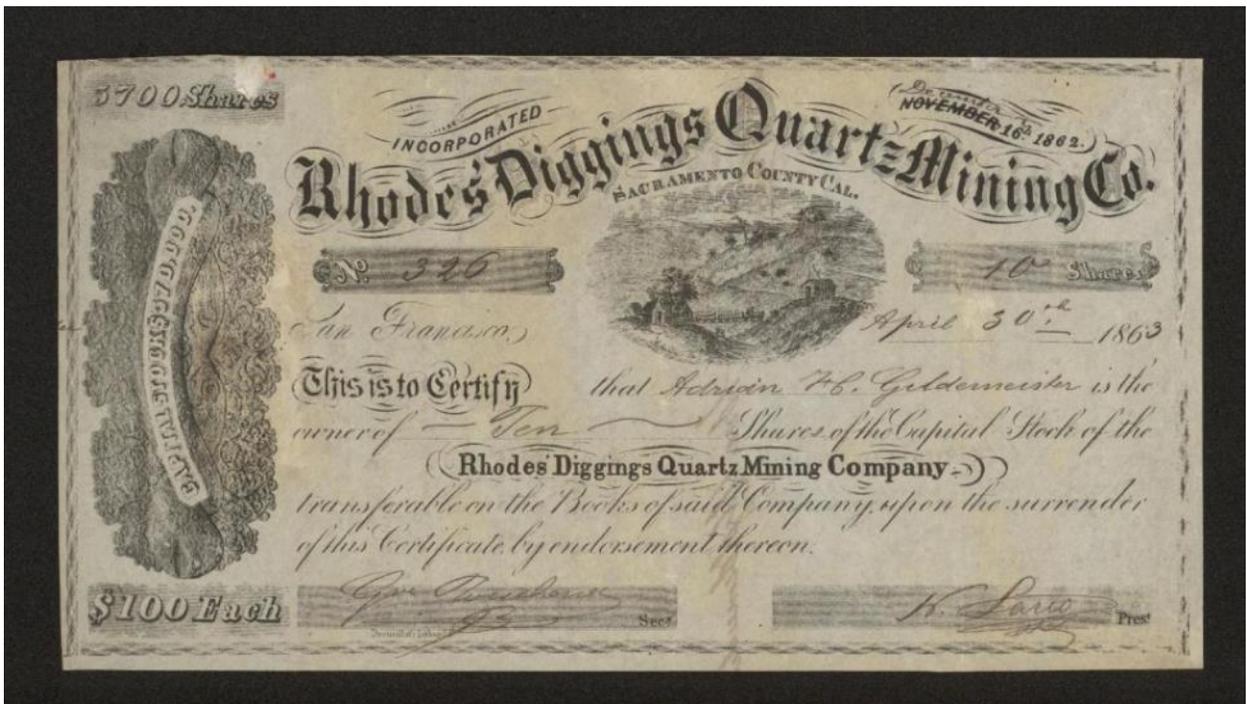
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- Westwood and Knapp, 2013. Historic Property Treatment Plan for the Non-Backbone Carpenter Ranch APE, Folsom South of U.S. Highway 50 Specific Plan Project, Sacramento County, California (SPK 2006-0984)
- Westwood and Knapp, 2013. Historic Property Treatment Plan for the Non-Backbone Mangini Ranch Permit Area, Folsom South of U.S. Highway 50 Specific Plan Project, Sacramento County, California (SPK 2013-0486)
- Westwood and Pappas, 2014. Historic Property Treatment Plan for the Non-Backbone Hillsborough Permit Area APE, Folsom South of U.S. Highway 50 Specific Plan Project, Sacramento County, California (SPK 2006-0561)

In addition, this HAER documentation was prepared in anticipation of the possible need to resolve adverse effect to a portion of the Rhoades' Branch Ditch that falls within the J&Z permit area (SPK 2007-1072). Although a finding of effect for the J&Z property has not yet been made, this HAER report was written to include all relevant information, including photographs of the Ditch on the J&Z property, in order to satisfy the requirements of a possible forthcoming HPTP for J&Z that has not yet been prepared. Rhoades' Branch Ditch

HAER documentation was conducted in fall 2014 by Jeremy Adams, M.A., who is a qualified professional Architectural Historian that meets the Secretary of the Interior's Professional Qualification Standards for history and architectural history. Professional photographer Robert Hicks completed all large-format black-and-white HAER photography for the project. Lisa Westwood, RPA provided quality assurance.



J.P. Rhoades printed in the *Mountain Democrat*, May 26, 1886. Courtesy of the Folsom History Museum.



Stock certificate from the Rhoades' Diggings Quartz Mining Company, April 1863 (notice the name spelling difference). Courtesy of the Folsom History Museum.